
PeopleSoft 9.2 Application Installation for DB2 for z/OS (PeopleSoft PeopleTools 8.58)

May 2021

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About This Documentation

This preface discusses:

- Understanding This Documentation
- Audience
- Typographical Conventions
- Products
- Related Information
- Comments and Suggestions

Understanding This Documentation

This documentation is designed to direct you through a basic PeopleSoft installation. It is not a substitute for the database administration documentation provided by your relational database management system (RDBMS) vendor, the network administration documentation provided by your network vendor, or the installation and configuration documentation for additional software components that are used with PeopleSoft products.

This documentation is divided into two parts. The chapters in Part 1 include the information that is required to complete a basic PeopleSoft installation. The chapters and appendices in Part 2 include information for less common or optional tasks.

Addenda to the recent PeopleTools installation guides are periodically posted in My Oracle Support on the same page as the initial posting.

This documentation includes the instructions for installing Oracle's PeopleSoft PeopleTools and PeopleSoft applications. You also need the installation instructions that are specific to your PeopleSoft application, which are provided in a separate document for the PeopleSoft application. For instance, if you are installing Oracle's PeopleSoft Customer Relationship Management (CRM), you need both this installation guide and the additional instructions provided for installing PeopleSoft CRM.

To find the installation documentation for PeopleSoft PeopleTools or for your PeopleSoft application, go to My Oracle Support and search for the installation guide for your product and release.

Note. Before proceeding with your installation, check My Oracle Support to ensure that you have the latest version of this installation guide for the correct release of the PeopleSoft product that you are installing.

Audience

This documentation is written for the individuals responsible for installing and administering the PeopleSoft environment. This documentation assumes that you have a basic understanding of the PeopleSoft system. One of the most important components in the installation and maintenance of your PeopleSoft system is your on-site expertise.

You should be familiar with your operating environment and RDBMS and have the necessary skills to support that environment. You should also have a working knowledge of:

- SQL and SQL command syntax.

- PeopleSoft system navigation.
- PeopleSoft windows, menus, and pages, and how to modify them.
- Microsoft Windows.

Oracle recommends that you complete training, particularly a PeopleSoft Server Administration and Installation course, before performing an installation.

See Oracle University, <http://education.oracle.com>.

Typographical Conventions

To help you locate and understand information easily, the following conventions are used in this documentation:

Convention	Description
Monospace	Indicates a PeopleCode program or other code, such as scripts that you run during the install. Monospace is also used for messages that you may receive during the install process.
<i>Italics</i>	Indicates field values, emphasis, and book-length publication titles. Italics is also used to refer to words as words or letters as letters, as in the following example: Enter the letter <i>O</i> . Italics are also used to indicate user-supplied information. For example, the term <i>domain</i> is used as a placeholder for the actual domain name in the user's environment. When two such placeholders are used together, they may be set apart with angle brackets. For example, the path <code><PS_CFG_HOME>/appserv/<domain></code> includes two placeholders that require user-supplied information.
Initial Caps	Field names, commands, and processes are represented as they appear on the window, menu, or page.
lower case	File or directory names are represented in lower case, unless they appear otherwise on the interface.
Menu, Page	A comma (,) between menu and page references indicates that the page exists on the menu. For example, "Select Use, Process Definitions" indicates that you can select the Process Definitions page from the Use menu.
Cross-references	Cross-references that begin with <i>See</i> refer you to additional documentation that will help you implement the task at hand. We highly recommend that you reference this documentation. Cross-references under the heading <i>See Also</i> refer you to additional documentation that has more information regarding the subject.

Convention	Description
⇒ (line-continuation arrow)	A line-continuation arrow inserted at the end of a line of code indicates that the line of code has been wrapped at the page margin. The code should be viewed or entered as a continuous line of code, without the line-continuation arrow.
" " (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meaning.
Note. Note text.	Text that begins with <i>Note</i> . indicates information that you should pay particular attention to as you work with your PeopleSoft system.
Important! Important note text.	A note that begins with <i>Important!</i> is crucial and includes information about what you need to do for the system to function properly.
Warning! Warning text.	A note that begins with <i>Warning!</i> contains critical configuration information or implementation considerations; for example, if there is a chance of losing or corrupting data. Pay close attention to warning messages.

Products

This documentation may refer to these products and product families:

- Oracle® BPEL Process Manager
- Oracle® Enterprise Manager
- Oracle® Tuxedo
- Oracle® WebLogic Server
- Oracle's PeopleSoft Application Designer
- Oracle's PeopleSoft Change Assistant
- Oracle's PeopleSoft Change Impact Analyzer
- Oracle's PeopleSoft Data Mover
- Oracle's PeopleSoft Process Scheduler
- Oracle's PeopleSoft Pure Internet Architecture
- Oracle's PeopleSoft Customer Relationship Management
- Oracle's PeopleSoft Enterprise Learning Management
- Oracle's PeopleSoft Enterprise Performance Management
- Oracle's PeopleSoft Financial Management
- Oracle's PeopleSoft Human Capital Management
- Oracle's PeopleSoft Interaction Hub
- Oracle's PeopleSoft Pay/Bill Management
- Oracle's PeopleSoft PeopleTools

- Oracle's PeopleSoft Staffing Front Office
- Oracle's PeopleSoft Supply Chain Management

See the Products area on the Oracle web site, <http://www.oracle.com/us/products/product-list/products-a-z/index.html>.

Related Information

Oracle provides reference information about PeopleSoft PeopleTools and your particular PeopleSoft Application. You can access documentation for recent releases of PeopleSoft PeopleTools and PeopleSoft Applications at the PeopleSoft page in the Oracle Help Center. You can also find documentation by searching for the product name on My Oracle Support.

- PeopleSoft on the Oracle Help Center

You can access PeopleSoft Online Help, or download the PeopleBooks PDFs, from the PeopleSoft page in the Oracle Help Center. Select PeopleTools or your PeopleSoft application from the navigation list on the left. On the page for the selected product application, select the PeopleTools release or image number at the top and go to the Online Help and PeopleBooks section.

See Oracle Help Center, <https://docs.oracle.com/en/applications/peoplesoft/index.html>.

- *PeopleTools: Getting Started with PeopleTools* for your release.

This documentation provides a high-level introduction to PeopleTools technology and usage.

See PeopleTools on the Oracle Help Center,
<https://docs.oracle.com/en/applications/peoplesoft/peopletools/index.html>.

- PeopleSoft Application Fundamentals for your PeopleSoft Application and release

This documentation provides essential information about the setup, design, and implementation of your PeopleSoft Application.

See Oracle Help Center, <https://docs.oracle.com/en/applications/peoplesoft/index.html>.

- Installation guides

You can find the installation guides for PeopleSoft PeopleTools and your PeopleSoft application on the appropriate Oracle Help Center page. Select your release or update image at the top and then go to the Install and Upgrade section.

- My Oracle Support

This support platform requires a user account to log in. Contact your PeopleSoft representative for information.

See My Oracle Support, <https://support.oracle.com>.

You can find several pages which compile documentation, links, and known issues for various PeopleSoft product areas. For a list of many of the PeopleSoft pages, select the PeopleSoft tab on the Oracle Information Center Catalog.

See Oracle Information Center Catalog, My Oracle Support, Doc ID 50.2.

To install additional component software products for use with PeopleSoft products, including those products that are packaged with your PeopleSoft products as well as products from other vendors, you should refer to the documentation provided with those products, as well as this documentation. For those additional components that are offered by Oracle, such as Oracle Middleware products, see the documentation on the Oracle Help Center.

See Oracle Help Center, <https://docs.oracle.com/en/>.

Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like changed about PeopleSoft documentation and other Oracle reference and training materials. Please send your suggestions to:

PSOFT-Infodev_US@oracle.com

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions. We are always improving our product communications for you.

Part I

Mandatory Installation

The chapters in the first part of this installation guide cover only those tasks that are required for a basic PeopleSoft installation. Everyone carrying out an installation should use the tasks in Part I. After setting up the Application Server, PeopleSoft Pure Internet Architecture, and Process Scheduler Server, you verify that you can sign into the PeopleSoft installation in a browser.

Chapter 1

Preparing for Installation

This chapter discusses:

- Understanding the PeopleSoft Installation
- Understanding the PeopleSoft Installation Using Deployment Packages
- Understanding the PeopleSoft Upgrade Source Deployment Packages
- Reviewing Hardware Requirements
- Reviewing Software Requirements
- Reviewing the System Parameters on Linux, AIX, HP-UX, or Solaris
- Using Oracle Software Delivery Cloud to Obtain Installation Files
- Considering Project Planning
- Planning Your Initial Configuration
- Planning Database Creation
- Planning Multilingual Strategy
- Verifying Database Server Sizing
- Defining DB2 for z/OS Subsystem Configuration
- Installing Supporting Applications
- Setting Up Database Connectivity
- Using Connect ID
- Setting Up z/OS User IDs
- Performing Backups

Understanding the PeopleSoft Installation

This chapter will help you plan and prepare for a basic PeopleSoft installation. Before you begin the installation, please note:

- Before you begin your PeopleSoft installation, use the PeopleSoft hardware and software requirements information in the My Oracle Support Certifications area to verify that you have the correct hardware and software in place to support a successful installation. In addition to the information in the Certifications area, review the application-specific hardware and software documentation available on My Oracle Support.

See hardware and software requirements for PeopleSoft PeopleTools and your PeopleSoft application on My Oracle Support.

See My Oracle Support, Certifications.

Warning! If you are unable to meet any of the criteria outlined in the hardware and software requirements and certification information on My Oracle Support, contact Oracle before going forward with the installation. Attempting to complete an installation on an unsupported configuration can be a very costly decision, and Oracle will not provide support for such PeopleSoft installations.

- The installation of the PeopleSoft deployment packages (DPKs) includes the necessary additional component software, such as Oracle Tuxedo and Oracle WebLogic. If you must install the additional component software manually, without using the DPKs, use the My Oracle Support Certifications area to determine the latest certified versions of additional components, such as Oracle Tuxedo, which are supported for the PeopleSoft PeopleTools release you are installing.
- If you will be upgrading your current release after you perform this installation, you also need to install Change Assistant. The page on My Oracle Support containing your upgrade documentation and files includes information.
- For critical issues related to the installation process, see the My Oracle Support web site.
- You will use the PeopleSoft application deployment packages (DPKs) for your PeopleSoft installation. The DPKs deliver pre-installed PeopleSoft components, which can be installed on virtualization platforms as well as directly on traditional, non-virtual machines ("bare-metal").

Review the known issues on the PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2, for any issues related to the PeopleSoft application DPK installation.

- For online technical support information, use the My Oracle Support web site. My Oracle Support includes tools for self-directed searches of information including reference documents and problem resolutions, as well as service request management tools.

See My Oracle Support, <https://support.oracle.com>.

- To download software and documentation, use the Oracle Software Delivery Cloud portal, and My Oracle Support.

See Oracle Software Delivery Cloud, <http://edelivery.oracle.com>.

See My Oracle Support, <https://support.oracle.com>.

- Be aware that not all application releases are certified and supported to run on all PeopleSoft PeopleTools releases. Check the PeopleSoft policy information on My Oracle Support for further details on the support policy for your particular application. If you are planning to do a PeopleTools-only upgrade, do not continue until you have verified that your application is supported on the target PeopleSoft PeopleTools release.

See Lifetime Support Summary for PeopleSoft Releases, My Oracle Support, Doc ID 2238983.2.

- This installation guide may refer you to other PeopleSoft documentation resources for more information or instructions. You can access Oracle's PeopleSoft Hosted Documentation online during the installation process. For PeopleSoft PeopleTools 8.53 and later, you also have the option to install PeopleSoft Online Help documentation, a dynamic, interactive, accessible HTML version of the documentation formerly known as "PeopleBooks."
- See the PeopleSoft Tech Updates for news about new certifications, end of support or third party retirement notices as well as any other platform related information.

See Tech Update - Main Page, My Oracle Support, Doc ID 764222.1.

See Also

"Installing PeopleSoft Online Help"

Oracle's PeopleSoft Hosted Documentation, <http://www.peoplesoftonlinehelp.com>

"Installing PeopleSoft Change Assistant"

Understanding the PeopleSoft Installation Using Deployment Packages

This section discusses:

- Understanding the PeopleSoft Deployment Packages Required for Installation
- Reviewing the PeopleSoft PeopleTools DPKs
- Reviewing the PeopleSoft Application Images
- Reviewing the Installation Choices
- Reviewing the DPK Installation Process (Microsoft Windows)

Understanding the PeopleSoft Deployment Packages Required for Installation

To install PeopleSoft applications built on PeopleSoft PeopleTools 8.58 (PeopleSoft 9.2 applications as well as PeopleSoft Interaction Hub 9.1), you will use the PeopleSoft Application Images, which are comprised of deployment packages (DPKs). For most installation scenarios, you will also download the PeopleSoft PeopleTools DPKs separately.

The PeopleSoft DPKs are the delivery method for many PeopleSoft installation, upgrade, and maintenance products. This documentation refers to the set of DPKs that are used for a fresh installation of a PeopleSoft application environment as PeopleSoft Application Images. These images can also be deployed differently, and used for applying maintenance for PeopleSoft applications. In that use case, they are typically referred to as PeopleSoft Update Images, or PIs.

See PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2, for information on applying maintenance updates with the PIs.

See *PeopleSoft PeopleTools 8.58 Deployment Packages Installation*, "Learning About the PeopleSoft Deployment Process."

The PeopleSoft DPKs deliver pre-installed PeopleSoft components that can be deployed onto your environment. The PeopleSoft DPKs offer the flexibility of deployment on supported operating system platforms, both directly on physical machines, and on virtualization platforms. The DPKs are available on My Oracle Support and Oracle Software Delivery Cloud as zip files, and are delivered with a setup script that automates the procedure to set up a PeopleSoft environment. The script is an interactive script that verifies that the downloaded DPKs are correct, and prompts the user for the information required to set up the environment. The script also enables a user to choose various types of environments, such as a full tier, including a PeopleSoft database, or a mid-tier, with Application Server, web server and Process Scheduler, that connects to an existing database.

See "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.

The DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon the open-source Puppet software. In addition to the convenience of using the interactive DPK setup script, you can take advantage of the Puppet Hiera functionality to customize and control the installation. Note that some installation scenarios require customizations to complete the deployment.

See "Completing the DPK Initialization with Customizations."

This section describes the DPKs used in the PeopleSoft installation and overviews of the installation process for various scenarios. The PeopleSoft Application Images are available as Microsoft Windows, Linux, and Oracle VM VirtualBox DPKs. The VirtualBox DPKs are used for PUM maintenance, and are not covered in this documentation. The PeopleSoft PeopleTools 8.58 DPKs are available for IBM AIX, HP-UX, Linux, Microsoft Windows, and Oracle Solaris on SPARC operating systems.

See [Reviewing the Installation Choices](#).

Note. Oracle recommends that you use the Native OS for Linux or Native OS for Windows DPKs for a fresh installation, not the VirtualBox DPKs.

Note. Oracle supports a number of versions of UNIX and Linux, in addition to Microsoft Windows, for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however for simplicity and brevity, the word UNIX is sometimes used to refer to all UNIX-like operating systems, including IBM AIX, Linux, HP-UX, and Oracle Solaris for SPARC. For information on operation system support for your database platform, see the Certification information on My Oracle Support.

Reviewing the PeopleSoft PeopleTools DPKs

The PeopleSoft PeopleTools DPKs are delivered for each PeopleTools patch. The files are double-zipped. This table describes the downloaded zip files and the embedded zip files. When you follow the instructions provided in this documentation you will extract the first zip file to get the DPK setup script. When you run the setup script, it takes care of extracting the remaining zip files. Do not unzip before reading the instructions.

Downloaded Zip Files	Embedded Zip Files	Description
PEOPLETOOLS-<OS>-8.58.xx_1of4.zip	The setup folder and other files	Setup DPK
PEOPLETOOLS-<OS>-8.58.xx_2of4.zip	PT-DPK-<OS>-8.58.xx-1of2.zip	PeopleTools server, Part 1
PEOPLETOOLS-<OS>-8.58.xx_3of4.zip	PT-DPK-<OS>-8.58.xx-2of2.zip	PeopleTools server, Part 2
PEOPLETOOLS-<OS>-8.58.xx_4of4.zip	PTC-DPK-<OS>-8.58.xx-1of1.zip	PeopleTools Client for 8.58

The filenames include the following:

- <OS> is one of these operating systems:
 - AIX for IBM AIX
 - HPI for HP-UX
 - LNX for Linux
 - WIN for Microsoft Windows
 - SOL for Oracle Solaris
- xx refers to the patch number.

Reviewing the PeopleSoft Application Images

The PeopleSoft application software is delivered in the PeopleSoft Application Images posted on My Oracle Support. The DPKs that comprise the PeopleSoft Application Images are double-zipped. When you follow the instructions provided in this documentation you will extract the first zip file to get the DPK setup script. When you run the setup script, it takes care of extracting the remaining zip files. Do not unzip before reading the instructions.

The first four zip files in the PeopleSoft Application Images are the same type as the four zip files in the PeopleTools patches; that is, two PeopleTools server DPKs, a PeopleTools client DPK, and a setup DPK. However, because the PeopleSoft Application Images and the PeopleTools patches follow different schedules, the patch releases will not be the same.

Note. The PeopleTools Client DPKs are specific to Microsoft Windows operating systems. The operating system for the PeopleTools server DPKs that are packaged with the PeopleSoft Application Image is the same as the other DPKs that make up the PeopleSoft Application Image.

This table describes the zip files that you download for the Native Linux and Windows DPKs, and the embedded zip files. Note that the content description is also available in the manifest that is posted on the same pages where you can find links to the most current image. On the PeopleSoft Update Image (PUM) Home Page, select the PeopleSoft Update Images tab, and then select the update image home page for your PeopleSoft application. The links and manifest are located in the Update Image Link section.

The VirtualBox version of the PeopleSoft Application Images have a slightly different set of DPK zip files; that is, the VirtualBox Shell OVA and the Elasticsearch DPK are included in the VirtualBox images. These DPKs are not included for the Native OS for Windows and Native OS for Linux DPKs. The current documentation does not describe the installation of the VirtualBox images.

See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.58)*, PeopleSoft Update Image (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

Downloaded Zip Files	Files After First Extraction ¹	Description
<Product>-920-UPD-<PI_Number>-<OS>_1of11.zip	The setup folder and other files	Setup DPK
<Product>-920-UPD-<PI_Number>-<OS>_2of11.zip	PT-DPK-<OS>-8.58.xx-1of2.zip	PeopleTools server, Part 1
<Product>-920-UPD-<PI_Number>-<OS>_3of11.zip	PT-DPK-<OS>-8.58.xx-2of2.zip	PeopleTools server, Part 2
<Product>-920-UPD-<PI_Number>-<OS>_4of11.zip	PTC-DPK-WIN8.56.xx-1of1.zip	PeopleTools Client for 8.56
<Product>-920-UPD-<PI_Number>-<OS>_5of11.zip	PTC-DPK-WIN8.57.xx-1of1.zip	PeopleTools Client for 8.57
<Product>-920-UPD-<PI_Number>-<OS>_6of11.zip	PTC-DPK-WIN8.58.xx-1of1.zip	PeopleTools Client for 8.58
<Product>-920-UPD-<PI_Number>-<OS>_7of11.zip	ODC-DPK-WIN-12.1.0.2-xxxxxx-1of1.zip	Oracle Database client

Downloaded Zip Files	Files After First Extraction ¹	Description
<Product>-920-UPD-<PI_Number>-<OS>_8of11.zip	ODS-DPK-<OS>-19.3.0.0-xxxxxx-1of1.zip	Oracle Database server
<Product>-920-UPD-<PI_Number>-<OS>_9of11.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-1of3.zip	PeopleSoft Application DPK, Part 1
<Product>-920-UPD-<PI_Number>-<OS>_10of11.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-2of3.zip	PeopleSoft Application DPK, Part 2
<Product>-920-UPD-<PI_Number>-<OS>_11of11.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-3of3.zip	PeopleSoft Application DPK, Part 3

¹ The filenames will vary depending upon the date posted or the associated release and patch. Note that the DPK setup script will carry out the first extraction. The names are given here for information.

The filenames for the downloaded zip files have the following format:

<Product>-920-UPD-<PI_Number>-<OS>_#ofn.zip

For example:

HCM-920-UPD-028-LNX_1of11.zip

HCM-920-UPD-028-LNX_2of11.zip

[...]

HCM-920-UPD-028-LNX_11of11.zip

The files names are comprised of the following parts:

- <Product> is an abbreviation that represents the PeopleSoft application name, as described in the following table.

PeopleSoft Application	Product Name Abbreviation
PeopleSoft Customer Relationship Management	CRM
PeopleSoft Campus Solutions	CS
PeopleSoft Enterprise Learning Management	ELM
PeopleSoft Financials and Supply Chain Management	FSCM
PeopleSoft Human Capital Management	HCM
PeopleSoft Interaction Hub	IH

- <PI_Number> is the PI image number, such as 024.
- <OS> is one of these operating systems:
 - LNX for the Native OS DPKs for Oracle Linux
 - WIN for the Native OS DPKs for Microsoft Windows
 - OVA for the VirtualBox DPKs

- n represents the total number of zip files.

Reviewing the Installation Choices

This section includes overviews of the methods to install the PeopleSoft Application Images, depending upon your operating system and other components.

If you want to use the PeopleSoft 9.2 Application PIs to create a PeopleSoft Update Manager (PUM) source for applying updates and fixes, see *PeopleSoft Deployment Packages for Update Images Installation*.

See PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

Reviewing the DPK Installation Process (Microsoft Windows)

These are the high-level steps for using the PeopleSoft Application Images to perform a fresh installation (that is, you are not upgrading or updating an existing environment):

1. Locate the Native OS DPKs for Microsoft Windows for your PeopleSoft 9.2 application, and download the PeopleSoft Application DPK, Part 1.

Do not unzip the file. If you need to FTP the file, use binary mode.

See "Installing the PeopleSoft Homes," Obtaining the PeopleSoft Application and PeopleTools DPKs.

2. Download the PeopleTools 8.58 DPKs for Windows.

Select the PeopleTools patch release specified for the PeopleSoft 9.2 application.

3. Install *PS_HOME* and *PS_APP_HOME* using the PeopleTools DPKs.

PS_HOME includes the PeopleTools utilities that you use in the next step. *PS_APP_HOME* includes the files needed to create an application database.

Note. Before running the DPK setup script, review the setup script options. Certain installation situations require a customized procedure.

See "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.

4. Combine *PS_HOME* and *PS_APP_HOME* into a separate third installation directory, referred to here as *PTOOLS_APP_HOME*.
5. In the Preinstallation Worksheet, define Transfer Parameter 2 – PeopleSoft File Server High Level Directory, as *PTOOLS_APP_HOME*.
See "Setting Up the Batch Environment," Completing the Preinstallation Worksheet.
6. Use pstrans.exe to transfer files from *PTOOLS_APP_HOME* to the z/OS mainframe.
See "Setting Up the Batch Environment," Using PeopleSoft Server Transfer.
7. Delete *PTOOLS_APP_HOME* if desired.
8. Create a DEMO or SYS database.
9. Use the PeopleTools DPK setup script to perform a mid-tier deployment to install Oracle Tuxedo, Oracle WebLogic, and JDK, as well as setting up the application server, PeopleSoft Pure Internet Architecture (PIA) and Process Scheduler domains.
10. Complete optional tasks, such as installing and compiling COBOL.

Understanding the PeopleSoft Upgrade Source Deployment Packages

This section discusses:

- Reviewing the PeopleSoft Upgrade Source Image Usage
- Reviewing the PeopleSoft Upgrade Source Image
- Reviewing the PeopleSoft Upgrade Source Image Installation

Reviewing the PeopleSoft Upgrade Source Image Usage

The PeopleSoft Upgrade Source Images can be used during a PeopleSoft application upgrade to install a demo database, and are available for each PeopleSoft application. Keep in mind that the PeopleSoft Upgrade Source Images are not interchangeable with the PeopleSoft application images. Here is an overview of the differences:

- The PeopleSoft Upgrade Source Image is released on a different schedule, and the version numbering sequence is independent of both the PeopleSoft application images and the PeopleSoft PeopleTools patches.
- The PeopleSoft Upgrade Source Image zip file names include UPG rather than UPD.
See Reviewing the PeopleSoft Upgrade Source Image.
- The VirtualBox version of the PeopleSoft application image is not recommended for use with a fresh installation, but the VirtualBox version of the Upgrade Source Image can be used to install an upgrade demo database.
- The DPK setup script recognizes the type of DPK, and suppresses unnecessary prompts.
See Reviewing the PeopleSoft Upgrade Source Image Installation.

Reviewing the PeopleSoft Upgrade Source Image

The DPKs for the Upgrade Source Image are double-zipped. When you follow the instructions provided in this documentation you will extract the first zip file to get the DPK setup script. When you run the setup script, it takes care of extracting the remaining zip files. Do not unzip before reading the instructions.

The first four zip files in the Upgrade Source Image are the same type as the four zip files in the PeopleTools patches; that is, two PeopleTools server DPKs, a PeopleTools client DPK, and a setup DPK. However, because the Upgrade Source Image and the PeopleTools patches follow different schedules, the patch releases will not be the same.

This table describes the zip files that you download for the Native OS for Linux and Windows DPKs, and the embedded zip files. Note that the content description is also available in the manifest posted on the upgrade pages where you can find links to the most current Upgrade Source Image.

See Reviewing the PeopleSoft Upgrade Source Image Installation.

The VirtualBox DPKs have a slightly different set of zip files; that is, the VirtualBox Shell OVA and the Elasticsearch DPK are available for VirtualBox DPKs. These two DPKs are not included for the Native OS DPKs for Microsoft Windows and Linux. The current documentation does not describe the installation of the VirtualBox DPKs.

See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.58)*, PeopleSoft Update Image (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

Downloaded Zip Files	Files After First Extraction ¹	Description
<Product>-920-UPG-<Img_Number>-<OS>_1of9.zip	The setup folder and other files	Setup DPK
<Product>-920-UPG-<Img_Number>-<OS>_2of9.zip	PT-DPK-<OS>-8.58.xx-1of2.zip	PeopleTools server, Part 1
<Product>-920-UPG-<Img_Number>-<OS>_3of9.zip	PT-DPK-<OS>-8.58.xx-2of2.zip	PeopleTools server, Part 2
<Product>-920-UPG-<Img_Number>-<OS>_4of9.zip	PTC-DPK-WIN8.58.xx-1of1.zip	PeopleTools Client for 8.58
<Product>-920-UPG-<Img_Number>-<OS>_5of9.zip	ODC-DPK-WIN-12.1.0.2-xxxxxx-1of1.zip	Oracle Database client
<Product>-920-UPG-<Img_Number>-<OS>_6of9.zip	ODS-DPK-<OS>-12.1.0.2-xxxxxx-1of1.zip	Oracle Database server
<Product>-920-UPG-<Img_Number>-<OS>_7of9.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-1of3.zip	PeopleSoft Application DPK, Part 1
<Product>-920-UPG-<Img_Number>-<OS>_8of9.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-2of3.zip	PeopleSoft Application DPK, Part 2
<Product>-920-UPG-<Img_Number>-<OS>_9of9.zip	APP-DPK-<OS>-<Product_Name>92-8.58.xx-3of3.zip	PeopleSoft Application DPK, Part 3

¹ The filenames will vary depending upon the date posted or the associated release and patch. After you extract the first zip file manually, note that the DPK setup script will carry out the first extraction. The names are given here for information.

The filenames for the downloaded zip files have the following format:

<Product>-920-UPG-<Img_Number>-<OS>_#ofn.zip

For example:

HCM-920-UPG-003-LNX_1of9.zip

HCM-920-UPG-003-LNX_2of9.zip

[...]

HCM-920-UPG-003-LNX_9of9.zip

The files names are comprised of the following parts:

- *<Product>* is an abbreviation that represents the PeopleSoft application name, as described in the following table.

PeopleSoft Application	Product Name Abbreviation
PeopleSoft Customer Relationship Management	CRM
PeopleSoft Campus Solutions	CS
PeopleSoft Enterprise Learning Management	ELM
PeopleSoft Financials and Supply Chain Management	FSCM
PeopleSoft Human Capital Management	HCM
PeopleSoft Interaction Hub	IH

- *<Img_Number>* is the Upgrade Source Image version number, such as 03.
- *<OS>* is one of the following:
 - LNX for the Native OS DPKs for Oracle Linux
 - WIN for the Native OS DPKs for Microsoft Windows
 - OVA for the VirtualBox DPKs
- *n* represents the total number of zip files.

Reviewing the PeopleSoft Upgrade Source Image Installation

The installation process for the Upgrade Source Image is similar to the installation of the PeopleSoft application images, with a few differences outlined here.

Note. These instructions apply to the Upgrade Source Image that is created with PeopleSoft PeopleTools 8.58.

To install the PeopleSoft Upgrade Source Image for use as an upgrade demo database:

1. Download the Upgrade Source Image for your PeopleSoft 9.2 application.

See Reviewing the Upgrade Source Image for information on the naming convention for the downloaded DPKs.

To find usage information and the links to the latest Upgrade Source Image, select the Upgrade Source Image tab on the following upgrade home pages:

- Campus Solutions Upgrade Home Page, My Oracle Support, Doc ID 2078564.2
- CRM Upgrade Home Page, My Oracle Support, Doc ID 1961844.2.
- ELM Upgrade Home Page, My Oracle Support, Doc ID 1962959.2.
- FSCM Upgrade Home Page, My Oracle Support, Doc ID 1963697.2
- HCM Upgrade Home Page, My Oracle Support, Doc ID 1959519.2

2. Obtain the installation guide.

- If you are installing the Native OS for Linux or Windows DPKs, use the installation guide you are currently reading.

See Oracle's PeopleSoft PeopleTools 8.58 Home Page, My Oracle Support, Doc ID 2602329.2. Select

Installation and Upgrade, Installation Documentation, PeopleSoft 9.2 Application Deployment Packages.

- If you are installing the VirtualBox version of the Upgrade Source Image, use *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.58)*.

You can find this installation guide on the PeopleSoft Update Manager Home Page. Select the Update image home page for your PeopleSoft application (for example, HCM Update Image Home Page), and locate the Installation Documentation section.

See PeopleSoft Update Image (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

3. Download the PeopleTools 8.58 DPKs.

- Select the operating system you want to install on. The PeopleTools 8.58 DPKs are available for IBM AIX, HP-UX, Linux, Microsoft Windows, and Oracle Solaris.
- Select the PeopleTools patch release specified for the PeopleSoft 9.2 application.

4. Use the PeopleTools DPK setup script to deploy the PeopleSoft environment.

When running the DPK setup script, you will not see the following prompt for the installation type, which is included when deploying the PeopleSoft application images.

```
Enter the PeopleSoft installation [PUM or FRESH] type [PUM]:
```

Task 1-1: Reviewing Hardware Requirements

This section discusses:

- Reviewing Hardware Requirements for Microsoft Windows
- Reviewing Hardware Requirements on AIX, HP-UX, Linux, or Solaris

Task 1-1-1: Reviewing Hardware Requirements for Microsoft Windows

You can install the PeopleSoft Application Image deployment packages (DPKs) or PeopleSoft PeopleTools DPKs directly on a system running a Microsoft Windows operating system. The PeopleSoft Application Images and PeopleSoft PeopleTools DPKs are certified to run on those Microsoft Windows operating systems that are certified for the current PeopleSoft PeopleTools release. The Microsoft Windows system can be a physical computer (sometimes called "bare-metal") or a virtual machine.

Oracle strongly recommends that you dedicate a Microsoft Windows machine for the PeopleTools client. This should be a machine that is not used for other PeopleSoft purposes.

See "Deploying the PeopleSoft PeopleTools Deployment Packages," Deploying the PeopleTools Client DPK in Standalone Mode, for information on installing the PeopleTools client utilities.

- *Host computer:* The PeopleSoft DPKs can be deployed directly on any supported Microsoft Windows host, bare-metal or virtual.

If you deploy on a virtual host computer, you are responsible for provisioning the virtual machine before beginning the deployment.

- *Host operating system:* The host operating system (OS) must be a 64-bit platform that is certified by Oracle for PeopleSoft systems.

Note. My Oracle Support Certification notes include information about the PeopleSoft PeopleTools components that are certified for each operating system. Some OSs are certified only for browsers and clients. If you want to deploy a full PeopleSoft environment, verify that the OS you want to use is certified for server installation.

See My Oracle Support, Certifications.

See PeopleSoft PeopleTools Certifications, My Oracle Support, Doc ID 747587.1, for help searching PeopleSoft Certifications.

- *RAM (Memory):* A minimum of 8 GB RAM is required to run a PeopleSoft environment.
- *Disk space:* The disk space requirements vary depending upon the type of environment you set up.

See "Preparing to Deploy," Understanding PeopleSoft Components.

- 25–35 GB free disk space for the downloaded zip files
You may remove these files after you have successfully initialized your virtual machine.
- 150 GB free disk space is required to deploy and set up a full tier PeopleSoft environment.
- 25 GB free disk space is required to deploy and set up a mid-tier PeopleSoft environment.

See Also

Tech Update - Main Page, My Oracle Support, Doc ID 764222.1

Task 1-1-2: Reviewing Hardware Requirements on AIX, HP-UX, Linux, or Solaris

You can install the PeopleSoft Application Image deployment packages (DPKs) directly on a system running an Oracle Linux operating system. You can install the PeopleSoft PeopleTools deployment packages (DPKs) directly on a system running an IBM AIX, HP-UX, Linux, or Solaris operating system. The PeopleSoft Application Images and PeopleSoft PeopleTools DPKs are certified to run on those operating systems that are certified for the current PeopleSoft PeopleTools release. The AIX, HP-UX, Linux, or Solaris system can be a physical computer (sometimes called "bare-metal") or a virtual machine.

- *Host computer:* The PeopleSoft DPKs can be deployed on any supported AIX, HP-UX, Linux, or Solaris host, either a physical computer or virtual machine. The PeopleSoft DPKs can also be deployed on Oracle Exalogic Elastic Cloud.

If you deploy on a virtual host computer, you are responsible for provisioning the virtual machine before beginning the deployment.

- *Host operating system:* The host operating system must be a 64-bit platform that is certified by Oracle for PeopleSoft systems.

For full-tier installations on Linux, the minimum version is Oracle Linux 7.6.

See My Oracle Support, Certifications.

See PeopleSoft PeopleTools Certifications, My Oracle Support, Doc ID 747587.1, for help searching PeopleSoft Certifications.

- *RAM (Memory):* A minimum of 8 GB RAM is required to run a PeopleSoft environment.
- *Disk space:* The disk space requirements vary depending upon the type of environment you set up.

See "Preparing to Deploy," Understanding PeopleSoft Components.

- 25–35 GB free disk space for the downloaded zip files

You may remove these files after you have successfully initialized your virtual machine.

- 150 GB free disk space is required to deploy and set up a full tier PeopleSoft environment.
- 25 GB free disk space is required to deploy and set up a mid-tier PeopleSoft environment.

See Also

My Oracle Support, Certifications.

Tech Update - Main Page, My Oracle Support, Doc ID 764222.1

Task 1-2: Reviewing Software Requirements

This section discusses:

- Reviewing Software Requirements on Microsoft Windows
- Reviewing Software Requirements on Linux
- Reviewing Software Requirements on AIX
- Reviewing Software Requirements on HP-UX
- Reviewing Software Requirements on Solaris
- Reviewing Requirements for the Puppet Software on Microsoft Windows
- Reviewing Requirements for the Puppet Software on Linux
- Reviewing Requirements for the Puppet Software on AIX
- Reviewing Requirements for the Puppet Software on HP-UX
- Reviewing Requirements for the Puppet Software on Solaris

Task 1-2-1: Reviewing Software Requirements on Microsoft Windows

Here are the software requirements for using the PeopleSoft Deployment Packages on a Microsoft Windows machine:

- Administrative permission
- Read, write, and execute permission on the default temporary folder.

The deployment of a PeopleSoft environment by the DPKs installs required supporting software, such as Oracle WebLogic and Oracle Tuxedo. The DPK process to install this software uses the default temporary folders, as specified by the environment variable for the operating system. The user running the DPK setup script must have read/write/execute permission to these default temporary folders for successful DPK installation, or the deployment steps that install these components will fail.

- The DPK setup script can be run from any drive, regardless of the drive where the Windows operating system is installed.
- Web Browser

You need a version certified for the current PeopleSoft PeopleTools release for end-users.

See PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

See My Oracle Support, Certifications.

- Zip utility

You need a utility that is able to extract (unzip) the DPK zip files for your operating system.

- Verify that the `PATHEXT` environment variable includes the extension `.bat`.

This is a requirement for running Puppet. For example:

```
PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
```

- Python 3.7.4 is included with the DPKs.
- Microsoft Visual C++ Redistributable files

The current PeopleSoft PeopleTools release was developed using Microsoft Visual Studio 2017. PeopleSoft PeopleTools programs require Microsoft Visual C++ Redistributable for Visual Studio 2017 files to be present or the programs will not run. The required Visual C++ Redistributable for Visual Studio 2017 packages are installed by the DPK setup script. After you have completed the PeopleSoft installation, if necessary, you can install the files from `PS_HOME\setup\psvcrt`.

- Specifying `PS_APP_HOME`

The DPK setup script creates the installation location for the PeopleSoft application files, `PS_APP_HOME`, in a default location. If you want to use an existing `PS_APP_HOME`, or specify a non-default location, follow the instructions to perform the deployment using the DPK customizations.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Specifying `PS_CUST_HOME`

If you wish to use a `PS_CUST_HOME` location to store your site's custom files, you must perform the deployment using the DPK customizations, and specify the `PS_CUST_HOME` location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

Task 1-2-2: Reviewing Software Requirements on Linux

Here are the software requirements for using the PeopleSoft Deployment Packages on a Linux machine:

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- Read, write, and execute permission on the default temporary folder.

The deployment of a PeopleSoft environment by the DPKs installs required supporting software, such as Oracle WebLogic and Oracle Tuxedo. The DPK process to install this software uses the default temporary folders, as specified by the environment variable for the operating system. The user running the DPK setup script must have read, write, and execute permission to these default temporary folders for successful DPK installation, or the deployment steps that install these components will fail.

- Verify the `umask` value.

For a default deployment (that is, with no customizations) run by the root user, the DPK setup script uses the system `umask` value when it creates users (for example, `psadm1`, `psadm2`, and `psadm3`) and user home directories. Be sure that the `umask` value allows the DPK-created users the necessary access to the user home directories and other directories they need to use.

See Using the PeopleSoft Installation.

- If you are installing the PeopleSoft DPKs on a supported version of Oracle Linux with Unbreakable Enterprise Kernel (UEK), apply the latest UEK kernel from the Oracle YUM repository at <http://public-yum.oracle.com/index.html>.
- Zip utility

You need a utility that is able to extract (unzip) the DPK zip files for your operating system; for example, tar or unzip.

- Specifying PS_APP_HOME

The DPK setup script creates the installation location for the PeopleSoft application files, *PS_APP_HOME*, in a default location. If you want to use an existing *PS_APP_HOME*, or specify a non-default location, follow the instructions to perform the deployment using the DPK customizations.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Specifying PS_CUST_HOME

If you wish to use a *PS_CUST_HOME* location to store your site's custom files, you must perform the deployment using the DPK customizations, and specify the *PS_CUST_HOME* location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Python 3.7.4 is included with the DPKs.

Task 1-2-3: Reviewing Software Requirements on AIX

Here are the software requirements for using the PeopleSoft Deployment Packages on an IBM AIX machine:

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- Read, write, and execute permission on the default temporary folder.

The deployment of a PeopleSoft environment by the DPKs installs required supporting software, such as Oracle WebLogic and Oracle Tuxedo. The DPK process to install this software uses the default temporary folders, as specified by the environment variable for the operating system. The user running the DPK setup script must have read, write, and execute permission to these default temporary folders for successful DPK installation, or the deployment steps that install these components will fail.

- Verify the umask value.

For a default deployment (that is, with no customizations) run by the root user, the DPK setup script uses the system umask value when it creates users (for example, psadm1, psadm2, and psadm3) and user home directories. Be sure that the umask value allows the DPK-created users the necessary access to the user home directories and other directories they need to use.

See Using the PeopleSoft Installation.

- Utilities for extracting the DPK zip files

You need both the gunzip and unzip utilities for your operating system in order to extract the DPK zip files, and the PATH for the root user must include the gunzip and unzip locations.

- OpenSSL

Obtain the latest version of OpenSSL for your AIX operating system from your IBM support contact, and install it on the host.

Note. Beginning with PeopleSoft PeopleTools 8.58.09, only the Relocatable Puppet is used for deployment on AIX, and it includes OpenSSL. You do not have to do the separate installation.

See the section Reviewing Requirements for the Puppet Software on AIX.

- JDK 8.0

You must manually install JDK 8.0 from the IBM web site. To obtain 64-bit IBM JDK for IBM AIX:

1. Go to the IBM JDK download and service site.

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>

Note. You need a user name and password for downloading IBM JDK. If you don't have the required credentials, contact IBM AIX support.

2. Select the link for Java 8 64-bit under Java SE Version 8.
3. Provide the required information to sign in.
4. Install the JDK on the AIX computer where you will install the PeopleSoft AIX DPK.
5. Make a note of the installation location.

For the AIX DPK installation, you must perform the deployment using the DPK customizations, and specify the AIX JDK installation location.

See "Completing the DPK Initialization With Customizations," Preparing the Customization File for JDK on AIX.

- Specifying PS_APP_HOME

The DPK setup script creates the installation location for the PeopleSoft application files, *PS_APP_HOME*, in a default location. If you want to use an existing *PS_APP_HOME*, or specify a non-default location, follow the instructions to perform the deployment using the DPK customizations.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Specifying PS_CUST_HOME

If you wish to use a *PS_CUST_HOME* location to store your site's custom files, you must perform the deployment using the DPK customizations, and specify the *PS_CUST_HOME* location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Python 3.7.4 is included with the DPKs.

Task 1-2-4: Reviewing Software Requirements on HP-UX

Here are the software requirement for using the PeopleSoft Deployment Packages on HP-UX Itanium.

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- Read, write, and execute permission on the default temporary folder.

The deployment of a PeopleSoft environment by the DPKs installs required supporting software, such as Oracle WebLogic and Oracle Tuxedo. The DPK process to install this software uses the default temporary folders, as specified by the environment variable for the operating system. The user running the DPK setup script must have read, write, and execute permission to these default temporary folders for successful DPK installation, or the deployment steps that install these components will fail.

- Verify the umask value.

For a default deployment (that is, with no customizations) run by the root user, the DPK setup script uses the system umask value when it creates users (for example, psadm1, psadm2, and psadm3) and user home directories. Be sure that the umask value allows the DPK-created users the necessary access to the user home directories and other directories they need to use.

See Using the PeopleSoft Installation.

- Utilities for extracting the DPK zip files

Install tar and zip/unzip utilities from Hewlett Packard and add the locations to your PATH:

1. Go to HP-UX Porting & Archiving Centre, at <http://hpux.connect.org.uk>.
2. Follow the instructions on the HP-UX Porting & Archiving Centre to install tar and its runtime dependencies, gettext, libiconv, and libunistring.
3. Install zip/unzip from the HP-UX Porting & Archiving Centre, at <http://hpux.connect.org.uk>.
4. Add the installation locations for tar, zip, and unzip to PATH.

Make sure that the installation location for tar is first in the PATH. For example, if you installed tar to /usr/local/bin:

```
export PATH=/usr/local/bin:$PATH
```

5. Set LD_LIBRARY_PATH. For example, if your installation location above was in /usr/local:

```
export LD_LIBRARY_PATH=/usr/local/lib${LD_LIBRARY_PATH+:$LD_LIBRARY_PATH}
```

- **OpenSSL**

Install the latest version of OpenSSL on the host where you will run the DPK setup script.

1. Go to the HP-UX Porting and Archive Centre web site, at <http://hpux.connect.org.uk/hppd/hpux/>.
2. Search for *openssl*, and locate the latest version of OpenSSL in the list of results.
3. Select the link for the latest OpenSSL package, for example openssl-1.0.2p.
4. Download the gzipped binary package for 64-bit Itanium; for this example, this is openssl-1.0.2p-ia64-11.31.depot.gz.
5. Use the installation documentation on the same page to install the OpenSSL package.

- **JDK 8.0**

You must manually install JDK 8.0 from the Hewlett Packard web site. To obtain 64-bit JDK for HP-UX Itanium:

1. Go to the Hewlett Packard Software Depot.
See Hewlett Packard Software Depot,
https://h20392.www2.hpe.com/portal/swdepot/index.do?lc=EN_US.
2. Locate the link for the latest JDK/JRE 8.0 for your HP-UX operating system.

Note. Beginning with PeopleSoft PeopleTools 8.58.06, you can use the latest JDK/JRE 8.0 for HP-UX.

3. Install the JDK on the HP-UX computer where you will install the PeopleSoft HP-UX DPK.
4. Make a note of the installation location.

For the HP-UX DPK installation, you must perform the deployment using the DPK customizations, and specify the HP-UX JDK installation location.

See "Completing the DPK Initialization With Customizations," Preparing the Customization File for JDK on HP-UX.

- **Specifying PS_APP_HOME**

The DPK setup script creates the installation location for the PeopleSoft application files, *PS_APP_HOME*, in a default location. If you want to use an existing *PS_APP_HOME*, or specify a non-default location, follow the instructions to perform the deployment using the DPK customizations.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Specifying `PS_CUST_HOME`

If you wish to use a `PS_CUST_HOME` location to store your site's custom files, you must perform the deployment using the DPK customizations, and specify the `PS_CUST_HOME` location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Python 3.7.4 is included with the DPKs.

Task 1-2-5: Reviewing Software Requirements on Solaris

Here are the software requirements for using the PeopleSoft Deployment Packages on Solaris:

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- Read, write, and execute permission on the default temporary folder.

The deployment of a PeopleSoft environment by the DPKs installs required supporting software, such as Oracle WebLogic and Oracle Tuxedo. The DPK process to install this software uses the default temporary folders, as specified by the environment variable for the operating system. The user running the DPK setup script must have read, write, and execute permission to these default temporary folders for successful DPK installation, or the deployment steps that install these components will fail.

- Verify the umask value.

For a default deployment (that is, with no customizations) run by the root user, the DPK setup script uses the system umask value when it creates users (for example, `psadm1`, `psadm2`, and `psadm3`) and user home directories. Be sure that the umask value allows the DPK-created users the necessary access to the user home directories and other directories they need to use.

See Using the PeopleSoft Installation.

- Zip utility

You need a utility that is able to extract (unzip) the DPK zip files for your operating system; for example, `tar` or `unzip`.

- OpenSSL

Obtain the latest version of OpenSSL for your operating system and install it on the host.

- Specifying `PS_APP_HOME`

The DPK setup script creates the installation location for the PeopleSoft application files, `PS_APP_HOME`, in a default location. If you want to use an existing `PS_APP_HOME`, or specify a non-default location, follow the instructions to perform the deployment using the DPK customizations.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Specifying `PS_CUST_HOME`

If you wish to use a `PS_CUST_HOME` location to store your site's custom files, you must perform the deployment using the DPK customizations, and specify the `PS_CUST_HOME` location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

- Python 3.7.4 is included with the DPKs.

Task 1-2-6: Reviewing Requirements for the Puppet Software on Microsoft Windows

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software.

See "Learning About the PeopleSoft Deployment Process," Understanding Puppet and the PeopleSoft Puppet Modules.

- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on Microsoft Windows operating systems:
 - Puppet Agent 5.5.14 (open source, and stand-alone architecture)
 - Hiera 3.4.6
 - Facter 2.5.1
 - Ruby 2.4.6
- Puppet installation location
 - The DPK setup script installs Puppet software in C:\Program Files\Puppet Labs\Puppet by default.
 - You have the option to use a command-line parameter to install to a non-default location, including drives other than the C: drive.

You can install in any writable local drive, but you cannot install in a network drive.
 - You can only specify a non-default location by using the command-line location when running the script.
 - Whether you accept the default installation location, or specify a different location on the command line, the Puppet installation location is set in the Microsoft Windows registry.
- Running the DPK setup script with an existing Puppet installation
 - If you run the DPK setup script on a host with an existing Puppet installation, the script gets the Puppet location from the Microsoft Windows registry.

If the existing Puppet is a lower version than that packaged with the DPKs, the script asks whether to keep the existing Puppet or install the version packaged with the DPK.
 - If you respond that you want to install the version packaged with the DPK, it will install in the default location, C:\Program Files\Puppet Labs\Puppet.

This is true whether or not you installed Puppet previously to a non-default location using the command-line option. That is, you cannot specify a different installation location after you start running the script.
 - If you answer that you do not want to install the version packaged with the DPK, the script continues without installing the Puppet that is provided with the DPKs.

Note that Oracle recommends that you use the Puppet version that is packaged with the DPK.

Task 1-2-7: Reviewing Requirements for the Puppet Software on Linux

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software.

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.
- The Puppet directory and its scripts must have read and execute permissions for all users.

Puppet must be installed by the root user, either by running the DPK setup for any env_type or by running the

prereq step for non-root users. If the root user has a non-default umask, when Puppet is installed by the root user, the files in the Puppet directory will not have the correct permissions for other users, which would impact non-root users who subsequently try to run the DPK setup.

For example, if root has umask of 027, the permissions would be set as in the following example:

```
-rwxr-x--- 1 root root 126 Feb 12 2018 /opt/puppetlabs/puppet/bin⇒
/wrapper.sh
```

In this case, the root user has read, write, and execute permissions for files in this Puppet installation. The group that root belongs to has read and execute permission, and all other users have no permissions. So a non-root user will not have read and execute permissions for running the scripts in the Puppet directory (wrapper.sh in this example). Without the necessary permissions for the Puppet files, when the non-root user runs the DPK setup, Puppet execution will fail, because that user will not be able to execute any script or binary from the Puppet directory.

- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on Linux operating systems:

- Puppet Agent 5.5.14 (open source, and stand-alone architecture)
- Hiera 3.4.6
- Facter 2.5.1
- Ruby 2.4.6

- Puppet installation location

The DPK setup script installs Puppet software in /opt/puppetlabs/puppet/bin by default.

- Running the DPK setup script with an existing Puppet installation

- If you run the DPK setup script on a host with an existing Puppet installation, the script searches for Puppet in standard installation locations.

If the existing Puppet is a lower version than that packaged with the DPKs, the script asks whether to keep the existing Puppet or install the version packaged with the DPK.

- If you respond that you want to install the version packaged with the DPK, it will install in the default location, /opt/puppetlabs/puppet/bin.
- If you answer that you do not want to install the version packaged with the DPK, the script continues without installing the Puppet that is provided with the DPKs.

Note that Oracle recommends that you use the Puppet version that is packaged with the DPK.

Task 1-2-8: Reviewing Requirements for the Puppet Software on AIX

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software.

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- The Puppet directory and its scripts must have read and execute permissions for all users.

Puppet must be installed by the root user, either by running the DPK setup for any env_type or by running the prereq step for non-root users. If the root user has a non-default umask, when Puppet is installed by the root user, the files in the Puppet directory will not have the correct permissions for other users, which would impact non-root users who subsequently try to run the DPK setup.

Note. Beginning with PeopleSoft PeopleTools 8.58.09, it is not necessary for the root user to run a prereq step on AIX.

For example, if root has umask of 027, the permissions would be set as in the following example:

```
-rwxr-x--- 1 root root 126 Feb 12 2018 /opt/oracle/puppetlabs/wrapper.sh
```

In this case, the root user has read, write, and execute permissions for files in this Puppet installation. The group that root belongs to has read and execute permission, and all other users have no permissions. So a non-root user will not have read and execute permissions for running the scripts in the Puppet directory (wrapper.sh in this example). Without the necessary permissions for the Puppet files, when the non-root user runs the DPK setup, Puppet execution will fail, because that user will not be able to execute any script or binary from the Puppet directory.

- If you are installing the PeopleSoft DPKs for IBM AIX, check the Puppet web site for Puppet dependencies or limitations for those operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on AIX operating systems:
 - Puppet Agent 5.5.14 (open source, and stand-alone architecture)
 - Hiera 3.4.6
 - Facter 2.5.1
 - Ruby 2.4.6
- The Puppet installation location on AIX depends upon the patch level.

Beginning with PeopleSoft PeopleTools 8.58.09, the DPK setup script installs open-source Puppet software that has been modified for the PeopleSoft installation. This modification allows the Puppet software to be installed by default in the location specified by the DPK setup script, *BASE_DIR*/psft_puppet_agent. You may see this referred to as the "Relocatable Puppet."

For PeopleTools 8.58.08 and previous patch releases, the DPK setup script installs Puppet software in /opt/oracle/puppetlabs by default.

- Running the DPK setup script with an existing Puppet installation

Note. This does not apply to AIX installations on PeopleTools 8.58.09 and later, which install the Relocatable Puppet for the deployment. The Relocatable Puppet is the only Puppet software shipped with the DPK.

- If you run the DPK setup script on a host with an existing Puppet installation, the script searches for Puppet in a standard installation locations.
If the existing Puppet is a lower version than that packaged with the DPKs, the script asks whether to keep the existing Puppet or install the version packaged with the DPK.
- If you respond that you want to install the version packaged with the DPK, it will install in the default location, /opt/oracle/puppetlabs.
- If you answer that you do not want to install the version packaged with the DPK, the script continues without installing the Puppet that is provided with the DPKs.

Note that Oracle recommends that you use the Puppet version that is packaged with the DPK.

Task 1-2-9: Reviewing Requirements for the Puppet Software on HP-UX

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software.

- You must have root access to deploy the PeopleSoft DPKs.

See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

- The Puppet directory and its scripts must have read and execute permissions for all users.

Puppet must be installed by the root user, either by running the DPK setup for any env_type or by running the prereq step for non-root users. If the root user has a non-default umask, when Puppet is installed by the root user, the files in the Puppet directory will not have the correct permissions for other users, which would impact non-root users who subsequently try to run the DPK setup.

For example, if root has umask of 027, the permissions would be set as in the following example:

```
-rwxr-x--- 1 root root 126 Feb 12 2018 /opt/oracle/puppetlabs/wrapper.sh
```

In this case, the root user has read, write, and execute permissions for files in this Puppet installation. The group that root belongs to has read and execute permission, and all other users have no permissions. So a non-root user will not have read and execute permissions for running the scripts in the Puppet directory (wrapper.sh in this example). Without the necessary permissions for the Puppet files, when the non-root user runs the DPK setup, Puppet execution will fail, because that user will not be able to execute any script or binary from the Puppet directory.

- If you are installing the PeopleSoft DPKs for HP-UX, check the Puppet web site for Puppet dependencies or limitations for those operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on HP-UX operating systems:
 - Puppet Agent 5.5.14 (open source, and stand-alone architecture)
 - Hieria 3.4.6
 - Facter 2.5.1
 - Ruby 2.4.6
- Puppet installation location

The DPK setup script installs Puppet software in /opt/oracle/puppetlabs by default.

- Running the DPK setup script with an existing Puppet installation
 - If you run the DPK setup script on a host with an existing Puppet installation, the script searches for Puppet in a standard installation locations.
If the existing Puppet is a lower version than that packaged with the DPKs, the script asks whether to keep the existing Puppet or install the version packaged with the DPK.
 - If you respond that you want to install the version packaged with the DPK, it will install in the default location, /opt/oracle/puppetlabs.
 - If you answer that you do not want to install the version packaged with the DPK, the script continues without installing the Puppet that is provided with the DPKs.

Note that Oracle recommends that you use the Puppet version that is packaged with the DPK.

Task 1-2-10: Reviewing Requirements for the Puppet Software on Solaris

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software.

- You must have root access to deploy the PeopleSoft DPKs.
See "Deploying the PeopleSoft Homes," Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.
- The Puppet directory and its scripts must have read and execute permissions for all users.

Puppet must be installed by the root user, either by running the DPK setup for any env_type or by running the prereq step for non-root users. If the root user has a non-default umask, when Puppet is installed by the root user, the files in the Puppet directory will not have the correct permissions for other users, which would impact non-root users who subsequently try to run the DPK setup.

For example, if root has umask of 027, the permissions would be set as in the following example:

```
-rwxr-x--- 1 root root 126 Feb 12 2018 /opt/oracle/puppetlabs/wrapper.sh
```

In this case, the root user has read, write, and execute permissions for files in this Puppet installation. The group that root belongs to has read and execute permission, and all other users have no permissions. So a non-root user will not have read and execute permissions for running the scripts in the Puppet directory (wrapper.sh in this example). Without the necessary permissions for the Puppet files, when the non-root user runs the DPK setup, Puppet execution will fail, because that user will not be able to execute any script or binary from the Puppet directory.

- Before installing the PeopleSoft DPKs for Solaris, check the Puppet web site for Puppet dependencies or limitations for those operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on Oracle Solaris for SPARC operating systems:

- Puppet Agent 5.5.14 (open source, and stand-alone architecture)
- Hiera 3.4.6
- Facter 2.5.1
- Ruby 2.4.6

- Puppet installation location

The DPK setup script installs Puppet software in /opt/oracle/puppetlabs by default.

- Running the DPK setup script with an existing Puppet installation

- If you run the DPK setup script on a host with an existing Puppet installation, the script searches for Puppet in a standard installation locations.

If the existing Puppet is a lower version than that packaged with the DPKs, the script asks whether to keep the existing Puppet or install the version packaged with the DPK.

- If you respond that you want to install the version packaged with the DPK, it will install in the default location, /opt/oracle/puppetlabs.
- If you answer that you do not want to install the version packaged with the DPK, the script continues without installing the Puppet that is provided with the DPKs.

Note that Oracle recommends that you use the Puppet version that is packaged with the DPK.

Task 1-3: Reviewing the System Parameters on Linux, AIX, HP-UX, or Solaris

This section discusses:

- Understanding the System Parameters on Linux, AIX, HP-UX, or Solaris
- Reviewing the sysctl Parameters
- Reviewing the ulimit Parameters

Understanding the System Parameters on Linux, AIX, HP-UX, or Solaris

The generated YAML file for UNIX operating systems includes settings for certain system parameters. When you run the DPK setup script on Linux, AIX, HP-UX, or Solaris, the script overwrites existing system-level parameters that are different from the values in *BASE_DIR/dpk/puppet/production/data/psft_unix_system.yaml*.

You can perform a customized deployment to make certain changes to the way that the DPK deployment handles these system parameters, but be aware that the values listed in the *psft_unix_system.yaml* file are the minimum requirements for the DPK deployment.

Task 1-3-1: Reviewing the sysctl Parameters

If you do not want the DPK setup script to overwrite the sysctl parameters, you can perform one of these customized deployments:

- If the existing sysctl settings on your system meet the DPK requirements, you can change the value of the parameter `setup_syscfg` from true to false.

This change will prevent the DPK setup script from overwriting the parameters.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File to Change the `setup_sysctl` Parameter.

- If you want to allow the DPK setup script to change the sysctl settings on your system, retain the parameter `setup_syscfg`: `true`, and specify values for the following sysctl parameters that are greater than those given in the generated *psft_unix_system.yaml* file.

```
sysctl:
  kernel.msgmnb:      65538
  kernel.msgmni:      1024
  kernel.msgmax:      65536
  kernel.shmmax:      68719476736
  kernel.shmall:      4294967296
  kernel.core_uses_pid: 1
  net.ipv4.tcp_keepalive_time: 90
  net.ipv4.tcp_timestamps: 1
  net.ipv4.tcp_window_scaling: 1
  net.ipv4.ip_local_port_range: '10000 65500'
```

See "Completing the DPK Initialization with Customizations," Preparing the Customization File to Overwrite the sysctl Parameters.

Task 1-3-2: Reviewing the ulimit Parameters

The *psft_unix_system.yaml* file includes the following ulimit parameters. These are the minimum requirements for the deployment. If you do not want the DPK setup script to overwrite the ulimit parameters, you can perform a customized deployment and specify values for the ulimit parameters that are greater than those given in the generated *psft_unix_system.yaml* file.

```
ulimit:
  group:
    hard.nofile: 65536
    soft.nofile: 65536
    hard.nproc: 65536
    soft.nproc: 65536
```

```
hard.core:      unlimited
soft.core:      unlimited
hard.memlock:   500000
soft.memlock:   500000
hard.stack:     102400
soft.stack:     102400

user:
hard.nofile:    131072
soft.nofile:    131072
hard.nproc:     131072
soft.nproc:     131072
hard.core:      unlimited
soft.core:      unlimited
hard.memlock:   500000
soft.memlock:   500000
```

See "Completing the DPK Initialization with Customizations," Preparing the Customization File to Overwrite the ulimit Parameters.

Task 1-4: Using Oracle Software Delivery Cloud to Obtain Installation Files

Before beginning the installation, you should have obtained the PeopleSoft installation software by downloading the necessary zip files from the Oracle Software Delivery Cloud portal or My Oracle Support. Use the information available in the PeopleSoft documentation and My Oracle Support Certifications to be sure that you obtain all the zip files required for your environment.

See Oracle Software Delivery Cloud, <http://edelivery.oracle.com>.

See My Oracle Support, <https://support.oracle.com>.

In case you have not yet obtained the necessary files, this documentation includes sections on obtaining the files at appropriate points during the installation process.

Note. If your PeopleSoft installation uses Oracle SOA Suite, note that the 32-bit versions of the Oracle SOA Suite 10g media components on the Oracle Software Delivery Cloud portal are certified to run on the Linux x86-64 and the Microsoft Windows 64-bit operating system platforms.

See Also

Downloading Software from Oracle Software Delivery Cloud, My Oracle Support, Doc ID 2098595.1

Task 1-5: Considering Project Planning

Identify the maintenance schedule for upcoming PeopleSoft PeopleTools and PeopleSoft application releases. These releases are typically on a regular schedule (for example, quarterly, biannually) and should be included in your project planning and budgeting processes. Maintenance schedules are posted on My Oracle Support. It is important to plan regular maintenance in your overall project plans. For example, for a year-long enterprise upgrade, development, and conversion project, make sure to set aside time for applying the PeopleSoft PeopleTools minor releases that ship during that time frame. Otherwise, if you fall behind, you may find that you need a fix shipped with one of the minor releases that cannot be backported as a patch.

Search for the term "maintenance schedules" on My Oracle Support. You can find schedules by year and quarter for PeopleSoft PeopleTools and PeopleSoft applications. The schedules include lists of bundles and maintenance packs for individual products.

Task 1-6: Planning Your Initial Configuration

This section discusses:

- Understanding Workstations
- Understanding PeopleSoft Servers and Clients
- Defining the PeopleTools Client
- Defining the File Server
- Defining the Database Server
- Defining the Application Server
- Defining the Process Scheduler (Batch) Server
- Defining Installation Locations
- Defining the Web Server

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

Understanding Workstations

Using the PeopleTools Development Environment (Microsoft Windows-Based Clients)

Microsoft Windows-based clients are referred to as the PeopleTools Development Environment. These clients—which run on supported Microsoft Windows platforms—can connect to the PeopleSoft database directly using client connectivity software (a two-tier connection) or through a PeopleSoft application server (a three-tier connection).

Three-tier connectivity offers great performance advantages over two-tier (especially over a WAN), reduces network traffic, and generally does not require that you install database connectivity on the client. However, any Microsoft Windows-based clients that will be running Data Mover scripts against the database, or running COBOL or Structured Query Report (SQR) batch processes on the client, must have database connectivity installed.

Note. COBOL is not needed for PeopleTools or for applications that contain no COBOL programs. Check My Oracle Support for details about whether your application requires COBOL.

See Installing Supporting Applications.

You need to have the PeopleTools Development Environment set up to create your database. For more information on setting up the PeopleTools Development Environment, refer to the product documentation for PeopleSoft Configuration Manager.

See the *PeopleTools: System and Server Administration* product documentation for more information about using PeopleSoft Configuration Manager.

For installation purposes, you must set up at least one Microsoft Windows-based client for sign-on using a two-tier connection to the database, so that it can create and populate the PeopleSoft database. This documentation refers to this client as the install workstation. Depending on your installation plan, you may want to set up more than one install workstation so that you can perform asynchronous installation tasks in parallel.

Note. The Microsoft Windows machine that you use to perform your PeopleSoft PeopleTools installation must be running in 256-color mode or higher when running the PeopleSoft installation and database configuration on Microsoft Windows. This is not necessary for UNIX or console mode.

Using Workstations Equipped with Supported Web Browsers

To run the PeopleSoft Pure Internet Architecture, the client workstation only needs a web browser that is HTML 4.0 compliant. You may need an additional workstation for demonstration and testing purposes if you plan to use a browser running on a platform other than Microsoft Windows—such as Macintosh or UNIX.

See *PeopleTools: Portal Technology*.

See My Oracle Support, Certifications.

Understanding PeopleSoft Servers and Clients

Here is a summary of the functionality included in the PeopleSoft servers and clients:

- *File Server*
All Client executables (such as PeopleSoft Application Designer and Configuration Manager), PS/nVision, Change Assistant, files and directories necessary to perform upgrade, and Client SQR.
See Defining the File Server
- *PeopleTools Client*
All Client executables (such as PeopleSoft Application Designer and Configuration Manager), PS/nVision, Change Assistant, Change Impact Analyzer, PeopleSoft Test Framework, PSEM Agent, and Client SQR.
See Defining the PeopleTools Client.
- *Application Server*
PSADMIN and COBOL for remote call
- *Database Server*

Scripts and data directories, files necessary to run Data Mover.

- *Process Scheduler Server*
PSADMIN, COBOL, and SQR.
- *Web Server*

The Web Server contains all the scripts file, Portal Search data files, and PeopleSoft Pure Internet Architecture (PIA) installation tools that can assist in setting up a web server domain. However, to run the PeopleSoft Pure Internet Architecture, the client workstation only needs a web browser that is HTML 4.0 compliant.

Task 1-6-1: Defining the PeopleTools Client

The PeopleTools Client is the environment repository for the PeopleSoft PeopleTools Development environment. The PeopleTools Client provides two-tier and three-tier connectivity to PeopleSoft applications.

To install the PeopleTools Client, use the script included with the PeopleTools Client DPK. Keep in mind that the PeopleTools Client can be installed *only* on supported Microsoft Windows operating systems.

Note. The client may be referred to as the PeopleTools Client, PT Client, or PeopleSoft Microsoft Windows client in this documentation.

See "Deploying the PeopleTools Client DPK."

Task 1-6-2: Defining the File Server

The file server is the environment (or file) repository for the PeopleTools Development Environment, which is needed for the Database Configuration Wizard. The file server is also the repository for the files necessary to perform an upgrade. This includes Change Assistant and all of the executables and scripts that are necessary to perform an upgrade. You will apply patches and updates from My Oracle Support directly to the file server and then copy the updated files to your other servers. In addition, the file server is a source repository for COBOL and SQR.

Important! Remember, a COBOL compiler is not needed for PeopleSoft PeopleTools unless your application contains COBOL programs. If your application requires COBOL and you are running on Microsoft Windows, we require that you maintain a central repository of your COBOL source code on the Windows file server. See the task Installing Supporting Applications later in this chapter for details on where you should install your COBOL compiler.

For DB2 z/OS, the file server is used as a staging location to FTP files to the z/OS batch server only. If you are installing a file server on DB2 z/OS, when running the PeopleSoft Installer, you need to select *all* PeopleSoft Servers. This will ensure that all of the files needed by Server Transfer are installed to the PeopleSoft File Server.

If you follow the default procedures recommended in this documentation, the install workstations, Microsoft Windows batch servers, and Microsoft Windows report servers will access the PeopleSoft files on the file server by pointing to a directory referred to in this documentation as *PS_HOME* on a shared network drive. You can install SQR on the file server, or install them locally on Microsoft Windows batch servers and on Microsoft Windows-based clients that will be running these processes locally.

Setting up a file server is part of installations on both UNIX and Microsoft Windows environments. If you are doing an installation only for UNIX computers, you need a Microsoft Windows file server. If you are working only on Microsoft Windows, and you install the file server along with the other servers, you do not need to repeat the file server setup.

If you need to set up the file server on a separate Microsoft Windows machine, you should install PeopleSoft PeopleTools, any PeopleSoft applications, and the Multilanguage files.

In some cases you may choose to set up local copies of the PeopleSoft executables on the PeopleTools Development Environment and Windows batch servers, rather than mapping to a shared directory on the file server. You can use the instructions in the chapter "Using the PeopleSoft Installer" to perform such local installations.

Task 1-6-3: Defining the Database Server

The servers that host your PeopleSoft databases need sufficient processing, storage, and networking resources to process the database requests, store the data and transaction logs, and communicate freely to the clients of this data. These databases will include your own PeopleSoft database prototypes as well as any system and demonstration databases delivered directly from Oracle with the PeopleSoft installation media.

See Planning Database Creation.

Database sizes vary depending on the applications that you install. The size of your prototype PeopleSoft database will also depend on the amount of data to be converted from your legacy system. A good rule of thumb for estimating the size of your prototype PeopleSoft database is to estimate the amount of disk space needed for the data to be converted from your legacy system, add to this the size required for the PeopleSoft System database, and then add an additional 50 percent of this combined figure to allow for growth.

Note. If possible, you may want to separate your PeopleSoft applications into their own subsystem away from other applications. Most sites have separate subsystems for production, development, and testing.

Task 1-6-4: Defining the Application Server

The application server is the centerpiece of the PeopleSoft Pure Internet Architecture. It connects to the PeopleSoft database and handles almost all SQL-intensive interactions with the database server required during online transaction processing. Microsoft Windows-based clients, in three-tier, communicate with the application server using Oracle Tuxedo messages. In the PeopleSoft Pure Internet Architecture, the application server interacts with user workstations through a web server.

The application server also provides functionality required for application messaging and for implementing the PeopleSoft Pure Internet Architecture. An application server is required in all PeopleSoft installations.

When installing the PeopleSoft software on the z/OS mainframe, you must install one or more dedicated UNIX or Windows application servers. You should plan to connect the application server to the database using the highest bandwidth connection available.

All application servers require database connectivity to the database server. Before beginning your installation, make sure that you can connect from the application server machine to the database server using a SQL tool. This topic will be addressed later in this chapter.

See Also

PeopleTools: Portal Technology

Task 1-6-5: Defining the Process Scheduler (Batch) Server

The term *batch server* is equivalent to the term *Process Scheduler server*. PeopleSoft batch processes, such as COBOL and SQR, are scheduled and invoked by a Process Scheduler server. In almost all configurations, batch server SQR and COBOL files are located and executed on the same computer as the database server.

For the DB2 z/OS batch server on the mainframe, the SQR and COBOL files must be transferred from the file server, and COBOL source files must be compiled.

Oracle supports setting up the batch environments on a dedicated server, an application server, or even on the database server.

For Windows-specific batch processes—such as nVision reports, Cube Builder, or Microsoft Word—you need to set up a Windows batch environment on a Microsoft Windows application server or on a dedicated Microsoft Windows workstation.

Any computer operating as a batch server must have database connectivity installed so that it can make a two-tier connection to the PeopleSoft database.

See Also

PeopleTools: Process Scheduler

Task 1-6-6: Defining Installation Locations

Understanding Installation Locations

As you proceed through the PeopleSoft PeopleTools installation, you are asked to specify several installation locations. Use the information in this section to choose how to specify the installation locations for the various components in a PeopleSoft installation.

In addition to these installation locations, there are home directories for the various supporting software, such as Oracle WebLogic, which are described in the appropriate chapters.

Defining the DPK Base Directory

When you use the PeopleSoft DPKs to install a PeopleSoft environment, you specify a base directory, referred to in this documentation as *BASE_DIR*. The DPK setup script creates the following directories under *BASE_DIR*:

- *BASE_DIR*/dpk
 - The script uses this directory to extract the archives from the PeopleSoft DPKs.
 - The Puppet YAML files for the installation configuration are installed in *BASE_DIR*/dpk/puppet/production.
- *BASE_DIR*/pt

The script deploys the PeopleSoft components to the following installation locations:

- *PS_HOME* is installed by default in *<BASE_DIR>/pt/ps_home<peopletools_patch_version>*, where *<peopletools_patch_version>* is the full release; for example, *ps_home8.58.12*.
- *PS_APP_HOME* is installed by default in *<BASE_DIR>/pt/<app>_app_home*, where *<app>* is the PeopleSoft product, such as *fscm_app_home*.
- The Oracle Tuxedo software is installed by default in *BASE_DIR*/pt/bea/tuxedo.
- The Oracle WebLogic software is installed by default in *BASE_DIR*/pt/bea/wlserver.
- The supported JDK software is installed by default in *<BASE_DIR>/pt/jdk1.8.0_yy*, where *yy* is the supported JDK version.
- For a full-tier installation, the files needed to install the supported version of the PeopleSoft PeopleTools client software are installed in *BASE_DIR*/pt/tools_client.

- *BASE_DIR/db*

This directory is used for an Oracle RDBMS full-tier installation.

- Oracle database server software is installed by default in *BASE_DIR/db/oracle-server*.
- For a full-tier installation, Oracle container database (CDB) and pluggable database (PDB) files and tables for the PeopleSoft application are installed by default in *BASE_DIR/db/oradata*.

Defining PS_HOME

The *PS_HOME* directory holds the PeopleSoft PeopleTools files. For information on setting up *PS_HOME* as a read-only environment, see the *PeopleTools: System and Server Administration* product documentation on securing *PS_HOME* and *PS_CFG_HOME*.

PS_HOME can be used in the following ways:

- Multiple hosts can access *PS_HOME* on a shared (Microsoft Windows) or mounted (UNIX) location.
- Several Application Server, PIA, and Process Scheduler domains can use the same *PS_HOME*.

Defining PS_APP_HOME

The *PS_APP_HOME* location holds the PeopleSoft application files, in a location that is separate from *PS_HOME*. The *PS_APP_HOME* location is sometimes referred to as "Application Home."

Note. The PeopleSoft DPK setup requires that *PS_APP_HOME* be installed to a different location than *PS_HOME*. In earlier PeopleSoft releases, it was possible to set up an environment with the *PS_APP_HOME* location the same as the *PS_HOME* location. This configuration is not supported for the DPK installations.

Defining PS_CFG_HOME

The *PS_CFG_HOME* location holds the configuration files for the application server, batch server and search server domains.

It also holds the configuration files for web server domains if *PIA_HOME*, defined in the next section, is equal to *PS_CFG_HOME*. This location is sometimes referred to as "Config Home."

When you install PeopleSoft PeopleTools and the PeopleSoft application software, the PeopleSoft installer places the required files into the specified *PS_HOME* directory. When you create an application server, batch server, or search server domain, the configuration files associated with that domain are installed into a directory referred to as *PS_CFG_HOME*.

By default, the system separates the binary files (executables and libraries) stored in *PS_HOME* from the ASCII files (configuration and log files) associated with a domain stored in *PS_CFG_HOME*. This separation applies only to these servers:

- PeopleSoft Application Server
- PeopleSoft Process Scheduler Server
- PeopleSoft Search Server

The DPK deployment creates the *PS_CFG_HOME* directory in the following locations. The configuration and log files for the application server, Process Scheduler server, and search server are installed below these locations.

Linux, AIX, HP-UX, Solaris

- When performing the entire installation as the root user, *PS_CFG_HOME* is installed in:
`<USER_HOME>/psft/pt/<peopletools_major_version>`

You supply the location for the *USER_HOME* when you run the DPK setup script. The default value is /home. For example, /home/psftuser/psft/pt/8.58.

- When deploying the environment as a non-root user, *PS_CFG_HOME* is installed in:

`<prompted_ps_cfg_home>/psft/pt/<peopletools_major_version>`

You supply the location for *prompted_ps_cfg_home* when you run the DPK setup script. For example, /opt/pscfg/psft/pt/8.58.

Microsoft Windows:

`%USERPROFILE%\psft\pt\<peopletools_major_version>`. For example, C:\Users\psftuser\psft\pt\8.58.

Note. The *PS_CFG_HOME* directory is associated with the *PS_HOME* from which it was originally generated. The DPK deployment process supports a single *PS_CFG_HOME* to be used for all domains for a given environment.

This server domain configuration allows for a more flexible installation. You also have the opportunity to place different security restrictions on the binary and configuration files. For installations using DPKs, use the Puppet customizations to change the *PS_CFG_HOME*.

Defining PS_CUST_HOME

The *PS_CUST_HOME* location holds customized file system objects (that is, objects you provide as opposed to being installed with the software).

Anything that is changed from the file system objects that are delivered with the PeopleSoft application installation should be placed here. The sub-directory structure must mirror the *PS_APP_HOME* upon which it is based. For example, when you install your PeopleSoft application, the directory structure includes SQR scripts in *PS_APP_HOME/sqr*. If you have customized SQR scripts, you would place them in *PS_CUST_HOME/sqr*.

To define a *PS_CUST_HOME* location, use the Puppet customizations.

Defining PIA_HOME

When you install the PeopleSoft Pure Internet Architecture, the files are installed in the *PIA_HOME* directory. The *PIA_HOME* location holds the webserv directory, and the files for the PeopleSoft Pure Internet Architecture installation. The directory where you install PeopleSoft Pure Internet Architecture, *PIA_HOME*, does not have to be the same as the location where you install PeopleSoft PeopleTools and the PeopleSoft application software, *PS_HOME*. You have the option to specify the installation location for the PeopleSoft Pure Internet Architecture by using the Puppet customizations.

The *PS_CFG_HOME* directory is created the first time that the PSADMIN utility starts. PSADMIN recognizes that *PS_CFG_HOME* is not present and creates it when necessary. This is done before any domains are created. When you invoke PeopleSoft Pure Internet Architecture, the installer checks your environment to determine the *PS_CFG_HOME*. If the environment variable *PS_CFG_HOME* is defined, the *PS_CFG_HOME* location is seen as the directory to which that environment variable points. If *PS_CFG_HOME* is not defined the default value is used.

See the product documentation for using the %V Meta variable in *PeopleTools: System and Server Administration* product documentation for more information about setting the *PS_CFG_HOME* environment variable.

Task 1-6-7: Defining the Web Server

A web server is required to run the PeopleSoft Pure Internet Architecture. The PeopleSoft Pure Internet Architecture is certified to work with the Oracle WebLogic Server J2EE web application servers (also commonly referred to as web servers).

Refer to the Certifications page on My Oracle Support for web server support information.

To find support information for the HTTP servers that can be used as reverse proxy servers (RPS), see the Oracle WebLogic documentation, included with Oracle Fusion Middleware.

See Oracle Help Center, Middleware Documentation, <https://docs.oracle.com/en/middleware/index.html>.

Oracle WebLogic and the supported reverse proxy server will provide out-of-the-box SSL support across all supported operating systems. Oracle WebLogic provides demo digital certificates, but for production grade SSL you must purchase digital certificates from a Certificate Authority supported by the web server that you are using (for example, Verisign, Baltimore, Entrust, and so on).

When you use the DPK setup script to install a PeopleSoft environment, default initialization installs a single web server domain with a single web site. You can also use the following methods to create and manage web server domains:

- Use the DPK customizations to create a non-default PIA domain, or to create more than one web site.
See "Completing the DPK Initialization with Customizations," Preparing the Customization File for PeopleSoft Domain Definitions.
- After you have installed an environment, use the PSADMIN utility to create additional domains or manage existing domains.
Note that you cannot use PSADMIN to create a multi-server domain.
See *PeopleTools: System and Server Administration*, "Using the Web (PIA) Server Menu."
- Use the silent mode installation to install and configure a web server domain.
You must use the silent mode installation to create a multi-server domain.
See "Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode."

Task 1-7: Planning Database Creation

This section discusses:

- Understanding Database Creation
- Defining Db2 z/OS Databases, PeopleSoft Databases, and Supported Tablespace Types
- Reviewing Segmented Tablespaces and Universal Tablespaces
- Using Standard Database Names
- Choosing Owner ID Processing Option

Understanding Database Creation

When performing a PeopleSoft installation, you will create these types of PeopleSoft databases:

- System (also called SYS) databases, which contain the PeopleSoft PeopleTools and product-specific metadata required for development of a production database.

- Demo (DMO) databases, which are populated with sample data for study, demonstration, or training purposes.

Note. If you are using the PeopleSoft Upgrade Source Image, you must create a Demo database.

The System and Demo PeopleSoft databases are installed using a *multiple-database strategy*, where the "logical" PeopleSoft database actually comprises multiple "physical" databases that share a common DB2 *owner ID*. This is explained in more detail in the following section.

Task 1-7-1: Defining Db2 z/OS Databases, PeopleSoft Databases, and Supported Tablespace Types

A PeopleSoft database is a logical entity that is comprised of multiple physical DB2 databases. This applies to both Demo and System PeopleSoft databases.

The number of physical Db2 databases and the method used to define them differs depending on the type of tablespace that you use when defining the PeopleSoft application database. *PeopleTools supports Db2 for z/OS universal tablespaces and multi-table segmented tablespaces*. See the following chapters for specific instructions regarding the definition of physical Db2 databases and the use of either universal or segmented tablespaces to create a logical PeopleSoft application database.

See "Creating a Db2 z/OS Database Using Universal Tablespaces (UTS)."

See "Creating a Db2 z/OS Database Using Segmented Tablespaces."

- Db2 database

A physical Db2 database is a structure that contains tables with corresponding tablespaces and indexes. A database can contain one or more tablespaces. It is created by issuing the CREATE DATABASE DDL statement. DB2 z/OS segmented tablespaces can contain multiple tables. Universal Tablespaces (UTS) can contain only one table. The type of tablespace that is supported depends upon the DB2 z/OS release, as described in the next section.

All physical Db2 databases that comprise a logical PeopleSoft application database are created such that they share a common owner ID. This owner ID, common to all PeopleSoft objects, is stored in PeopleTools tables PS.PSDBOWNER and PSSTATUS, and is also equivalent to the value found in the CREATOR column of SYSIBM.SYSTABLES. The Db2 owner ID and its use with a PeopleSoft database is discussed in further detail in the section Choosing Owner ID Processing Options.

- Database Descriptor (DBD)

The DBD is an internal representation of a Db2 for z/OS database definition. It reflects the data definition as it is represented in the Db2 for z/OS catalog. The objects that are defined in a database descriptor are tablespaces, tables, indexes, index spaces, relationships, check constraints, and triggers. A DBD also contains information that Db2 uses to access tables in a particular Db2 database.

The previously described multiple-database strategy reduces the overall size of individual DBDs, which improves Db2 virtual storage utilization and improves concurrency.

- Segmented Tablespace

A Db2 for z/OS segmented tablespace is divided into equally sized segments. Segmented tablespaces can contain multiple tables. In a multi-table segmented tablespace, rows of a particular table can span multiple segments, but a particular segment never contains rows from more than one table. A segmented tablespace is created by issuing a CREATE TABLESPACE DDL statement that does not specify either the Numparts or Maxpartitions parameters.

- Universal Tablespace (UTS)

A Db2 for z/OS universal tablespace is both segmented and partitioned. Each universal tablespace can contain only one table. The physical file that represents a UTS can be divided into multiple physical partitions. The

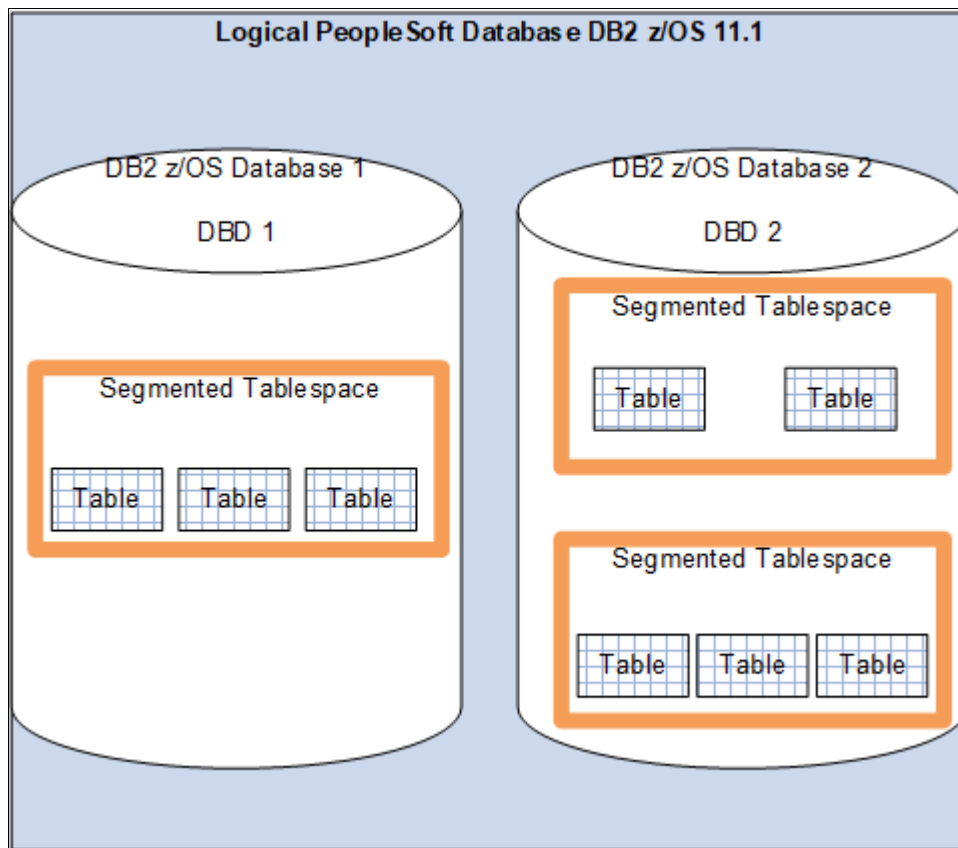
rows contained within each partition are stored within segments. A UTS is created by issuing a CREATE TABLESPACE DDL statement that specifies either the Numparts or Maxpartitions parameters.

Note that IBM has deprecated multi-table segmented (that is, non-universal) tablespaces. Although it is still possible to create multi-table segmented tablespaces under very specific conditions, it is possible that IBM will completely withdraw support for them and permanently prevent the capability to create them under any circumstances in a future release of Db2. *IBM does not recommend the continued use of multi-table segmented tablespaces.* IBM recommends the use of universal tablespaces only.

Additional details regarding the specific conditions that must be met to create a multi-table segmented tablespace are explained in more detail in "Creating a Db2 z/OS Database Using Segmented Tablespaces" chapter.

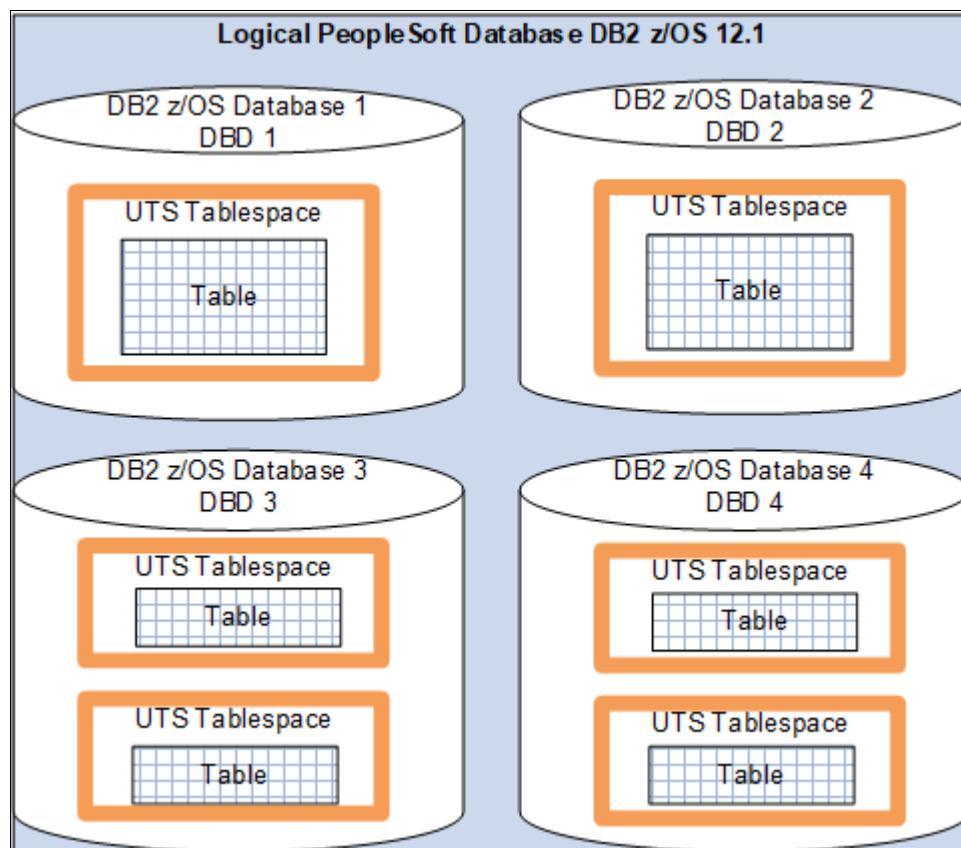
Task 1-7-2: Reviewing Segmented Tablespaces and Universal Tablespaces

The following diagram illustrates the relationship between the logical PeopleSoft database, physical DB2 z/OS databases, segmented tablespaces, and tables.



Logical PeopleSoft Database with Segmented Tablespaces

The following diagram illustrates the relationship between the logical PeopleSoft database, physical Db2 z/OS databases, universal tablespaces, and tables.



Logical PeopleSoft Database with Universal Tablespaces

The database creation procedure for databases built using universal tablespaces differs from the procedure for those built using segmented tablespaces.

If you intend to use Db2 z/OS v11.1, you must use segmented tablespaces. If you intend to use Db2 z/OS v12 or later, you can use universal tablespaces or segmented tablespaces.

Follow the instructions in one of these chapters:

See "Creating a Db2 z/OS Database Using Universal Tablespaces (UTS)."

See "Creating a Db2 z/OS Database Using Segmented Tablespaces."

Task 1-7-3: Using Standard Database Names

The PeopleSoft database naming convention for DB2 z/OS uses one seven-character DB2 database name for a database containing all of the PeopleSoft system tables except for tables used by Process Scheduler. We refer to this database as the *root* database. A second database name with an eighth character of *T* is reserved just for Process Scheduler due to persistent share locks. The remaining DB2 database names have an eighth character, appended to the root database name, identifying a specific application group within a PeopleSoft product line.

Later, this guide will instruct you to create and execute a Data Mover Import script that requires you to choose a logical database name to identify the PeopleSoft database. This logical database name is the high-level key on the PS.PSDBOWNER table from which the owner ID of the objects in the PeopleSoft database is derived during the sign-on process. The name also must be cataloged in the IBM Db2 Connect connectivity software to allow PeopleTools to identify and connect to the appropriate Db2 subsystem. When users sign on to a PeopleSoft database from a client workstation using Application Designer, or through the PeopleSoft Pure Internet Architecture (PIA), they enter this logical database name in the sign-on window.

See "Creating a Db2 z/OS Database Using Universal Tablespaces (UTS)."

See "Creating a Db2 z/OS Database Using Segmented Tablespaces."

Task 1-7-4: Choosing Owner ID Processing Option

This section discusses:

- Understanding Owner ID Processing
- Using Primary Authorization ID Processing
- Using Secondary Authorization ID Processing

Understanding Owner ID Processing

This section summarizes the relationship between the PeopleSoft access ID and the DB2 owner ID. Other PeopleSoft IDs, such as the connect ID, are discussed later in this chapter. For more information on the various PeopleSoft authorization IDs, see the *PeopleTools: Security Administration* product documentation. The owner ID is a DB2 z/OS concept and owns the DB2 tables and views. For information on DB2 z/OS security, see the IBM DB2 documentation.

Refer to your DB2 z/OS database platform documentation for information about access ID and password length requirements, and work with your database administrator to set the password.

Each PeopleSoft database that you create must have a valid DB2 owner ID. All of the objects in a PeopleSoft database will share the same owner ID. Besides being found in the CREATOR field of the SYSIBM system catalog tables, such as SYSIBM.SYSTABLES, this value is stored in the OwnerID field of the PS.PSDBOWNER and PSSTATUS PeopleSoft PeopleTools tables.

Oracle recommends that you not use an owner ID used by a non-PeopleSoft application, because this can create problems when auditing your database.

There are two security-related processing options to choose from when establishing the owner ID:

- Primary authorization ID processing
- Secondary authorization ID processing

The PeopleSoft installation uses various authorization IDs and passwords to control user access, including user ID, access ID, and connect ID. The PeopleSoft access ID is directly linked to the decision to use primary or secondary authorization ID processing. Functionally, this is the ID that has the DB2 access and authorities to perform the bulk of the SQL processing within the PeopleSoft database. Individual PeopleSoft user IDs would not be granted the level of DB2 authority that the access ID possesses. There will either be a direct relationship between the name of the PeopleSoft access ID and the DB2 owner ID, or an indirect one, depending on which authorization method is chosen.

Using Primary Authorization ID Processing

The primary authorization ID is the simplest implementation of table ownership. The primary authorization ID and the DB2 owner ID of the PeopleSoft database objects are the same ID. In this option, the owner ID defined in DB2 will be the same name as the PeopleSoft access ID defined in the PeopleSoft PeopleTools tables. The PeopleSoft access ID is the DB2 owner ID.

The following table summarizes the roles and authorities of the DB2 owner ID, primary and secondary authorization IDs and the access IDs for primary authorization ID processing:

Roles and Authorities	Primary Authorization ID	Secondary Authorization ID
Same ID as DB2 Object Owner ID (CREATOR)	Yes	NA
Database Log On Access	Yes	NA
DB2 Object Access	Yes	NA
Same ID as PeopleSoft Access ID	Yes	NA
SET CURRENT SQLID statement required?	No	NA

Using Secondary Authorization ID Processing

Most PeopleSoft customers use secondary authorization ID processing to establish an owner ID.

The DB2 owner ID of the PeopleSoft database objects is established as an external security system group, referred to as a "secondary authorization ID," rather than a primary authorization ID. A secondary authorization ID is not given direct logon access to the database, but because it is the DB2 owner ID, it has direct access to the PeopleSoft database objects. Logon access is generally granted to a primary authorization ID, but with secondary authorization ID processing, the primary authorization ID has no direct access to the PeopleSoft database objects.

A primary authorization ID can "transform" itself into the secondary authorization ID by issuing the following SQL command:

```
SET CURRENT SQLID = <secondary authorization ID>
```

Running this command enables the primary authorization ID to acquire all of the database object permissions owned by the secondary authorization ID. The mainframe security maintenance package (for example, RACF, Top Secret, or ACFII) keeps track and monitors what secondary authorization IDs can be used by a primary authorization ID.

When setting up a PeopleSoft application using secondary authorization ID processing, the access ID is established as a primary authorization ID that has the authority to issue a SET CURRENT SQLID statement setting itself equal to the secondary authorization ID.

The following table summarizes the roles and authorities of the DB2 owner ID, primary and secondary authorization IDs and the access IDs for secondary authorization ID processing:

Roles and Authorities	Primary Authorization ID	Secondary Authorization ID
Same ID as DB2 Object Owner ID (CREATOR)	No	Yes
Database Log On Access	Yes	No
DB2 Object Access	No	Yes
Same ID as PeopleSoft Access ID	Yes	No
SET CURRENT SQLID statement required?	Yes	NA

In secondary authorization ID processing, at sign on, PeopleSoft PeopleTools, under authorization of the access ID, issues the SET CURRENT SQLID statement to the DB2 owner ID. This also occurs when you run COBOL on either the client or the host, or when you run SQR on the client or host.

Note. The access ID *does not* need SYSADM authority to the DB2 subsystem.

With SYSADM authority, the access ID may issue a SET CURRENT SQLID statement to any authorization ID. If you do not have SYSADM authority, you may issue SET CURRENT SQLID only to your valid authorization IDs. Your DB2 owner ID has a certain profile in the mainframe security maintenance package (RACF or its equivalent) and that profile contains all your assigned secondary authorization groups, which are used as valid authorization IDs. You can issue SET CURRENT SQLID only to the authorization IDs assigned to you.

When using secondary authorization id processing, the owner id of the PeopleSoft tables matches the name of your RACF group. By adding the access ID as a member of this secondary authorization group, the access ID is able to issue a SET CURRENT SQLID statement only to the owner of the tables. Using this approach, it is not necessary to grant SYSADM authority to the access ID. The bottom line is that the access ID must have proper security to issue SET CURRENT SQLID to the owner of the PeopleSoft tables but this does not require SYSADM authority to the DB2 subsystem.

Task 1-8: Planning Multilingual Strategy

This section discusses:

- Understanding Multilingual Issues
- Choosing a Base Language
- Selecting Additional Languages
- Selecting a Database Character Set

Understanding Multilingual Issues

Before beginning your installation, you should determine which languages your PeopleSoft system will need to support. If multiple languages are required, determine which language will be used most often. These decisions will affect tasks at various stages of the installation, including file server setup, database creation, and the ability to change the base language of the PeopleSoft database after it is created. Even if you do not plan on running your system in more than one language, you should decide the following information before completing this task:

- Database base language
- Additional languages (if any)
- Database character set (Unicode recommended)

The current languages provided by Oracle and their language codes are listed in the following table, as well as the corresponding database character sets for that language. These are the languages for which Oracle provides pre-translated products. If you plan to provide users access to your applications in these languages, Oracle recommends that you install the translations during your initial installation. This approach will keep you from having to perform an upgrade if you decide to add the Oracle-provided translations at a later date. After installation, you also have the option of performing your own translations, and adding additional languages.

In considering which languages to include, whether for pre-translated objects or for your own application development, keep in mind that certain languages require a Unicode database. Oracle recommends Unicode character sets rather than non-Unicode character sets, including Western European and Japanese Shift-JIS, for all installations and upgrades regardless of the languages used.

See [Selecting a Database Character Set](#).

Language Code	Language	Database Character Set
ARA	Arabic	Unicode only
CFR	Canadian French	Unicode recommended
CZE	Czech	Unicode only
DAN	Danish	Unicode recommended
DUT	Dutch	Unicode recommended
ENG	US English	Unicode recommended
FIN	Finnish	Unicode recommended
ESP	Spanish	Unicode recommended
FRA	French	Unicode recommended
GER	German	Unicode recommended
HUN	Hungarian	Unicode only
ITA	Italian	Unicode recommended

Language Code	Language	Database Character Set
JPN	Japanese	Unicode only
KOR	Korean	Unicode only
NOR	Norwegian	Unicode recommended
POL	Polish	Unicode only
POR	Portuguese	Unicode recommended
ROM	Romanian	Unicode only
RUS	Russian	Unicode only
SVE	Swedish	Unicode recommended
THA	Thai	Unicode only
TUR	Turkish	Unicode only
UKE	United Kingdom English	Unicode recommended
ZHS	Simplified Chinese	Unicode only
ZHT	Traditional Chinese	Unicode only

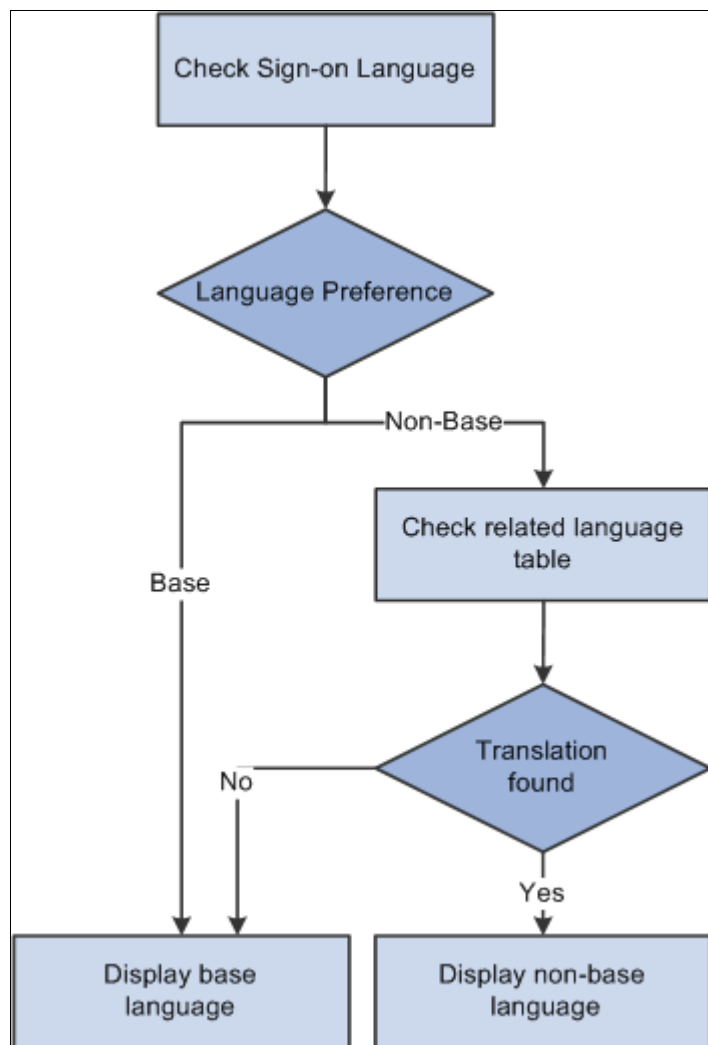
See Also

PeopleTools: Global Technology

Task 1-8-1: Choosing a Base Language

Each PeopleSoft database can have only one base language. PeopleSoft databases ship with English as the default base language. Typically, the base language of your database should match the language most commonly used by your organization, as it affects the performance of PeopleSoft applications.

When PeopleSoft PeopleTools attempts to open language-sensitive objects (such as pages and menus), it first compares the operator's preferred language to the base language of the database. If the preferred language matches the base language, PeopleSoft PeopleTools immediately loads the required definition from the base language PeopleSoft PeopleTools tables. However, if the user's preferred language differs from the database's base language, PeopleSoft PeopleTools must first query the related language tables for the object. Should a translation of the object not be found in the operator's preferred language, a query is then performed on the base language tables. The following process flow illustrates the selection of the language used for language-sensitive objects, beginning with the language selected when the user signs in to the PeopleSoft application:



Language selection process using the base language and the preferred language

While these queries typically occur very quickly, they still take up valuable processing time. To optimize performance you can set the base language of your database as the language that is used most often by your users. Another consideration is that because PeopleSoft databases are shipped with a base language of English, maintenance is simpler if English remains the base language. Both configurations are supported by Oracle.

Task 1-8-2: Selecting Additional Languages

Oracle provides translations of all end-user objects with the global multi-language files. When you install your PeopleSoft environment, the DPK setup script asks whether you want multi-language support. It is much easier to install the multi-language files upon initial database creation than to add the languages later in your implementation process, so Oracle recommends that you decide whether to include additional languages now. There is no limit to the number of languages that can coexist in a single PeopleSoft database; however, remember that each language will require additional storage space, primarily for PeopleSoft PeopleTools objects.

Task 1-8-3: Selecting a Database Character Set

This section discusses:

- Understanding Character Sets
- Using Unicode Databases

Understanding Character Sets

Oracle recommends Unicode, but also supports non-Unicode (legacy) code sets, in PeopleSoft databases. Please refer to the discussion of CCSID later in this chapter for further information regarding character sets. See Defining DB2 for z/OS Subsystem Configuration.

The following table lists a selection of the CCSIDs and languages that the PeopleSoft software supports for DB2 for z/OS:

CCSIDs	Languages Supported
CCSID 37	EBCDIC English
CCSID 500	EBCDIC International
CCSID UNICODE	Unicode

See *PeopleTools: Global Technology*, "Selecting and Configuring Character Sets."

Using Unicode Databases

In addition to supporting several legacy character sets, the PeopleSoft software supports creating Unicode databases using DB2 for z/OS New Function Mode. Unicode enables you to maintain data in virtually any modern language in a single database. Prior to Unicode, many languages could not coexist in one database, as they did not share a common character set.

See the chapter "Setting Up a Unicode Database" for Db2 subsystem and connectivity related requirements for Unicode databases.

See either the "Creating a Db2 z/OS Database Using Universal Tablespaces (UTS)" or "Creating a Db2 z/OS Database Using Segmented Tablespaces" chapters for specific instructions regarding the creation of Unicode databases

Unicode databases are required if the languages that you selected do not share the same character set. Typically, a single character set can encode all languages written in a single script. For example, English, French, and Spanish all share the same script (Latin), so they can coexist in a non-Unicode database. However, Japanese does not share the same script as French, so if you need to have Japanese and French coexist in a single system, you need a Unicode database.

If you decide to use Unicode for your database, you do not need to select a character set.

See Understanding Multilingual Issues.

See Understanding Character Sets.

Task 1-9: Verifying Database Server Sizing

On your database server, the direct access storage device (DASD) volume(s) making up your storage group(s) should have sufficient space for the demo database. If you plan to substantially increase the size of tables in your demo database, ensure that these volumes have plenty of space, or add additional volumes, so that your file systems have ample space to accommodate growth. You must also alter the primary and secondary quantities of the tablespaces and indexes that you expect to expand. In addition to space requirements, the Database Administrator should verify that ample VTOC directory space is available to avoid problems during installation.

Note. Because many PeopleSoft tables are delivered empty, they take up no physical space in the tablespace, whereas indexes, even those created on an empty table, require a minimum of one track each.

Task 1-10: Defining DB2 for z/OS Subsystem Configuration

This section discusses:

- Understanding DB2 Configuration Requirements
- Defining EDM Pool Considerations
- Defining Decimal Arithmetic
- Using DSMAX
- Using CMTSTAT/IDTHTOIN
- Using CCSID and DB2 z/OS Database Storage Encoding Schemes
- Using DECIMAL

Understanding DB2 Configuration Requirements

The following information provides recommendations for the configuration of the DB2 subsystem that will house the PeopleSoft database. We recommend dedicating a DB2 subsystem to your PeopleSoft application. This will allow you to customize the DB2 ZPARM settings for the subsystem without having an impact on your existing applications.

Task 1-10-1: Defining EDM Pool Considerations

The PeopleSoft installation procedure places all tables for the product you are installing into multiple physical databases using a shared tablespace methodology. Depending on the applications you are installing, the DB2 subsystem could have a minimum EDM Pool Size of 10 to 30 MB.

If the pool size is too small, the database administrator should either increase it or manually edit the DDL scripts provided to create additional databases. If you use DB2 Dynamic SQL Cache, you will need to increase the EDM pool size. It is difficult to recommend an optimum size for the EDM pool. Like buffer pools, there is a trade-off between performance and memory usage. It also depends very heavily on the mix of transactions versus batch processes executing at a point in time. Customers traditionally allocate between 50 and 100 MB when Dynamic SQL Cache is enabled.

Place the DB2 Dynamic SQL Cache in a Data Space. This will allow for separating the cache from the EDM pool, which results in less competition for EDM space. It also allows for a larger Dynamic SQL Cache (up to 2 GB).

Task 1-10-2: Defining Decimal Arithmetic

Arithmetic operations involving decimal numbers in the PeopleSoft system require a greater decimal precision than earlier versions of PeopleSoft software. DEC31 rules allow a maximum precision of 31 digits in a result rather than only 15. This allows for a greater number of digits in the scale (digits to the right of the decimal), resulting in more accurate calculations, particularly when the "unrestricted" result contains many digits to the right of the decimal. DB2 truncates any digits beyond the calculated scale of the result, without rounding. For example, the number 1.45697, the result of multiplying or dividing another number by 1.456 (assume a scale of 3) will be significantly different from 1.4569 (assume a scale of 4). In addition, in further support of greater accuracy in decimal operations, the PeopleSoft system is utilizing new functionality that permits calculation of a minimum scale of 6 digits in decimal division operations. In prior releases, 3 digits was the maximum, minimum scale.

In past releases, the PeopleSoft system had specific requirements for the DB2 zparms DECARTH, DECDIV3 and MINDVSCL. Through a joint development effort with IBM, functionality has been enhanced to enable control of the functionality provided by these zparms at the DB2 connection level, without impact to other applications running within the same DB2 subsystem.

PeopleSoft code executes the statement *SET CURRENT PRECISION = "D31,6"* for each connection into the database, which will have the effect of running the application in a DB2 subsystem with zparm settings of DECARTH=31 and MINDVSCL=6, overriding what the actual zparm settings may be. DECDIV3 is overridden by MINDVSCL so whether DECDIV3 is YES or NO has no impact on the PeopleSoft application.

Task 1-10-3: Using DSMAX

To reduce the open and close activity of data sets, it is important to set DSMAX correctly. DSMAX should be larger than the maximum number of data sets that are open and in use at one time. For best performance, leave enough margin in your specification of DSMAX that frequently used CLOSE YES data sets can remain open after they are no longer referenced. If data sets are opened and closed frequently, such as every few seconds, you can improve performance by increasing DSMAX. The maximum value for DSMAX is 100000.

See Important PTFs for PeopleSoft on DB2 for z/OS, My Oracle Support, Doc ID 747991.1.

Task 1-10-4: Using CMTSTAT/IDTHTOIN

We recommend setting the CMTSTAT parameter to INACTIVE and setting the IDTHTOIN parameter to 0 (i.e. the IDTHTOIN zparm is ignored when CMTSTAT=INACTIVE). PeopleSoft two-tier and three-tier environments will function properly regardless of the values of CMTSTAT and IDTHTOIN. CMTSTAT is set in DSNTIPR and it specifies whether to make a thread active or inactive after it successfully commits or rolls back and holds no database locks or cursors. ACTIVE threads use memory resources as well as contributing to the MAXDBAT limit.

Task 1-10-5: Using CCSID and DB2 z/OS Database Storage Encoding Schemes

PeopleSoft PeopleTools supports only EBCDIC and Unicode data storage encoding schemes (*not* ASCII) on the z/OS database server. Be careful to set the default system encoding scheme (SCCSID as specified in DSNHDECP) in your subsystem for valid EBCDIC translation.

For Unicode installations, PeopleTools will override the Db2 subsystem SCCSID at the physical Db2 database level if the installation uses segmented tablespaces, or at the tablespace level if the installation uses universal tablespaces.

Consult the DB2 z/OS Installation and SQL Reference guides for assistance in setting the default CCSID for your subsystem.

Note that unexpected results may occur when a binary sort is deployed from, or when the collating sequence on a remote machine is different from the host—such as when running COBOL from a Windows or UNIX based platform, and accessing DB2 for z/OS. The PeopleSoft organization has performed in-house testing with CCSIDs of 37 and 500. For more information, and especially if you use a CCSID other than 37, consult the *PeopleTools: Global Technology* and *PeopleTools: System and Server Administration* product documentation for more details about the use of %BINARYSORT and PSOPTIONS.

Also, never change the CCSID in your subsystem without first consulting IBM technical support. Corruption and loss of data could result.

Task 1-10-6: Using DECIMAL

PeopleSoft PeopleTools supports zparm settings of both DECIMAL=PERIOD and DECIMAL=COMMA. The PeopleTools API is able to identify the zparm value on your particular subsystem. For those subsystems with zparm DECIMAL=PERIOD, no additional logic is invoked. For those subsystems with DECIMAL=COMMA, a parsing routine is invoked to "reformat" any necessary SQL statements to avoid confusion by the DB2 parser in distinguishing a decimal point from a comma. For COBOL programs running on the mainframe, a message is displayed in the job log indicating whether the parsing routine has been activated. Customers running with zparm DECIMAL=COMMA should verify that the parsing function has indeed been activated. Customers running with zparm DECIMAL=PERIOD, should verify that the parsing function *is not* activated, as it is unnecessary and could have negative performance implications.

While PeopleSoft PeopleTools fully supports either setting for zparm DECIMAL, not all product lines support both settings. SQR does not go through the PeopleTools API interface, and therefore each program must be inspected for compliance. Product lines that do not use SQR would support both zparm DECIMAL settings by default (for example, CRM). Product lines that only support one setting will support DECIMAL=PERIOD. Refer to the product line specific Installation addenda for information on whether your product line supports zparm DECIMAL=COMMA.

Task 1-11: Installing Supporting Applications

Oracle requires that a number of supporting applications be installed for the PeopleSoft installation on batch servers and on any Windows-based client on which batch processes will be run locally. (Throughout the rest of this section we refer to these Windows-based clients as *two-tier clients*.) Be sure to check My Oracle Support, Certifications to ensure that you are installing software versions that are certified by Oracle.

COBOL

- Consult the PeopleSoft information on My Oracle Support to verify whether your application requires

COBOL. Remember that COBOL is not needed for PeopleSoft PeopleTools or for applications that do not contain COBOL programs.

See PeopleSoft Enterprise Frequently Asked Questions about PeopleSoft and COBOL Compilers, My Oracle Support, (search for the article name).

See PeopleSoft Enterprise Frequently Asked Questions about PeopleSoft and the IBM COBOL Compiler, My Oracle Support, (search for the article name).

See Using Visual COBOL with PeopleSoft, My Oracle Support, Doc ID 2523494.1.

- For PeopleSoft applications written in COBOL, install the appropriate version of the COBOL compiler on the server where you will compile.

See "Installing and Compiling COBOL on Windows."

See "Installing and Compiling COBOL on UNIX."

- For UNIX servers, install Micro Focus Visual COBOL or IBM Compiler for IBM AIX.
- For Microsoft Windows servers, install the appropriate version of Micro Focus Visual COBOL
- For z/OS servers, install the appropriate version of IBM Enterprise COBOL for z/OS and OS/390.
- If all your servers are on Microsoft Windows operating systems, Oracle recommends that you install a COBOL compiler on the file server.

You can install PeopleSoft PeopleTools plus any patches on the file server, compile your COBOL there, and then copy the COBOL binaries to your application and batch servers.

- If your application and batch servers are on UNIX, we recommend that you designate a single server as the compile server, so that you can compile COBOL from this central location and then distribute it to the rest of your application and batch servers.

If you use this approach, you only need to copy patches or customizations over to the compile server. In this case, you would install a COBOL compiler on the master (or compile) server and either the COBOL compiler or runtime on the rest. You can also copy patches or customizations from the file server to all of your UNIX servers and compile the COBOL on each machine.

Note that the compile server must have the same operating system as any destination application or batch servers. For example, if your compile server is an IBM AIX machine, you can only copy COBOL compiled there to other IBM AIX application and batch servers. Oracle recommends this approach. It will help you keep your COBOL source code in sync and only requires that you install COBOL in a single location.

- The format of COBOL source file names of patches or customizations on the file server should always be UPPERCASE.cbl to ensure compatibility with your UNIX servers.

SQR

- You must install SQR on any non-Windows batch server.
- On Microsoft Windows batch servers and two-tier clients, you have the option of installing SQR locally, or mapping to a copy installed on the file server.
- Because SQR does not require any local registry settings, you can execute SQR from any Microsoft Windows batch server or two-tier client once SQR has been installed to a shared directory. Installing SQR locally will result in improved performance; over a slow network connection the improvement will be significant.

JRE

- z/OS customers should install the appropriate IBM z/OS Java to support JDK/JRE requirements for PeopleSoft software.
- The minimum support level required for PeopleSoft PeopleTools 8.58 is JRE 1.8.xx.

Microsoft Office

Install Microsoft Office (Excel and Word) on any Windows batch server or two-tier client that will be running PS/nVision or Microsoft Word batch processes.

Microsoft Office must be installed locally, because it requires registry settings.

See Also

My Oracle Support, Certifications

Task 1-12: Setting Up Database Connectivity

As part of preparation, you may wish to set up database connectivity components on the mainframe, set up TCP/IP on database clients (including application servers and any dedicated batch servers), and install software for the DB2 Connect Gateway.

However, it makes sense to wait until after the PeopleSoft database has been created before configuring the DB2 Connect Gateway—using either Client Configuration Assistant (Microsoft Windows) or the Command Line Processor (UNIX)—so that the connection to the database can be tested.

Note. The LDAP client (FMID HRSL180) is required for PSAE on z/OS. On z/OS, the LDAP client resides as a DLL named GLDCLDAP in /usr/lib. Note that /usr/lib must be part of the LIBPATH environment variable.

Note. Before you can run the Process Scheduler from z/OS UNIX System Services, the DB2 systems programmer must have installed DB2 ODBC.

See Also

"Creating a Database"

"Installing and Configuring DB2 Connect"

IBM DB2 Connect documentation

IBM DB2 Installation Guide (for DB2 ODBC)

Task 1-13: Using Connect ID

This section discusses:

- Understanding Connect ID
- Using Connect ID

Understanding Connect ID

All two-tier connections use the PeopleSoft PeopleTools connect ID feature.

Two-tier connections include both client workstations and application servers. The connect ID feature allows customers to associate multiple PeopleSoft operators with the same connect ID. The connect ID is granted the minimum privileges required to connect to the database—that is, it has only SELECT privileges on specific PeopleTools tables. After connection, PeopleSoft Security uses the PeopleSoft user ID to control access to objects in the database. The PeopleSoft sign-on process validates the connect ID on the database server, rather than the user ID. Connect ID simplifies database security maintenance. It is not necessary to define and maintain individual user IDs within the database server security. For DB2 z/OS implementations, only the connect ID must be defined in the z/OS security management software (RACF), with logon capabilities. The connect ID option eliminates the need to set up each user ID as a valid z/OS ID. One z/OS ID can be created and then many PeopleSoft operators can use this ID as the connect ID to sign on to the PeopleSoft system. This arrangement may be an appropriate choice at customer sites where the PeopleSoft user's only required access to the mainframe is to use the PeopleSoft applications.

The connect ID is granted access using the following steps:

- Define the connect ID as an ID with logon capabilities to the z/OS server in the z/OS security management software.
- Execute script Grant.sql against the database, after the table objects have been created. Grant.sql grants SELECT access to the PeopleTools tables PS.PSDBOWNER, PS.STATUS, PS.ACCESSPROFILE, and PS.OPRDEFN.

In addition, the connect ID and connect ID password must be defined in either the Configuration Manager setting to allow a two-tier connection from the client workstation, or in the application server configuration setting, to allow connection to the database from the application server.

See Also

PeopleTools: System and Server Administration, "Using PeopleSoft Configuration Manager"

Task 1-13-1: Using Connect ID

As an example, when logging into a PeopleSoft database in two-tier mode, the user enters a database name, PeopleSoft user (operator) ID, and password in the PeopleSoft Signon dialog box.

After making the initial connection to the database, the sign-on process performs SELECT statements against a series of PeopleTools tables to obtain data required for sign-on and security. The PeopleSoft user ID and password are validated against the PSOPRDEFN table, regardless of the sign-on option. The access ID and password, which are encrypted, are obtained from the PSACCESSPROFILE table.

The sign-on process disconnects, and then connects again as the access ID, which has all Data Manipulation Language (DML) authorities and certain DDL authorities on the PeopleSoft database. If you are using the Secondary Authorization ID option, the sign-on process then sets the current SQLID equal to the DB2 owner ID obtained from the PS.PSDBOWNER table.

The example below details the logon and connection process to the PeopleSoft database on z/OS. This example uses the following parameter values:

- Database Name: PT84
- User ID/Pswd: PSUSER1/user_password
- Connect ID/Pswd: PSCONCT/connect_password
- Access ID/Pswd: PSACCES1/access_password
- Object Owner ID: PSDBOWNER

Activity	Parameter Value and/or Underlying Statements
User initiates logon by entering the database name, user ID and password.	PT84/PSUSER1/ <i>user_password</i>
The connection is established to DB2 z/OS using the database name, the connect ID (not the user ID), and the password.	Connect to PT84 user PSCONCT using <i>connect_password</i>
Get PeopleSoft Database owner ID.	<pre>SELECT OWNERID FROM PS.PSDBOWNER WHERE DBNAME = :1</pre> :1 = PT84, value returned for OWNERID = PSDBOWNR
Check PSSTATUS.	<pre>SELECT OWNERID, TOOLSREL, LASTREFRESHDTM, LASTCHANGEDTTM FROM PSDBOWNR.PSSTATUS</pre>
Validate the user ID and password.	<pre>SELECT VERSION, OPERPSWD, ENCRYPTED, SYMBOLICID, ACCTLOCK FROM PSDBOWNR.PSOPRDEFN WHERE OPRID = :1</pre> :1 = PSUSER1. The OPERPSWD retrieved is validated against the value entered when the user initiated the log on.
Get the access ID and password.	<pre>SELECT ACCESSID, ACCESSPSWD, ENCRYPTED FROM PSDBOWNR.PSACCESSPRO FILE WHERE SYMBOLICID = :1</pre> The ACCESSID and ACCESSPSWD retrieved into the buffer are PSACCES1/ <i>access_password</i>
The current connection with the connect ID is disconnected.	Disconnect
A new connection is established, logging on with the access ID.	Connect to PT84 USER PSACCES1 USING <i>access_password</i>
The "Set Current SQLID" statement is issued to permit access to the PeopleSoft tables via the access ID without requiring explicit qualification of the SQL statements with the Object Owner ID (PSDBOWNR).	<pre>Set CURRENT SQLID = :1</pre> :1 = PSDBOWNR

At this point, access within the PeopleSoft application is governed by PeopleSoft security, based on the permissions defined in the PeopleTools security tables for the user ID that was entered when the logon was initiated (PSUSER1).

Task 1-14: Setting Up z/OS User IDs

This section discusses:

- Understanding User ID Setup

- Creating PeopleSoft User IDs

Understanding User ID Setup

Once you have determined your sign-on strategy, as described in the preceding task, you are ready to create a set of z/OS user IDs required for the PeopleSoft PeopleTools sign-on process and database table access.

Note. All IDs that you create must be in UPPERCASE.

Task 1-14-1: Creating PeopleSoft User IDs

Use this procedure to create new user IDs for the application. To create PeopleSoft user IDs:

1. Create a mainframe user ID for connecting to the PeopleSoft database. This mainframe user ID needs to match the PeopleSoft connect ID.

Note. Once your PeopleSoft connect ID is created, you can specify the ID in either the Configuration Manager Startup tab for Windows client connections or the Startup section in the application server configuration file for application server connections. This is done so the client or the application server pass the correct ID to connect to the database.

Note. The Connect ID password should not contain any spaces.

You must explicitly grant SELECT authority to this mainframe user ID on specific PeopleSoft PeopleTools tables, before attempting to connect to the PeopleSoft database.

2. Create a second mainframe user ID to be used as the PeopleSoft access ID.

The access ID, which is stored in encrypted form in the PeopleSoft database, should either be granted all DML authorities and certain DDL authorities on the PeopleSoft database if using Primary Authorization ID access, or associated with a Secondary Authorization ID with this access, if using Secondary Authorization ID access (the next step). The access ID and access password must be tightly controlled. Both are encrypted in the PeopleSoft database.

See the section Choosing Owner ID Processing Option, for Access ID password requirements.

Oracle recommends that you set up the access ID in z/OS with a non-expiring password. If company standards mandate that you periodically change the access ID's password, or if the access ID is set up in the z/OS security system with a password that will expire, special processing will be necessary. You must ensure that PeopleSoft databases are updated with the access ID's new password before the password changes in the z/OS security system. The PeopleSoft Security Administrator provides the functionality to change the access ID's password stored in the security tables.

If the mainframe password for the access ID has expired or has been changed before the PeopleSoft database has been updated with the new password, no one will be able to access the PeopleSoft online system.

3. If you are using the Secondary Authorization ID option, set up an external security system group as the owner ID. Make the access ID a member of this group, with authority to SET CURRENT SQLID = <Owner ID>.

4. Grant SELECT authority to owner ID on SYSIBM DB2 catalog tables.

There are certain PeopleSoft processes that perform queries against the SYSIBM DB2 catalog tables. For this reason you must grant SELECT authority on these catalog tables to the owner ID that you choose for the PeopleSoft database. The following table lists DB2 catalog tables used by the PeopleSoft system, with corresponding PeopleSoft processes or utilities.

Table	PeopleSoft Process or Utility
SYSIBM.SYSSEQUENCES Note. This table is required when using universal tablespaces.	Application Designer Data Mover
SYSIBM.SYSTABLES	Application Designer DDDAUDIT.SQR SETDBNAM.SQR SETSPACE.SQR SETTMPIN.SQR %UpdateStats MetaSQL function
SYSIBM.SYSTABLESPACE	SETSPACE.SQR SETDBNAM.SQR
SYSIBM.SYSTRIGGERS	Application Designer DDDAUDIT.SQR
SYSIBM.SYSCOLUMNS	Application Designer
SYSIBM.SYSINDEXES	Application Designer DDDAUDIT.SQR SETBUFF.SQR
SYSIBM.SYSKEYS	Application Designer
SYSIBM.SYSINDEXPART	SETINDEX.SQR
SYSIBM.SYSDATABASE	NA
SYSIBM.SYSVIEWS	NA

If the Owner ID does not have proper authority to the SYSIBM tables, 551 SQL codes will result and it will mostly occur when you are attempting to SQL Create or Alter a table using Application Designer. If you are running the listed SQRs outside the PeopleSoft environment, the ID used to run the SQR will need SELECT access to the listed tables.

See Also

"Creating a Database"

PeopleTools: Portal Technology

PeopleTools: Data Management

Task 1-15: Performing Backups

Before proceeding, you should back up all servers and workstations that are set up for installation so you can recover to this point if necessary. Do the following:

- Back up any changes you made to the database server in setting up your PeopleSoft system.
- Back up any changes you made to your file server while setting aside space for your PeopleSoft system and setting up access privileges.
- Once you set up your install workstations to access the file server and database server simultaneously, back up the workstations.

Chapter 2

Installing the PeopleSoft Homes

This chapter discusses:

- Obtaining the PeopleSoft Application Images and PeopleTools DPKs
- Obtaining the PeopleSoft Upgrade Source Images
- Using the PT-INFRA DPK for Additional Component Software
- Reviewing the DPK Setup Script Options
- Running the DPK Setup Script to Install PS_HOME and PS_APP_HOME
- Removing a Deployed PeopleSoft Environment

Task 2-1: Obtaining the PeopleSoft Application Images and PeopleTools DPKs

If you have not already done so, this section describes how to locate and obtain the PeopleSoft Application Images and PeopleTools DPKs required for a fresh installation.

The PeopleSoft Application Images and PeopleTools DPKs are available on My Oracle Support. Contact Oracle if you need a user ID and password for My Oracle Support.

1. Go to the PeopleSoft Update Manager Home Page, My Oracle Support, Doc ID 1641843.2, to find the information on locating and downloading the current PeopleSoft Application Image.

Note. On the PeopleSoft Update Manager Home Page, the term PeopleSoft Update Image (PI) is used for the images.

2. Select the tab PeopleSoft Update Image Home Pages, and select the link for your PeopleSoft application.
3. Expand the Update Image Link section, and then select the link for Native OS to find the details for the current PeopleSoft Application Image for Microsoft Windows.
4. In the Update Image Link table on the PeopleSoft Update Image Home Page, download or open the Update Image Manifest, and note the following:
 - The PeopleTools patch release in the Software Version Included column.
 - The file name for Application DPK Zip 1, normally *FILENAME_9of11.zip*.
5. To obtain the PeopleTools DPK, in My Oracle Support, select the Patches & Updates tab.
6. Select Product or Family (Advanced).
7. Specify the following information, and then click Search:
 - PeopleSoft Enterprise PT PeopleTools as the Product
 - The current PeopleSoft PeopleTools 8.5x release, such as 8.58, as the Release
 - Your operating system, IBM AIX, HP-UX for Itanium, Linux, Microsoft Windows, or Oracle Solaris on

SPARC, as the Platform

8. On the search results page, locate the PeopleTools patch corresponding to the patch release that you noted in step 4, and download the DPKs into a single directory, referred to in this documentation as *DPK_INSTALL*.

Note. You can also find links to the most recent PeopleTools patches on the PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2.

9. To obtain the PeopleSoft Application DPK Zip1, return to the PeopleSoft Update Image Home Page, and in the Update Image Links table, select the link in the column *<Product> Update Image Link*.
10. From the patch page, download the zip file for Application DPK Zip 1 to the same *DPK_INSTALL* directory as in step 8.

For PeopleSoft installations on AIX, HP-UX, Linux, or Solaris, download the PeopleSoft Application DPK for Linux. Do not unzip the file at this point. If you download to a Microsoft Windows computer and FTP to your AIX, HP-UX, Linux, or Solaris computer, FTP in binary mode.

The first Application DPK Zip 1 includes the content needed for the PeopleSoft application, *PS_APP_HOME*. The other Application DPK files are not needed for this installation.

See "Preparing for Installation," Understanding the PeopleSoft Installation to review a list of the contents of the DPKs and file name syntax.

Task 2-2: Obtaining the PeopleSoft Upgrade Source Images

If you have not already done so, this section describes how to locate and obtain the Upgrade Source Images from My Oracle Support. Contact Oracle if you need a user ID and password for My Oracle Support.

1. Go to the upgrade home page for your PeopleSoft application, and select the tab *<Product> Upgrade Source Images*.
2. In the Upgrade Source Image Link and Manifest table, locate the row Native OS for Microsoft Windows.
3. Download or open the software manifest, and note the following:
 - The PeopleTools patch release in the Software Version Included column.
 - The file name for Application DPK Zip 1, normally *FILENAME_7of9.zip*.
4. To obtain the PeopleTools DPK, in My Oracle Support, select the Patches & Updates tab.
5. Select Product or Family (Advanced).
6. Specify the following information, and then click Search:
 - PeopleSoft Enterprise PT PeopleTools as the Product
 - The current PeopleSoft PeopleTools 8.5x release, such as 8.58, as the Release
 - Your operating system, IBM AIX, HP-UX, Linux, Microsoft Windows, or Oracle Solaris on SPARC, as the Platform
7. On the search results page, locate the PeopleTools patch corresponding to the patch release that you noted in step 4, and download the DPKs into a single directory, referred to in this documentation as *DPK_INSTALL*.

Note. You can also find links to the most recent PeopleTools patches on the PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2.

8. To obtain the PeopleSoft Application DPK, return to the PeopleSoft Upgrade Source Image page, and in the table, select the link in the column Link to Upgrade Source Image.
9. From the patch page, download the zip file for Application DPK Zip 1 to the same *DPK_INSTALL* directory

as in step 8.

For PeopleSoft installations on AIX, HP-UX, Linux, or Solaris, download the PeopleSoft Application DPK for Linux. Do not unzip the file at this point. If you download to a Microsoft Windows computer and FTP to your AIX, HP-UX, Linux, or Solaris computer, FTP in binary mode.

The first Application DPK Zip 1 includes the content needed for the PeopleSoft application, *PS_APP_HOME*. The other Application DPK files are not needed for this installation.

See "Preparing for Installation," Understanding the PeopleSoft Installation Using Deployment Packages to review a list of the contents of the DPKs and file name syntax.

Task 2-3: Using the PT-INFRA DPK for Additional Component Software

The PT-INFRA DPK contains supporting (third-party) software that is required for a PeopleSoft installation. A separate PT-INFRA DPK is delivered as needed to provide security updates or other patches for one or more of the components. You can use this separate PT-INFRA DPK in a new installation to take advantage of up-to-date Critical Patch Updates (CPUs).

The PT-INFRA DPK includes the following:

- Oracle Tuxedo
- Oracle WebLogic
- Oracle Database Client
- JDK and JRE

See *PT-INFRA Deployment Package Installation (PeopleSoft PeopleTools 8.58)*, Oracle's PeopleSoft PeopleTools 8.58 Home Page, Installation and Upgrade tab, My Oracle Support, Doc ID 2602329.2.

Task 2-4: Reviewing the DPK Setup Script Options

This section discusses:

- Using the DPK Setup Script Options
- Using the DPK Setup Script Option `use_alternate_puppet_install`
- Preparing to Run the DPK Setup Script

Task 2-4-1: Using the DPK Setup Script Options

The PeopleSoft PeopleTools DPK setup script alleviates the installation process by automating most of the manual tasks on a virtual or bare-metal host running a supported operating system. By convention, the setup DPK is the first zip file (*FILENAME_1ofn.zip*) in the group of PeopleSoft DPK zip files you download from My Oracle Support.

The DPK setup zip file includes a script, `psft-dpk-setup`, that you use to set up a PeopleSoft environment. The DPK setup script offers a variety of options for setting up mid-tier components, *PS_HOME* and other installation folders, and PeopleSoft domains, depending upon the options you supply. The script is an interactive script that detects the downloaded DPKs and verifies that they are correct. It also prompts the user for input, and once that information is gathered, will set up a complete functional PeopleSoft environment.

Note. The DPK setup script does not provide any default passwords. It is a good idea to be prepared to supply passwords such as user ID, PeopleSoft Connect ID, Application Server Domain Connection, and so on.

The following table lists the options available for the DPK setup script, `psft-dpk-setup.bat` for Microsoft Windows.

See the section *Preparing to Deploy with a Non-Root User* for additional script options.

Note that the command options require two dashes.

Note. The commands in the table include line feeds to improve readability.

Deployment	DPK Setup Script Command
Perform the following: - Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic, and Oracle database client. - Deploy and set up the domains for the mid-tier components (Application Server, web server, Process Scheduler and Oracle database client). The deployment sets up one each of Application Server, web server, and Process Scheduler domains. - Install the <code>PS_HOME</code> directory.	<pre>psft-dpk-setup.bat --env_type midtier or psft-dpk-setup.bat --env_type midtier --domain_type all</pre>
Perform the following: - Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic and Oracle database client, without setting up the mid-tier domains. - Install the <code>PS_HOME</code> directory.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only or psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type all</pre>
Deploy the <code>PS_HOME</code> directory only. This option does not set up any domains.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type tools_home</pre>
Deploy and set up the domain for the Application Server only. Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type appserver</pre>
Deploy and set up the domain for the Process Scheduler only. Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type prcs</pre>

Deployment	DPK Setup Script Command
Deploy and set up the domain for PIA only. Install the Oracle Tuxedo and Oracle WebLogic software. Note. Before beginning the PIA domain deployment, ensure that application server and Process Scheduler domains are available.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type pia</pre>
Deploy and set up the domains for the Application Server and the Process Scheduler. Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type appbatch</pre>
Deploy the <i>PS_APP_HOME</i> directory only. This option does not set up any domains.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_home</pre>
Deploy the <i>PS_HOME</i> and <i>PS_APP_HOME</i> directories only. This option does not set up any domains.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_and_tools_home</pre>
Specify the full path of the downloaded DPKs. The script assumes that the downloaded DPKs are in the parent directory of the DPK setup script. If the DPKs are located in a different directory, use this option.	<pre>psft-dpk-setup.bat --env_type midtier --dpk_src_dir <full_DPK_path></pre>
Specify the installation location for Puppet software on Microsoft Windows. The DPK setup script installs Puppet in C:\Program Files\Puppet Labs\Puppet by default. Use this option to install Puppet in a different location, including drives other than the C: drive. You can install in any writable local drive, but you cannot install in a network drive. Use this option with the desired deployment command.	<pre>psft-dpk-setup.bat --env_type midtier --puppet_win_install_dir <full_⇒ puppet_path></pre>
Use the option <code>--use_alterate_puppet_install</code> to install Puppet software under the <i>BASE_DIR</i> that is specified when running the DPK setup script.	See Using the DPK Setup Script Option <code>--use_alterate_puppet_install</code>
Run the DPK setup script in silent mode for default initialization. You perform the deployment in silent mode by providing all the required information in a response file. See Running the DPK Setup Script in Silent Mode.	<pre>psft-dpk-setup.bat --silent --response_file=<response_file></pre>

Deployment	DPK Setup Script Command
Run the DPK setup script in silent mode with a customization file. Use this command to specify a customization YAML file. See Running the DPK Setup Script in Silent Mode.	<pre>psft-dpk-setup.bat --silent --response_file=<response_file> --customization_file=<dpk_⇒ customization_file></pre>
Remove a deployed environment. See "Using and Maintaining the PeopleSoft Environment," Removing a Deployed PeopleSoft Environment.	<pre>psft-dpk-setup.bat --cleanup</pre>
List the DPK setup script usage.	<pre>psft-dpk-setup.bat --help</pre>
Reduce the size of the log file produced by the DPK setup script by adding the nodebug option to any of the other commands in this table. This option turns off debug messages generated by Puppet. Be aware that if you contact Oracle support regarding a deployment problem, Oracle support will request the log file. If the log file does not include the debugging messages it may not be helpful in resolving the issue. The log file produced when you use this option also does not record the underlying steps performed by the Puppet lookup with Hiera. This may also affect your debugging.	Combine the option with the other DPK setup script commands listed in this table. Here are three examples: <pre>psft-dpk-setup.bat --env_type midtier --nodebug psft-dpk-setup.bat --env_type midtier --deploy_only --nodebug psft-dpk-setup.bat --env_type midtier --domain_type appserver --nodebug</pre>
Specify the location for the installation log file by adding the log_file option to any of the other commands in this table.	Combine the option with the other DPK setup script commands listed in this table. Here are three examples: <pre>psft-dpk-setup.<ext> --env_type midtier --log_file <log file> psft-dpk-setup.<ext> --env_type midtier --deploy_only --log_file <log file> psft-dpk-setup.<ext> --env_type midtier --domain_type appserver --log_file <log file></pre>

Task 2-4-2: Using the DPK Setup Script Option `use_alternate_puppet_install`

The DPK setup script installs the Puppet software in default locations. The installation also creates a registry entry on Microsoft Windows. The version installed by default is the open-source version that is packaged by Puppet.

Use the option `--use_alternate_puppet_install` to install Puppet software under the *BASE_DIR* that is specified when running the DPK setup script. Using this script option installs the default, open-source version that has been sufficiently modified to allow it to be installed in this non-default location.

- Add this option to the command line for any supported deployment.

For example, you cannot use it to install Puppet in a separate step, followed by running the DPK setup script for a mid-tier deployment.

- When you use the DPK setup script to remove an environment that you deployed using `--use_alternate_puppet_install`, you must include the same option in the command.

```
psft-dpk-setup.bat --use_alternate_puppet_install --cleanup
```

The cleanup will remove the Puppet that was installed under *BASE_DIR*.

- Puppet will be installed in *BASE_DIR/psft_puppet_agent*.
- You cannot specify a different installation location.
- The Puppet installation is deployment-specific; that is, each setup that is run with this command has its own Puppet installation.
- The installation does not modify the Microsoft Windows registry.

Note. Using the `--use_alternate_puppet_install` option has a different function from using the command:

```
psft-dpk-setup.bat --puppet_win_install_dir <full_puppet_path>
```

That command is only for Microsoft Windows, requires an installation directory as input, and it does modify the Windows registry. When you run a cleanup with the DPK setup script, the Puppet installation is not removed.

Deployment	DPK Setup Script Command
Perform the following: • Install Puppet software in <i>BASE_DIR/psft_puppet_agent</i>. • Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic, and Oracle database client. • Deploy and set up the domains for the mid-tier components (Application Server, web server, Process Scheduler and Oracle database client). The deployment sets up one each of Application Server, web server, and Process Scheduler domains. • Install the <i>PS_HOME</i> directory.	<pre>psft-dpk-setup.bat --env_type midtier --use_alternate_puppet_install or psft-dpk-setup.bat --env_type midtier --domain_type all --use_alternate_puppet_install</pre>

Deployment	DPK Setup Script Command
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic and Oracle database client, without setting up the mid-tier domains. - Install the <i>PS_HOME</i> directory.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --use_altername_puppet_install</pre> or <pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type all --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy the <i>PS_HOME</i> directory only. This option does not set up any domains. *There is additional information following this table.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type tools_home --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy and set up the domain for the Application Server only. - Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type appserver --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy and set up the domain for the Process Scheduler only. - Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type prcs --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy and set up the domain for PIA only. - Install the Oracle Tuxedo and Oracle WebLogic software. Note. Before beginning the PIA domain deployment, ensure that application server and Process Scheduler domains are available.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type pia --use_altername_puppet_install</pre>

Deployment	DPK Setup Script Command
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy and set up the domains for the Application Server and the Process Scheduler. - Install the Oracle Tuxedo and Oracle WebLogic software.	<pre>psft-dpk-setup.bat --env_type midtier --domain_type appbatch --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy the <i>PS_APP_HOME</i> directory only. This option does not set up any domains. *There is additional information following this table.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_home --use_altername_puppet_install</pre>
Perform the following: - Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. - Deploy the <i>PS_HOME</i> and <i>PS_APP_HOME</i> directories only. This option does not set up any domains. *There is additional information following this table.	<pre>psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_and_tools_home --use_altername_puppet_install</pre>
Install Puppet software in <i>BASE_DIR</i>/psft_puppet_agent. Specify the full path of the downloaded DPKs for any supported deployment. The script assumes that the downloaded DPKs are in the parent directory of the DPK setup script. If the DPKs are located in a different directory, use this option.	<pre>psft-dpk-setup.bat --env_type midtier --dpk_src_dir <full_DPK_path> --use_altername_puppet_install</pre>
Run the DPK setup script in silent mode for default initialization. You perform the deployment in silent mode by providing all the required information in a response file. See Running the DPK Setup Script in Silent Mode.	<pre>psft-dpk-setup.bat --silent --response_file=<response_file> --use_altername_puppet_install</pre>
Run the DPK setup script in silent mode with a customization file. Use this command to specify a customization YAML file. See Running the DPK Setup Script in Silent Mode.	<pre>psft-dpk-setup.bat --silent --response_file=<response_file> --customization_file=<dpk_⇒ customization_file> --use_altername_puppet_install</pre>

Deployment	DPK Setup Script Command
Remove a deployed environment that was created using the <code>--use_alternate_puppet_install</code> option. See "Using and Maintaining the PeopleSoft Environment," Removing a Deployed PeopleSoft Environment.	<pre>psft-dpk-setup.bat --cleanup --use_alternate_puppet_install</pre>
Reduce the size of the log file produced by the DPK setup script by adding the <code>nodebug</code> option to any of the other commands in this table. Install Puppet software in <code>BASE_DIR/psft_puppet_agent</code>. This option turns off debug messages generated by Puppet. Be aware that if you contact Oracle support regarding a deployment problem, Oracle support will request the log file. If the log file does not include the debugging messages it may not be helpful in resolving the issue. The log file produced when you use this option also does not record the underlying steps performed by the Puppet lookup with Hiera. This may also affect your debugging.	Combine the option with the other DPK setup script commands listed in this table. Here are three examples: <pre>psft-dpk-setup.bat --env_type midtier --nodebug --use_alternate_puppet_install psft-dpk-setup.bat --env_type midtier --deploy_only --nodebug --use_alternate_puppet_install psft-dpk-setup.bat --env_type midtier --domain_type appserver --nodebug --use_alternate_puppet_install</pre>

Task 2-4-3: Preparing to Run the DPK Setup Script

Include the following decisions in preparing to install with the DPK setup script:

- FRESH or PUM installation type

For this documentation, select a FRESH (new) installation, which enables you to make selections for RDBMS, Unicode, and multi-language support.

The PUM installation type is used with the PeopleSoft Update Image DPKs to create and set up a PeopleSoft environment to be used as the source for the PeopleSoft Update Manager. If you select the PUM installation type, the DPK setup script installs an Oracle DEMO multi-lingual database without presenting you with other options. For the PUM installation type the script also installs the `PI_HOME` directory used by the PeopleSoft Update Manager process.

See the documentation on the PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2 for information on deploying the PeopleSoft Update Image DPKs.

Note. If you are using the PeopleSoft Upgrade Source DPKs to set up an environment for the Upgrade Source database, you do not see the prompt for FRESH or PUM installation type.

- Default or manual configuration

After extracting the DPKs, you are given the option to exit the process, create a customization file, and complete the configuration manually using the `psft_puppet_apply` script with a user-written customization file. Use the manual configuration if you want to change installation locations and so on.

See "Completing the DPK Initialization with Customizations."

The following installation scenarios require manual configuration using the customizations:

- Installing on an AIX operating system

See Reviewing the Software Requirements on AIX

See Preparing the Customization File for JDK on AIX.

- Installing on HP-UX operating system.

See Reviewing the Software Requirements on HP-UX.

See Preparing the Customization File for JDK on HP-UX.

- Connecting to a non-Oracle RDBMS platform

See Preparing the Customization File for Mid-Tier Connection to a DB2 z/OS Database

- User IDs and password

The DPK setup script does not provide any default passwords. It is a good idea to be prepared to supply passwords such as user ID, PeopleSoft Connect ID, Application Server Domain Connection, and so on.

- Multi-language support

You are given the option to use the DPK setup script to deploy translated files to *PS_APP_HOME* for a multi-language installation.

- Unicode or non-Unicode

While running the DPK setup script, you can choose to install a Unicode or non-Unicode environment.

Alternatively, specify Unicode using the customizations and *psft_puppet_apply* script.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for Unicode.

- Specifying *PS_CUST_HOME*

You may wish to set up a *PS_CUST_HOME* (PeopleSoft Customization Home) directory in your environment to store your site's customized files, separate from *PS_HOME* and *PS_APP_HOME*. If you wish to use a *PS_CUST_HOME* for your environment, you must perform the deployment using the DPK customizations, and specify the *PS_CUST_HOME* location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for the PeopleSoft Homes.

Task 2-5: Running the DPK Setup Script to Install *PS_HOME* and *PS_APP_HOME*

This section discusses:

- Understanding the *PS_HOME* and *PS_APP_HOME* Installation
- Installing *PS_HOME* and *PS_APP_HOME* on Microsoft Windows
- Installing *PS_HOME* and *PS_APP_HOME* on Linux, AIX, HP-UX, or Solaris as the Root User
- Installing *PS_HOME* and *PS_APP_HOME* on Linux, AIX, HP-UX, or Solaris as a Non-Root User
- Reviewing the Deployment Results

Understanding the *PS_HOME* and *PS_APP_HOME* Installation

Use the DPK setup script to install the PeopleSoft PeopleTools software in *PS_HOME* and the PeopleSoft application software in *PS_APP_HOME*, using the `--deploy_only --deploy_type app_and_tools_home` option. This deployment requires the presence of PeopleSoft application DPKs in the deployment folder, *DPK_INSTALL*.

Note. You can also use the DPK setup script to deploy *PS_HOME* or *PS_APP_HOME* individually. See *Reviewing the DPK Setup Script Options*.

This procedure assumes that you have downloaded all of the required PeopleSoft Application Image DPKs for Linux or Microsoft Windows, and saved them in a location referred to here as *DPK_INSTALL*.

Task 2-5-1: Installing PS_HOME and PS_APP_HOME on Microsoft Windows

To use the DPK setup script for deployment only:

1. Extract the first zip file (*FILENAME_1ofn.zip*).

Note. It is a good idea to extract into the same directory where you downloaded the zip files, *DPK_INSTALL*.

The extraction creates the *DPK_INSTALL/setup* folder and other files.

2. Open a command prompt with Run as Administrator.
 3. Change directory to *DPK_INSTALL/setup*.
 4. Run the script with the options for deployment only.
-

Note. If you see an error message similar to "The application has failed to start because its side-by-side configuration is incorrect," it indicates that your machine does not include the necessary Microsoft C++ runtime libraries. Go to the Microsoft Web site, locate the Microsoft Visual C++ redistributable package for your system, and install as directed.

- If you extracted the first zip file into the same directory where you downloaded the zip files, use this command:

```
psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_and_tools_home
```

- If you extracted the first zip file into a different directory, include the option *dpk_src_dir* to specify the location of the downloaded zip files, such as *DPK_INSTALL*, as follows:

```
psft-dpk-setup.bat --dpk_src_dir DPK_INSTALL --env_type midtier --deploy_only --deploy_type app_and_tools_home
```

5. Wait while the script locates the valid PeopleSoft zip files and extracts them.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by [OK] or [FAILED].

The script locates the valid PeopleSoft zip files and extracts them. After it completes the extraction, it deletes the original downloaded zip files.

See "Preparing for Installation," *Understanding the PeopleSoft Installation Using Deployment Packages*, for the filename syntax of the DPK zip files.

Starting the PeopleSoft Environment Setup Process:

```
Validating User Arguments:                [ OK ]
Validating PeopleSoft Supported Platform:  [ OK ]

Extracting the Zip File FILENAME_1of11.zip: [ OK ]
Extracting the Zip File FILENAME_2of11.zip: [ OK ]
```



```
...
Extracting the Zip File FILENAME_11of11.zip: [ OK ]
```

6. Specify whether to install the Puppet software if necessary at the next prompt.

The script verifies if Puppet software is installed in the default location specified by the DPKs. If not, answer *y* (yes) to install the Puppet software and *n* to abort the PeopleSoft environment setup process. The default action (if nothing is entered at the prompt) is to install the software.

If there is any error during the Puppet software installation, the script aborts the setup process.

Verifying if Puppet Software is Installed:

Puppet Software is not installed on the Windows Host. If PeopleSoft environment needs to be setup on this Host, Puppet software should be Installed.

Do you want to proceed with the Puppet Installation? [Y|n]: **y**

Installing Puppet Software on the Windows Host: [OK]

The script verifies whether the eYAML Hiera files are installed.

Verifying if eYAML Hiera Backend is Installed: [OK]

The script verifies if the DPKs are available in *DPK_INSTALL*, and aborts with the message [FAILED] if they are not.

Checking if PeopleSoft DPKs are Present: [OK]

7. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory, referred to here as *BASE_DIR*.

The base directory is used to extract the DPKs as well as for deploying PeopleSoft components. The script creates the base directory if it does not exist.

Use forward slashes only (/) when specifying the base directory; for example, C:/psft. Do not use a base directory name that begins with a number.

The base folder is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This folder should be accessible on the Windows VM, must have write permissions and should have enough free space

Enter the PeopleSoft Base Folder: **C:/psft**

Are you happy with your answer? [Y|n|q]:

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space.

Note. A mid-tier setup of a PeopleSoft environment requires about 25 GB of disk space.

Checking if the Base Folder has Enough Free Space: [OK]

8. Review the status messages as the script validates the files found in the download directory, *DPK_INSTALL*, and extracts the archives from the DPKs.

The script carries out validations for the specified mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity.

```
Validating the PeopleSoft DPKs in the Windows VM:
[...]
Extracting the PeopleSoft DPK Archives in the Windows VM:
[...]
```

9. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR\dpk*) and updates the YAML files to reflect the type of PeopleSoft environment setup.

```
Setting up Puppet on the Windows VM:
Generating eYAML Hiera Backend Encryption Keys:          [ OK ]
Updating the Puppet Hiera YAML Files in the Windows VM:  [ OK ]
Updating the Role in Puppet Site File for the Windows VM: [ OK ]
```

10. Specify the information for your database platform.

- a. For the database platform, enter DB2ODBC for DB2 for z/OS.

```
Enter the PeopleSoft database platform [ORACLE]: DB2ODBC
```

- b. Enter *y* (yes) to indicate that the database you are connecting to is a Unicode database, or *n* (no) for a non-Unicode database.

```
Is the PeopleSoft database unicode? [Y|n]: y
```

11. Enter *y* if you want the script to include multi-language files in the installation.

```
Do you want Multi Language support in PeopleSoft database? [y|N]: y
```

12. Enter *y* to continue with the script.

```
Are you happy with your answers? [y|n]: y
Encrypting the Passwords in the User Data:          [ OK ]
Updating the Puppet Hiera YAML Files with User Data: [ OK ]
```

13. If you want to continue running the initialization script using the default configuration, answer *y* (yes) to the following prompt, and continue with the next step.

The components that are installed during a default initialization are described in the section *Reviewing the Installation Results*. The process for completing the initialization with customizations is described in the chapter "Completing the DPK Initialization with Customizations."

If you want to customize the PeopleSoft environment using the Puppet YAML files, answer *n* (no) to stop the script.

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment

```
Do you want to continue with the default initialization process? [y|n]:
```

14. Review the status messages as the script runs Puppet profiles to set up the PeopleSoft environment.

A message of [OK] indicates that the profile has been applied successfully while a message [FAILED] indicates that the profile application failed.

The script stops and exits the first time a profile application fails, and displays an error message. This example shows the error message after the first step failed:

Starting the Deployment of PeopleSoft Components:

Deploying Application Components: [FAILED]

The initialization of PeopleSoft environment setup failed. Check the log file [C:\DPK_INSTALL\setup\psft_dpk_setup.log] for the errors. After correcting the errors, run the following commands to continue with the setup of PeopleSoft environment.

Start a cmd window as Administrator and run C:\psft\psft_puppet_⇒
apply.cmd

Exiting the PeopleSoft environment setup process.

Upon successful completion, the DPK setup script displays the following message:

Starting the Deployment of PeopleSoft Components:

Deploying Application Components: [OK]
Deploying PeopleTools Components: [OK]

The PeopleSoft Environment Setup Process Ended.

The complete setup log is written to the file psft_dpk_setup.log in the same location as the DPK setup script.

Task 2-5-2: Installing PS_HOME and PS_APP_HOME on Linux, AIX, HP-UX, or Solaris as the Root User

To use the DPK setup script for deployment only:

1. Extract the first zip file (*FILENAME_1ofn.zip*).

Note. It is a good idea to extract into the same directory where you downloaded the zip files, *DPK_INSTALL*.

The extraction creates the *DPK_INSTALL/setup* folder and other files.

2. Open a terminal window and change directory to *DPK_INSTALL/setup*.
3. As a user with root access, run the psft-dpk-setup.sh script with the options for deployment only.
 - If you extracted the first zip file into the same directory where you downloaded the zip files, run the script with no options, as follows:

```
./psft-dpk-setup.sh --env_type midtier --deploy_only --deploy_type⇒  
app_and_tools_home
```

- If you extracted the first zip file into a different directory, use the option *dpk_src_dir* to specify the location of the downloaded zip files, such as *DPK_INSTALL*, as follows:

```
./psft-dpk-setup.sh --dpk_src_dir DPK_INSTALL --env_type midtier --⇒
```

```
deploy_only --deploy_type app_and_tools_home
```

4. Wait while the script locates the valid DPK zip files and extracts them.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by [OK] or [FAILED].

See "Preparing for Installation," Understanding the PeopleSoft Installation Using Deployment Packages, for the filename syntax of the DPK zip files.

Starting the PeopleSoft Environment Setup Process:

```
Validating User Arguments:                [ OK ]
Validating PeopleSoft Supported Platform:  [ OK ]
```

```
Extracting the Zip File FILENAME_1of11.zip: [ OK ]
Extracting the Zip File FILENAME_2of11.zip: [ OK ]
...
Extracting the Zip File FILENAME_11of11.zip: [ OK ]
```

5. Specify whether to install the Puppet software if necessary at the next prompt.

The script verifies if Puppet software is installed in the default location specified by the DPKs. If not, answer *y* (yes) to install the Puppet software and *n* to abort the PeopleSoft environment setup process. The default action (if nothing is entered at the prompt) is to install the software.

If there is any error during the Puppet software installation, the script aborts the setup process.

```
Verifying if Puppet Software is Installed: [ OK ]
```

Puppet Software is not installed on the Linux Host. If PeopleSoft environment needs to be setup on this Host, Puppet software should be Installed.

```
Do you want to proceed with the Puppet Installation? [Y|n]: y
```

```
Installing Puppet Software on the Host: [ OK ]
```

The script verifies whether the eYAML Hiera files are installed:

```
Verifying if eYAML Hiera Backend is Installed: [ OK ]
```

The script verifies if the DPKs are available in *DPK_INSTALL*, and aborts with the message [FAILED] if they are not.

```
Checking if PeopleSoft DPKs are Present: [ OK ]
```

6. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory, referred to here as *BASE_DIR*.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The script creates the directory if it does not exist.

Use forward slashes only (/) when specifying the base directory; for example, /opt/oracle/psft. Do not use a base directory name that begins with a number. Do not end the base directory name with a forward slash (for example, do not enter /ds1/psft/).

The base folder is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This directory should be accessible on the Linux VM, must have write permissions and should have enough free space.

```
.
Enter the PeopleSoft Base Directory: /opt/oracle/psft
Are you happy with your answer? [Y|n|q]:
```

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space. The script creates the base directory if it does not exist.

Note. A mid-tier setup of a PeopleSoft environment requires about 25 GB of disk space.

```
Checking if the Base Directory has Enough Free Space:      [ OK ]
```

7. Specify a writable directory for the user home directory at the following prompt.

You see this prompt beginning with PeopleSoft PeopleTools 8.58.04.

The PeopleSoft environment setup using DPKs creates local users on the host. These users deploy the PeopleSoft components and own the PeopleSoft runtime domains. Enter a new location to be used for creating the home directories for these local users, or specify the default home directory, /home.

```
Enter a directory on the Linux VM that is writable [/home]: /ds1
Are you happy with your answer? [y|n|q]:
```

If the script finds that the location you enter (either a new location or the default) is not writable, it exits with the following message.

```
The User does not have write permission to create the user's home
directory under [<user input>] on the Linux VM.
Exiting the PeopleSoft environment setup process.
```

8. Review the status messages as the script validates the files found in the download directory, *DPK_INSTALL*, and extracts the archives from the DPKs.

The script carries out validations for the specified mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity.

```
Validating the PeopleSoft DPKs in the Linux VM:
[...]
Extracting the PeopleSoft DPK Archives in the Linux VM:
[...]
```

9. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR/dpk*) and updates the YAML files to reflect the type of PeopleSoft environment setup.

```
Setting up Puppet on the Linux VM:
Generating eYAML Hierarchical Backend Encryption Keys:      [ OK ]
Updating the Puppet Hierarchical YAML Files in the Linux VM: [ OK ]
Updating the Role in Puppet Site File for the Linux VM:     [ OK ]
```

10. Specify the information for your database platform.

- a. For the database platform, enter DB2ODBC for DB2 for z/OS.

```
Enter the PeopleSoft database platform [ORACLE]: DB2ODBC
```

- b. Enter y (yes) to indicate that the database you are connecting to is a Unicode database, or n (no) for a non-

Unicode database.

Is the PeopleSoft database unicode? [Y|n]: **y**

11. Enter y if you want the script to include multi-language files in the installation.

Do you want Multi Language support in PeopleSoft database? [y|N]:

12. Enter y to continue with the script.

Are you happy with your answers? [y|n]: y

Encrypting the Passwords in the User Data: [OK]

Updating the Puppet Hiera YAML Files with User Data: [OK]

13. If you want to continue running the initialization script using the default configuration, answer y (yes) to the following prompt, and continue with the next step.

The components that are installed during a default initialization are described in the section *Reviewing the Installation Results*. The process for completing the initialization with customizations is described in the chapter "Completing the DPK Initialization with Customizations."

If you want to customize the PeopleSoft environment using the Puppet YAML files, answer n (no) to stop the script.

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment

Do you want to continue with the default initialization process? [y|n]:

14. Review the status messages as the script runs Puppet profiles to set up the PeopleSoft environment.

A message of [OK] indicates that the profile has been applied successfully while a message [FAILED] indicates that the profile application failed.

The script stops and exits the first time a profile application fails, and displays an error message. This example shows the error message after the first step failed:

Starting the Deployment of PeopleSoft Components:

Setting Up System Settings [FAILED]

The initialization of PeopleSoft environment setup failed. Check the log file [/opt/DPK_INSTALL/setup/psft_dpk_setup.log] for the errors. After correcting the errors, run the following script to continue with the setup of PeopleSoft environment.

From the shell, run /opt/oracle/psft/psft_puppet_apply.sh

Exiting the PeopleSoft environment setup process.

Note. For Linux, *PUPPET_DIR* is /opt/puppetlabs/bin. For AIX, HP-UX, or Solaris, *PUPPET_DIR* is /opt/oracle/puppetlabs/bin.

See "Completing the DPK Initialization with Customizations."

Upon successful completion, the DPK setup script displays the following message:

Starting the Deployment of PeopleSoft Components:

```
Setting Up System Settings           [ OK ]
Deploying Application Components:    [ OK ]
Deploying PeopleTools Components:    [ OK ]
```

The PeopleSoft Environment Setup Process Ended.

The complete setup log is written to the file `psft_dpk_setup.log` in the same location as the DPK setup script.

Task 2-5-3: Installing PS_HOME and PS_APP_HOME on Linux, AIX, HP-UX, or Solaris as a Non-Root User

If you are installing the PeopleSoft environment as a non-root user, ensure that you fulfill the prerequisites in the section Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

To use the DPK setup script for deployment only:

1. Open a terminal window and change directory to `DPK_INSTALL/setup`.
2. Run the `psft-dpk-setup.sh` script with the options for deployment only.
 - If you extracted the first zip file into the same directory where you downloaded the zip files, run the script with no options, as follows:

```
./psft-dpk-setup.sh --env_type midtier --deploy_only --deploy_type⇒
app_and_tools_home
```

- If you extracted the first zip file into a different directory, use the option `dpk_src_dir` to specify the location of the downloaded zip files, such as `DPK_INSTALL`, as follows:

```
./psft-dpk-setup.sh --dpk_src_dir DPK_INSTALL --env_type midtier --⇒
deploy_only --deploy_type app_and_tools_home
```

3. Answer `y` (yes) at the following prompt:

Starting the PeopleSoft Environment Setup Process:

```
You are running DPK setup without root/administrator access.
This is fine as long as the system administrator has performed
all necessary tasks and all prerequisites have been met.
Please see the documentation to determine the prerequisite tasks
that need to be performed to successfully run DPK set up
without root/administrator privilege.
Would you like to proceed with the setup as a non-root user? [y/n]: y
```

4. Wait while the script verifies that the necessary PeopleSoft DPK zip files are available and that the Puppet software is installed.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by `[ OK ]` or `[FAILED]`.

```
Validating User Arguments           [ OK ]
Validating PeopleSoft Supported Platform [ OK ]
Verifying if Puppet Software is Installed: [ OK ]
```

```
Verifying if eYAML Hiera Backend is Installed:          [ OK ]
```

```
Checking if PeopleSoft DPKs are Present:                [ OK ]
```

5. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory, referred to here as *BASE_DIR*.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The script creates the directory if it does not exist.

Use forward slashes only (/) when specifying the base directory; for example, /opt/oracle/psft. Do not use a base directory name that begins with a number. Do not end the base directory name with a forward slash (for example, do not enter /ds1/psft/).

The base folder is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This directory should be accessible on the Linux VM, must have write permissions and should have enough free space.

```
.
Enter the PeopleSoft Base Directory: /opt/oracle/psft
Are you happy with your answer? [Y|n|q]:
```

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space. The script creates the base directory if it does not exist.

Note. A mid-tier setup of a PeopleSoft environment requires about 25 GB of disk space.

```
Checking if the Base Directory has Enough Free Space:    [ OK ]
```

6. Review the status messages as the script validates the files found in the download directory, *DPK_INSTALL* and extracts the DPK archives.

The script carries out validations for the specified mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity. The messages vary depending upon the DPKs used.

```
Validating the PeopleSoft DPKs in the Linux VM:
```

```
[...]
```

```
Extracting the PeopleSoft DPK Archives in the Linux VM:
```

```
[...]
```

7. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR/dpk*) and updates the YAML files to reflect the type of PeopleSoft environment setup.

```
Setting up Puppet on the Linux VM:
```

```
Generating eYAML Hiera Backend Encryption Keys:          [ OK ]
```

```
Updating the Puppet Hiera YAML Files in the Linux VM:    [ OK ]
```

```
Updating the Role in Puppet Site File for the Linux VM:  [ OK ]
```

8. Specify the information for your database platform.

- a. For the database platform, enter DB2ODBC for DB2 for z/OS.

```
Enter the PeopleSoft database platform [ORACLE]: DB2ODBC
```


- b. Enter *y* (yes) to indicate that the database you are connecting to is a Unicode database, or *n* (no) for a non-Unicode database.

Is the PeopleSoft database unicode? [Y|n]: **y**

9. Enter *y* if you want the script to include multi-language files in the installation.

Do you want Multi Language support in PeopleSoft database? [y|N]:

10. Enter *y* to continue with the script.

Are you happy with your answers? [y|n]: **y**

Encrypting the Passwords in the User Data: [OK]

Updating the Puppet Hiera YAML Files with User Data: [OK]

11. If you want to continue running the initialization script using the default configuration, answer *y* (yes) to the following prompt, and continue with the next step.

The components that are installed during a default initialization are described in the section *Reviewing the Installation Results*. The process for completing the initialization with customizations is described in the chapter "Completing the DPK Initialization with Customizations."

If you want to customize the PeopleSoft environment using the Puppet YAML files, answer *n* (no) to stop the script.

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment

Do you want to continue with the default initialization process? [y|n]:

12. Review the status messages as the script runs Puppet profiles to set up the PeopleSoft environment.

A message of [OK] indicates that the profile has been applied successfully while a message [FAILED] indicates that the profile application failed.

The script stops and exits the first time a profile application fails, and displays an error message. This example shows the error message after the first step failed:

Starting the Deployment of PeopleSoft Components:

Setting Up System Settings [FAILED]

The initialization of PeopleSoft environment setup failed. Check the log file [/opt/DPK_INSTALL/setup/psft_dpk_setup.log] for the errors. After correcting the errors, run the following commands to continue with the setup of PeopleSoft environment.

From the shell, run /opt/oracel/psft/psft_puppet_apply.sh

Exiting the PeopleSoft environment setup process.

See "Completing the DPK Initialization with Customizations."

Upon successful completion, the DPK setup script displays the following message:

Starting the Deployment of PeopleSoft Components:

```
Setting Up System Settings           [ OK ]
Deploying Application Components:    [ OK ]
Deploying PeopleTools Components:   [ OK ]
```

The PeopleSoft Environment Setup Process Ended.

The setup.log is written to the file `<USER_HOME>/psft_dpk_work/psft_dpk_setup_<PID>.log`, where `<USER_HOME>` is the home directory for the user running the script, and `<PID>` is a process ID.

Task 2-5-4: Reviewing the Deployment Results

This section describes some of the files and folders installed by the script. These are the standard default locations. If you want to change the installation locations, see "Completing the DPK Initialization with Customizations."

The script creates the following three sub-directories under the user-specified base directory, *BASE_DIR*:

- *BASE_DIR*/pt

The script uses this directory to deploy the *PS_HOME* and *PS_APP_HOME* utilities and scripts, including the following:

- *PS_HOME* installed to the default location under the DPK base directory, *BASE_DIR*/pt/ps_home8.58.xx.
- *PS_HOME*/appserv/PSADMIN.exe
- *PS_HOME*/bin/client/winx86/pscfg.exe (Configuration Manager)
- *PS_HOME*/bin/client/winx86/psdmt.exe (Data Mover)
- *PS_HOME*/bin/client/winx86/pside.exe (Application Designer)
- *PS_HOME*/scripts
- *PS_HOME*/setup/PsMpPIAInstall (PeopleSoft Pure Internet Architecture installer)
- *PS_HOME*/setup/PsMpDbInstall (Database installer)
- *PS_HOME*/setup/PsCA (Change Assistant installer)
- *PS_HOME*/setup/PsCIA (Change Impact Analyzer installer)
- *PS_HOME*/setup/PsMpWebAppDeployInstall (Web Application Deployment installer)
- Microsoft Windows DPKs include Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries.
- *PS_APP_HOME* installed to the default location under the DPK base directory, *BASE_DIR*/pt/<Product>_app_home, where <Product> is the abbreviation for the PeopleSoft application; for example, hcm_app_home for PeopleSoft Human Capital Management.

Note. The DPK setup requires a decoupled *PS_APP_HOME*; that is, the installation location of *PS_APP_HOME* is different from *PS_HOME*.

Files for the specific PeopleSoft application, including files needed for database creation.

If you answered yes when asked whether you wanted multi-language support during the DPK setup script process, the files required for translations are installed under *BASE_DIR*/pt/<Product>_app_home.

- *BASE_DIR*/dpk

The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment. Do not alter the installed Puppet YAML files.

See *Completing the DPK Initialization with Customizations* for information on creating a YAML file to customize the environment.

- *BASE_DIR/db*

This directory is not used for this deployment.

Task 2-6: Removing a Deployed PeopleSoft Environment

This section discusses:

- Understanding the Removal Process
- Using the DPK Setup Script to Remove the PeopleSoft Environment on Microsoft Windows
- Using the `psft_puppet_apply.cmd` Script to Remove the PeopleSoft Environment on Microsoft Windows
- Using the `psft_puppet_apply.sh` Script to Remove the PeopleSoft Environment on Linux, AIX, HP-UX, or Solaris
- Manually Removing the PeopleSoft Environment on Microsoft Windows
- Manually Removing the PeopleSoft Environment on Linux, AIX, HP-UX, or Solaris

Understanding the Removal Process

There will be times when an existing PeopleSoft environment needs to be completely removed. For example, applying a new PeopleSoft PeopleTools patch requires that an existing environment be cleaned up and a new one created. The cleanup that you perform with the DPK setup script conducts an orderly shutdown and removal of all the configured runtime domains — Application Server, Process Scheduler, and PIA domains. Additionally, it will remove all the deployed components. You can use the PeopleSoft DPK setup script cleanup for environments created with the default initialization or with the `psft_customizations.yaml` file.

Note. The Puppet software that is installed by the DPK setup script is not removed by the cleanup process.

In some cases the DPK setup script cleanup process may not remove all of the components. If that is the case, try one of the other methods described in this section.

Task 2-6-1: Using the DPK Setup Script to Remove the PeopleSoft Environment on Microsoft Windows

Use these steps to remove a deployed PeopleSoft environment using the PeopleSoft DPK setup script on Microsoft Windows:

1. Open a command prompt window; for example:
 - Select Start, and navigate to Accessories, Command Prompt.
 - Right-click and select Run as Administrator.
2. Go to `DPK_INSTALL\setup` and run one of the following commands:
`psft-dpk-setup.bat --cleanup`

If you deployed the environment using the `use_alternate_puppet_install` option, use this command:

```
psft-dpk-setup.bat --cleanup --use_altername_puppet_install
```

3. Specify the base directory (*BASE_DIR*) that you want to remove.

Enter the PeopleSoft Base Folder specified during setup:

You see this prompt only when there is more than one deployment. For example:

- You carried out deployment A followed by deployment B.
- You removed the second deployment B. For the cleanup of deployment B, you do not see this prompt for the *BASE_DIR*.
- You run the script a second time. At the prompt, specify the *BASE_DIR* for deployment A.

4. Wait until the process is complete.

The DPK setup script displays [OK] for each step of the process, and [FAILED] if any of the steps are not successful.

5. Review the cleanup log file in *DPK_INSTALL\setup*.

6. After completing these steps, verify that the DPK installation directories (*BASE_DIR/pt* and *BASE_DIR/db*) have been cleared.

The cleanup process does not remove the *BASE_DIR/dpk* directory. Do not remove it manually if you want to use the *psft_apply_puppet.sh* process.

7. Verify that any services have been removed in the Microsoft Windows Services dialog box.
8. If any files or services remain, the cleanup process was not successful. Try running the process again, and if it is still not successful, you may need to carry out advanced cleanup.

See Manually Removing the PeopleSoft Environment on Microsoft Windows.

Task 2-6-2: Using the *psft_puppet_apply.cmd* Script to Remove the PeopleSoft Environment on Microsoft Windows

If the cleanup procedure using the DPK setup script was not entirely successful, the *BASE_DIR* folders may not be entirely cleared, or you may have trouble when carrying out another deployment. In case of a failed deployment, try running the *psft_puppet_apply.cmd* script as described here. This script sets environment variables and then runs the *puppet apply* command to remove the PeopleSoft environment.

To remove the environment on Microsoft Windows:

1. Run the command *psft-dpk-setup.bat --cleanup*.
2. If the script fails, you should see a message similar to the following:

```
The initialization of PeopleSoft environment setup failed. Check the
log file [C:\DPK_INSTALL\setup\psft_dpk_setup.log] for the errors.
After correcting the errors, run the following commands to continue
with the setup of PeopleSoft environment.
```

```
Start a cmd window as Administrator and run BASE_DIR\psft_puppet =>
apply.cmd
```

Leave the command window open while you complete the next step.

3. Open the file *BASE_DIR\dpk\puppet\production\data\defaults.yaml* in a text editor, such as Notepad.
4. Change the value of the *ensure* attribute from *present* to *absent*.
Save and close the defaults file.

5. Follow the instructions from step 2 to run the `psft_puppet_apply.cmd` script.

Task 2-6-3: Using the `psft_puppet_apply.sh` Script to Remove the PeopleSoft Environment on Linux, AIX, HP-UX, or Solaris

If the cleanup procedure using the DPK setup script was not entirely successful, the `BASE_DIR` folders may not be entirely cleared, or you may have trouble when carrying out another deployment. In case of a failed deployment, try running the `psft_puppet_apply.sh` script as described here. This script sets environment variables and then runs the `puppet apply` command to remove the PeopleSoft environment.

To remove the environment with the `psft_puppet_apply.sh` script on Linux, AIX, HP-UX, or Solaris:

1. Run the command `./psft-dpk-setup.sh --cleanup`.
2. If the script fails, you should see a message similar to the following:

```
The initialization of PeopleSoft environment setup failed. Check the
log file [/opt/DPK_INSTALL/setup/psft_dpk_setup.log] for the errors.
After correcting the errors, run the following commands to continue
with the setup of PeopleSoft environment.
```

From the shell, run `BASE_DIR/psft_puppet_apply.sh`

Leave the shell window open while you complete the next step.

3. Open the file `BASE_DIR/dpk/puppet/production/data/defaults.yaml` in a text editor, such as `vi`.
4. Change the value of the `ensure` attribute from `present` to `absent`.
 Save and close the `defaults.yaml` file.
5. Follow the instructions from step 2 to run the `psft_puppet_apply.sh` script.

Task 2-6-4: Manually Removing the PeopleSoft Environment on Microsoft Windows

This section includes advanced steps to be used only if the cleanup procedures using the DPK setup script or `psft_puppet_apply` script in this section failed, or if you were not able to use the previous procedures for any reason.

If the cleanup process on Microsoft Windows was not totally successful, the `BASE_DIR` folders may not be entirely cleared, or you may have trouble when carrying out another deployment. Before carrying out the advanced steps in this section:

1. Run the command `psft-dpk-setup.bat --cleanup`.
2. If the script displays a `FAILED` message, run it again.
3. If it succeeds, check the `BASE_DIR` folders to be sure everything has been deleted.
4. If the `BASE_DIR` folders are not clear, or if a subsequent deployment is not successful, carry out the steps below.

For the advanced manual cleanup on Microsoft Windows, there are several steps. The steps in this section should be performed by someone familiar with modifying the Microsoft Windows registry. Depending upon where the cleanup process failed, some of the items mentioned in these steps may have already been removed. The user should remove whatever remains in this order:

1. Start the Microsoft Windows Services utility.
2. Stop the services for the PeopleSoft application server, Process Scheduler, and PeopleSoft PIA domains, if

necessary.

3. Open a command prompt, running as administrator, and remove the two database services and the PeopleSoft domains services with the commands:

```
sc delete PsftAppServerDomain<Appserver_domain_name>Service
sc delete PsftPrCsDomain<ProcSched_domain_name>Service
sc delete PsftPIADomain<PIA_domain_name>Service
```

4. In the Services window, stop ORACLE ProcMGR V12.2.2.0.0_VS2017 and TListen 12.2.2.0.0_VS2017(Port3050) by highlighting the names, right-clicking and selecting Stop.
5. In the Services window, right-click each of the services in step 5, select Properties, and copy the correct service name (rather than the alias).

6. Open a command prompt and remove the two preceding services with the command:

```
sc delete <service_name>
```

7. Open the Microsoft Windows registry; for example, select Start, Run, and enter regedit.

8. In the Registry Editor, locate the HKLM\SOFTWARE\ORACLE folder.

Select the following keys and verify that they contain references to the DPK installation locations in *BASE_DIR*:

- KEY_OraTux1222Home (*BASE_DIR*\pt\bea\tuxedo by default)
- KEY_OraWL12213Home (*BASE_DIR*\pt\bea by default)

9. In the Registry Editor, locate the HKLM\SOFTWARE\ORACLE\TUXEDO folder.

Select the 12.2.2.0.0_VS2017 key and verify that it contains references to the DPK installation locations in *BASE_DIR* (*BASE_DIR*\pt\bea\tuxedo by default).

10. In the Registry Editor, only for the keys from step 9 and 10 that reference the DPK installation locations, right-click and select Delete.

11. Close the Registry Editor window.

12. Open the file C:\Program Files\Oracle\Inventory\ContentsXML\inventory.xml in a text editor.

13. Locate the lines that reference the DPK deployment:

Note. This sample has been formatted for readability.

```
<HOME NAME="OraWL12213Home" LOC="C:/psft/pt/bea" TYPE="O" IDX="16"/>
<HOME NAME="OraTux1222Home" LOC="C:\psft\pt\bea\tuxedo" TYPE="O"
IDX="17"/>
```

14. Delete only the lines referencing the DPK deployment, and save the file.

15. Remove everything under the *BASE_DIR* folder (*BASE_DIR*\db, *BASE_DIR*\dpk, and *BASE_DIR*\pt).

Note. If you performed a customized deployment, back up the psft_customizations.yaml file and any log files, to refer to if necessary. Save them outside of the *BASE_DIR*.

Note. You may get a message that some of the file names are too big for the recycle bin. Click OK to accept.

16. Remove C:\User\<username>\psft\pt\8.58 (PS_CFG_HOME).

17. If you performed a customized deployment that installed software such as Oracle Tuxedo or Oracle WebLogic, or PS_APP_HOME or PS_CFG_HOME, in non-default locations, remove that software manually, unless you need to retain the installations.

Note. If you want to retain the additional components, do not remove the installation locations. Be sure to use a customized deployment and specify the location of the additional components for any subsequent deployments.

18. Delete any user-defined System environment variables, such as PS_HOME, TUXDIR, PS_CFG_HOME, PS_APP_HOME, ORACLE_HOME, TNS_ADMIN.
19. Completely clean up any DPK install directory that was used for previous DPKs.
If you do not delete these or move them off the machine, they may be picked up by a subsequent DPK setup process and may cause the new DPK to fail.
20. Check the PATH environment variable, and remove the directories or path associated with the previous DPK deployments.
21. Restart the windows machine to release any caches or processes in the memory.

Task 2-6-5: Manually Removing the PeopleSoft Environment on Linux, AIX, HP-UX, or Solaris

This section includes advanced steps to be used only if the cleanup procedures using the DPK setup script or psft_puppet_apply script in this section failed, or if you were not able to use the previous procedures for any reason

If the cleanup process on Linux, AIX, HP-UX, or Solaris was not totally successful, the *BASE_DIR* directories may not be entirely cleared, or you may have trouble when carrying out another deployment. Before carrying out the advanced steps in this section:

1. Run the command `./psft-dpk-setup.sh --cleanup`.
2. If the script displays a FAILED message, run it again.
3. If it succeeds, check the *BASE_DIR* directories to be sure everything has been deleted.
4. If the *BASE_DIR* directories are not clear, or if a subsequent deployment is not successful, try the following steps.

Here are a few things to check for the advanced manual cleanup on Linux, AIX, HP-UX, or Solaris. Depending upon where the cleanup process failed, some of the items mentioned may have already been removed.

1. Check for left-over PeopleSoft processes.
2. Stop the processes using this command with the process ID:
3. Check for the five PeopleSoft user IDs using these commands

```
ps -aux|more
```

```
kill -9 <PID>
```

```
id psadm1
id psadm2
id psadm3
id oracle2
id esadm1
```

When you carry out the cleanup using the DPK setup script, it should remove the PeopleSoft users cleanly. However, if the users' home directory was deleted by mistake before running the cleanup, the user definition may remain. If the commands give an output, it means the user exists.

4. If there are left-over PeopleSoft users, check for running processes associated with the users with this

command:

```
ps -ef|grep <user_id>
```

5. Stop any running processes associated with the users, if necessary.

6. Delete the users, with this command:

```
userdel -r <user_id>
```

7. Remove the PeopleSoft base directory (*BASE_DIR*).

Note. If you performed a customized deployment, back up the *psft_customizations.yaml* file and any log files to refer to if necessary. Save them outside of *BASE_DIR*.

8. If you performed a customized deployment that installed software such as Oracle Tuxedo or Oracle WebLogic, *PS_APP_HOME* or *PS_CFG_HOME*, in non-default locations, remove that software manually.

Note. If you want to retain the additional components, do not remove the installation locations. Be sure to use a customized deployment and specify the location of the additional components for any subsequent deployments.

9. Remove any environment variables referring to the *BASE_DIR* that you removed, or to any of the customized locations (for example, *TUXDIR*, *WL_HOME*, *BEA_HOME*, *PS_HOME*, *PS_CFG_HOME*, *PS_APP_HOME*).

10. Check for leftover directories on AIX.

On AIX if *BASE_DIR* is on NFS, you may not be able to use the command *rm* to remove the *BASE_DIR*. If so, check for the presence of a directory beginning with ".nfs" in *BASE_DIR/pt/bea/oui/lib/aix_ppc64*. Remove the *BASE_DIR/pt/bea/oui/lib/aix_ppc64/.nfsxxx* directory manually before deleting *BASE_DIR*.

Chapter 3

Deploying the PeopleSoft Deployment Packages in Silent Mode

This chapter discusses:

- Understanding Silent Mode Installation
- Reviewing the Response File Sample for Mid-tier Installation
- Reviewing the Response File Sample to Deploy an Application Server Domain
- Reviewing the Response File Sample to Deploy a Process Scheduler Domain
- Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain
- Reviewing the Response File Sample to Deploy a PIA Domain
- Running the DPK Setup Script in Silent Mode with Customizations

Understanding Silent Mode Installation

Use this section to perform a silent mode installation with the DPK setup script. In silent mode, you record the answers for the script prompts in a text file, called a response file. After you start the script and specify the response file location, no further interaction is required.

You can also run the DPK setup script in silent mode and specify a customizations file in addition to the response file. Use the examples in the chapter "Completing the DPK Initialization with Customizations" to create a customization file.

Note that some of the response file samples in this section include passwords. When creating the response file for silent mode installation, enter the passwords in clear text. If you are running a customized deployment, enter the passwords in clear text in the `psft_customizations.yaml` file. Do not enter encrypted passwords.

If you want to run as a non-root user on Linux, AIX, HP-UX, or Solaris, fulfill the requirements in the section [Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris](#). Before you run the silent mode installation as a non-root user, the root user must run the DPK setup prereq step.

See "Installing the PeopleSoft Homes," [Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris](#).

Create your response file based on the samples in this section. The response file should include the values you would supply when running the DPK setup script interactively, and will vary depending upon the database platform and operating system.

The response files in this section include the following parameters:

- `env_type` — Specify midtier as the type of DPK deployment.
- `psft_base_dir` — Enter an accessible location for the base folder, which is used to extract the PeopleSoft DPKs and for deploying PeopleSoft components.

The script creates the folder if it is not present.

For installation on Microsoft Windows, use forward slashes (/) for the base folder. For example, `C:/psft`. Enclose any names with special characters in double quotes. Do not use a name for the base folder that begins with a number.

For installation on Linux, AIX, HP-UX, or Solaris, use forward slashes (/) for the base directory. For example, `/cs1/psft`. If the name includes any non-alphanumeric characters such as periods, enclose the name in double quotes. Do not use a name for the base directory that begins with a number. Do not end the base directory name with a forward slash (for example, do not enter `/ds1/psft/`).

- `user_home_dir` — On Linux, AIX, HP-UX, or Solaris, if you are performing the deployment as the root user, enter a writable directory for the home directory for the script-created users (psadm1, psadm2, psadm3, oracle2, and esadm1).
- `user_config_home_dir` — On Linux, AIX, HP-UX, or Solaris, if you are performing the deployment as a non-root user, enter a writable directory for the `PS_CFG_HOME` directory.

If you do not include `user_config_home_dir` in the response file, it defaults to `USER_HOME/psft`.

- `db_platform` — Specify DB2ODBC as the database platform for DB2 z/OS.
- `db_name` — Enter the PeopleSoft database name.

If the database name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92".

- `db_service_name` — Enter the database service name.

For the service name, enter the full name, including the domain, if the database was installed with the domain. Use forward slashes if necessary. If the service name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92.example.com".

- `db_host` — Enter the name of the host where the database is installed.
- `db_port` — Enter the database port.
- `connect_id` — Enter the PeopleSoft database Connect ID.

The default is people.

- `connect_pwd` — Enter the password for the Connect ID.

Ensure the password meets the length and complexity requirements for your database platform.

See E-DPK - Password restrictions are not reflected in the DPK setup script prompts, My Oracle Support, Doc ID 2639270.1.

- `opr_id` — Enter the PeopleSoft operator ID, such as PS or VP1.
- `opr_pwd` — Enter the password for the operator ID.

Ensure that the password is between 1 and 32 characters in length. You may include these special characters `!@#%$%^&`.

- `weblogic_admin_pwd` — Enter the Oracle WebLogic Server Admin password.

The default Oracle WebLogic server administrator is system. Ensure that the password is between 8 and 30 characters in length with at least one lowercase letter, one uppercase letter and one number or one special character (`!@#%$%^&`).

- `webprofile_user_id` — Enter the web profile user name.
- `webprofile_user_pwd` — Enter the password for the PTWEBSEVER web profile user.

Ensure that the password is between 8 and 32 characters in length. You may include these special characters `!@#%$%^&`.

- **gw_user_id** — Enter the Integration Gateway user ID.
The default is administrator.
- **gw_user_pwd** — Enter the password for the Integration Gateway user.
Ensure that the password is between 8 and 30 characters in length. You may include these special characters `!@#$%^&.`
- **gw_keystore_pwd** — Enter the Integration Gateway keystore password.
Ensure the password is between 8 and 30 characters in length. You may include these special characters `!@#$%^&.`

Task 3-1: Reviewing the Response File Sample for Mid-tier Installation

This section discusses:

- Reviewing the Response File Sample for Mid-tier Installation on Microsoft Windows
- Reviewing the Response File Sample for Mid-tier Installation as the Root User on Linux, AIX, HP-UX, or Solaris
- Reviewing the Response File Sample for Mid-tier Installation as a Non-Root User on Linux, AIX, HP-UX, or Solaris

Task 3-1-1: Reviewing the Response File Sample for Mid-tier Installation on Microsoft Windows

Here is a sample response file for installing mid-tier components on Microsoft Windows.

```
env_type=midtier
psft_base_dir=C:/psft
db_platform=DB2ODBC
db_name=HCM92U36
db_service_name=HCM92U36
db_host=server.example.com
db_port=5092
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSEVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
```

Task 3-1-2: Reviewing the Response File Sample for Mid-tier Installation as the Root User on Linux, AIX, HP-UX, or Solaris

Here is a sample response file for installing mid-tier components on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
db_platform=DB2ODBC
psft_base_dir=/opt/oracle/psft
user_home_dir=/opt/home
db_name=HCM92U36
db_service_name=HCM92U36
db_host=server.example.com
db_port=5092
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSEVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
```

Task 3-1-3: Reviewing the Response File Sample for Mid-tier Installation as a Non-Root User on Linux, AIX, HP-UX, or Solaris

Here is a sample response file for installing mid-tier components on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
db_platform=DB2ODBC
psft_base_dir=/opt/oracle/psft
user_config_home_dir=/opt/psftuser/pscfg_pt858_silent
db_name=HCM92U36
db_service_name=HCM92U36
db_host=server.example.com
db_port=5093
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSEVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
```

Task 3-2: Reviewing the Response File Sample to Deploy an Application Server Domain

This section discusses:

- Reviewing the Response File Sample to Deploy an Application Server Domain on Microsoft Windows
- Reviewing the Response File Sample to Deploy an Application Server Domain on Linux, AIX, HP-UX, or Solaris as the Root User
- Reviewing the Response File Sample to Deploy an Application Server Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Task 3-2-1: Reviewing the Response File Sample to Deploy an Application Server Domain on Microsoft Windows

Here is a sample response file for deploying an application server domain on Microsoft Windows.

```
env_type=midtier
psft_base_dir=C:/psft
db_platform=DB2ODBC
domain_type=appserver
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-2-2: Reviewing the Response File Sample to Deploy an Application Server Domain on Linux, AIX, HP-UX, or Solaris as the Root User

Here is a sample response file for deploying an application server domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
db_platform=DB2ODBC
domain_type=appserver
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-2-3: Reviewing the Response File Sample to Deploy an Application Server Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Here is a sample response file for deploying an application server domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
db_platform=DB2ODBC
domain_type=appserver
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-3: Reviewing the Response File Sample to Deploy a Process Scheduler Domain

This section discusses:

- Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Microsoft Windows
- Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as the Root User
- Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Task 3-3-1: Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Microsoft Windows

Here is a sample response file for deploying a Process Scheduler domain on Microsoft Windows.

```
env_type=midtier
psft_base_dir=C:/psft
db_platform=DB2ODBC
domain_type=prcs
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=QEDMO
opr_pwd=password
```

Task 3-3-2: Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as the Root User

Here is a sample response file for deploying a Process Scheduler domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
db_platform=DB2ODBC
domain_type=prcs
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=QEDMO
opr_pwd=password
```

Task 3-3-3: Reviewing the Response File Sample to Deploy a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Here is a sample response file for deploying a Process Scheduler domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
db_platform=DB2ODBC
domain_type=prcs
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=QEDMO
opr_pwd=password
```

Task 3-4: Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain

This section discusses:

- Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Microsoft Windows
- Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as the Root User
- Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Task 3-4-1: Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Microsoft Windows

Here is a sample response file for deploying an application server and a Process Scheduler domain on Microsoft Windows.

```
env_type=midtier
psft_base_dir=C:/psft
db_platform=DB2ODBC
domain_type=appbatch
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-4-2: Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as the Root User

Here is a sample response file for deploying an application server and a Process Scheduler domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
user_home_dir=/scratch/dpkbase
db_platform=DB2ODBC
domain_type=appbatch
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-4-3: Reviewing the Response File Sample to Deploy an Application Server and a Process Scheduler Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Here is a sample response file for deploying an application server and a Process Scheduler domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
user_config_home_dir=/scratch/dpkbase
```



```
db_platform=DB2ODBC
domain_type=appbatch
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
```

Task 3-5: Reviewing the Response File Sample to Deploy a PIA Domain

This section discusses:

- Reviewing the Response File Sample to Deploy a PIA Domain on Microsoft Windows
- Reviewing the Response File Sample to Deploy a PIA Domain on Linux, AIX, HP-UX, or Solaris as the Root User
- Reviewing the Response File Sample to Deploy a PIA Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Task 3-5-1: Reviewing the Response File Sample to Deploy a PIA Domain on Microsoft Windows

Here is a sample response file for deploying a PIA domain on Microsoft Windows.

```
env_type=midtier
psft_base_dir=C:/psft
db_platform=DB2ODBC
domain_type=pia
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5290
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSERVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
pia_psserver_list=server2.example.com:9033
prcs_server_name=PRCS9722
```

Task 3-5-2: Reviewing the Response File Sample to Deploy a PIA Domain on Linux, AIX, HP-UX, or Solaris as the Root User

Here is a sample response file for deploying a PIA domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
user_home_dir=/scratch/dpkbase
db_platform=DB2ODBC
domain_type=pia
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5092
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSEVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
pia_psserver_list=server2.example.com:9033
prcs_server_name=PRCS9152
```

Task 3-5-3: Reviewing the Response File Sample to Deploy a PIA Domain on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Here is a sample response file for deploying a PIA domain on Linux, AIX, HP-UX, or Solaris.

```
env_type=midtier
psft_base_dir=/opt/oracle/psft
user_config_home_dir=/opt/psftuser/pscfg_pt858_silent
db_platform=DB2ODBC
domain_type=pia
db_name=HCM92U36
db_host=server.example.com
db_service_name=HCM92U36
db_port=5092
connect_id=people
connect_pwd=password
opr_id=PS
opr_pwd=password
weblogic_admin_pwd=password
webprofile_user_id=PTWEBSEVER
webprofile_user_pwd=password
gw_user_id=administrator
gw_user_pwd=password
gw_keystore_pwd=password
```

```
pia_psserver_list=server2.example.com:9033
prcs_server_name=PRCS9152
```

Task 3-6: Running the DPK Setup Script in Silent Mode with Customizations

This procedure assumes you have obtained the required DPK zip files and saved them in *DPK_INSTALL*.

Note. Remember to enter passwords in clear text in the response file and the *psft_customizations.yaml* file.

1. Prepare the response text file, using the examples in this section.
 2. Prepare the customization YAML file, using the instructions in this documentation.
-

Note. You can name the file whatever you like. For the silent mode installation, it is not necessary to use the name *psft_customizations.yaml*.

See "Completing the DPK Initialization with Customizations."

3. Extract the first zip file (*FILENAME_1ofn.zip*).
-

Note. It is a good idea to extract into the same directory where you downloaded the zip files, *DPK_INSTALL*.

The extraction creates the *DPK_INSTALL/setup* folder and other files.

4. Open a command prompt with Run as Administrator.
5. Change directory to *DPK_INSTALL/setup*.
6. Run the script, supplying the full path and filename for both the response file and the customization file.

On Microsoft Windows:

```
psft-dpk-setup.bat --silent --response_file=<full_path/filename.txt>
--customization_file=<full_path/custfilename.yaml>
```

7. Wait until the installation is complete.

The script displays progress messages. The complete setup log is written to the file *psft_dpk_setup.log* in the same location as the DPK setup script.

Chapter 4

Completing the DPK Initialization with Customizations

This chapter discusses:

- Understanding PeopleSoft Environment Customizations
- Preparing Customization Files for Linux, AIX, HP-UX, or Solaris Users and Groups
- Preparing the Customization File for PeopleSoft Domain Definitions
- Preparing the Customization File to Create PeopleSoft Domains Without Configuration
- Preparing the Customization File for Component Software Locations
- Preparing the Customization File for Unicode
- Preparing the Customization Files for the PeopleSoft Homes
- Preparing the Customization File for Jolt SSL and WSL SSL Ports
- Preparing the Customization File for Oracle HTTP Server
- Preparing the Customization File for Mid-Tier Connection to a DB2 z/OS Database
- Preparing the Customization File for sysctl and ulimit Parameters on Linux, AIX, HP-UX, or Solaris
- Completing the Customized Deployment

Understanding PeopleSoft Environment Customizations

The PeopleSoft DPK setup script allows setup of a PeopleSoft environment quickly using the default data from the packaged Hiera YAML files. This section gives examples of ways to use the YAML files for customization.

Always use the documented procedures to make changes to your environment. Doing so will allow you to retain your customizations when removing a deployment before deploying a new patch or version.

Note. You can use the customizations in this chapter whether you use the DPK script interactively or in silent mode. This list notes a few places where using the DPK customization is different for interactive or silent mode.

Use these guidelines when customizing your environment:

- (Interactive mode) Do not change any of the original delivered YAML files.

This practice enables you to retain your customizations after deploying a new patch or update.

When you deploy the PeopleSoft DPKs, the YAML files associated with the deployment are installed in the following location:

- *BASE_DIR*/dpk/puppet/production/data/defaults.yaml
- *BASE_DIR*/dpk/puppet/production/data/psft_configuration.yaml
- *BASE_DIR*/dpk/puppet/production/data/psft_deployment.yaml

- `BASE_DIR/dpk/puppet/production/data/psft_unix_system.yaml`
- (Silent mode) Do not change any of the original delivered YAML files.

This practice enables you to retain your customizations after deploying a new patch or update.

Use the YAML files in the following location as the basis for the customizations file used in silent installation:

- `DPK_INSTALL/setup/puppet/production/data/defaults.yaml`
- `DPK_INSTALL/setup/puppet/production/data/psft_configuration.yaml`
- `DPK_INSTALL/setup/puppet/production/data/psft_deployment.yaml`
- `DPK_INSTALL/setup/puppet/production/data/psft_unix_system.yaml`
- (Interactive mode) Start with the DPK setup script and choose not to continue with the default initialization. Answer *no* at the prompt "Do you want to continue with the default initialization process? [y|n]:" to exit the script and bypass the default initialization process.

To set up a customized PeopleSoft environment, use the DPK setup script for the first portion of the process, that is, to automate the tasks of extracting the DPK zip files, installing Puppet (if not installed), and copying the Puppet modules and Hiera data YAML files from the DPK into the location where Puppet looks for these files during the orchestration process. When you exit the script, it displays instructions on how to proceed to complete the initialization.

- Always use the customizations for these setups:
 - Installing on an AIX operating system
 - Installing on a HP-UX operating system
 - Connecting to a non-Oracle RDBMS platform.
- Always create a `psft_customizations.yaml` file to use for modified parameters.
 - Never modify the delivered YAML files. Instead, by copying the parameters that you want to modify into the `psft_customizations.yaml` file you are able to save the customization.
 - Copy only the section of the delivered YAML file that includes the parameters that you need to change, as directed by the samples in this documentation. Depending upon the specific type of customization, you may need to copy a single line, or an entire block of text, so be sure to check this documentation.
 - The DPK setup script processes the `psft_customizations.yaml` file before the generated YAML files, so that the values in `psft_customizations.yaml` override the values in `psft_configuration.yaml`, `psft_deployment.yaml`, and `psft_unix_system.yaml`.
 - (Interactive mode) Note that the file must be named "`psft_customizations.yaml`". Be sure to use the correct spelling.
 - (Silent mode) You can name the customization YAML file whatever you like for the silent mode installation.
- Verify the content of the delivered YAML files with each release.

The YAML files may have changed since this document was published. It is important that you copy the appropriate section of code from the YAML files you install with each new deployment, and use it as the basis for your `psft_customizations.yaml` file (or the silent mode customization YAML file).

- Do not create new parameters for `psft_customizations.yaml` (or the silent mode customization YAML file). The deployment recognizes only those parameters in the delivered YAML files or given in the product documentation.
- Use a single `psft_customizations.yaml` file (or the silent mode customization YAML file).

You can copy the necessary sections from more than one of the delivered YAML files and include them in a

single `psft_customizations.yaml` file. Again, copy only those sections with the parameters you want to change.

- Use the same `psft_customizations.yaml` file (or the silent mode customization YAML file) for all deployments on a given base folder.

This applies to a use case in which you carry out more than one deployment on the same `BASE_DIR`. For example, you first install `PS_HOME` only, and use a `psft_customizations.yaml` file to specify a non-default `PS_HOME` location. Then you later do a second deployment, with the same `BASE_DIR`, to install mid-tier components, and you want to customize the location of Oracle WebLogic. In this case, use the first `psft_customizations.yaml` file, including the non-default `PS_HOME`, append the customization for the Oracle WebLogic location, and use it for the second deployment.

- Include the `remove: false` attribute to retain your customizations through the clean-up process.

To ensure that your customizations are not removed when removing a deployed environment:

- For each segment of customization parameters in the `psft_customizations.yaml` file (or the silent mode customization YAML file), include the `remove: false` attribute at the end of the segment.
- If you remove the environment manually (using the `psft_puppet_apply` script), set the `ensure` attribute to `absent` in `default.yaml`.

If you remove the environment using the `- -cleanup` option for the PeopleSoft DPK setup script, you do not need to set the attribute first because it is part of the script process.

- Remove the environment using the `- -cleanup` option for the PeopleSoft DPK setup script, as described in this documentation.

See "Installing the PeopleSoft Homes," Removing a Deployed PeopleSoft Environment.

- Copy an entire section containing the parameter to be modified, and be sure to retain the indentation from the delivered YAML file.

The hierarchy and alignment of the YAML files are very important to the correct operation. In addition to the brief overview given here, review the information in the appendix "Using the Puppet Hiera YAML Files for Customization."

- The YAML files include scalar type and collection type parameters.

Scalar parameters are of the form `key: value`; for example:

```
db_platform: DB2ODBC
```

Collection type parameters include a parameter name followed by one or more indented lists of `key: value` pairs. In this case, the value of the collection parameter is defined by the indented list of values; for example:

```
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     "%{hiera('ps_home_location')}}"
```

- When you locate a parameter that you want to modify, be sure to locate the section heading that begins at the first column of the YAML file. This ensures that the deployment operation modifies the correct parameter.
- Be sure to retain the indentation from the delivered YAML file.

Typically there is an indentation of 2 or 3 spaces for each successive subsection. This is necessary in order for the parameters to be correctly interpreted.

Note. Be sure when copying and pasting that you retain the indentation. Depending upon the authoring or editing tools you use, the desired indentation may be lost when you copy and paste. It is a good idea to double-check the final `psft_customizations.yaml` file (or the silent mode customization YAML file), especially for the special cases where you copy a sample from this documentation.

- When copying and modifying collection type parameters, use only spaces, not tabs, to indent the subsections.
- (Interactive mode) Use the encrypted passwords from the generated YAML files.
The DPK setup script encrypts user-supplied passwords and includes them in the generated YAML files. If you copy a section of a YAML file with encrypted passwords, do not replace or remove the encrypted text. The encrypted passwords are quite long. Be sure to copy the entire string, without adding spaces, tabs, or line feeds.

Note. For the majority of the customizations described in this documentation, you copy the encrypted passwords from the generated YAML files. If that is not possible, see the appendix "Encrypting Passwords for Customizations on Linux, AIX, HP-UX, or Solaris."

- (Silent mode) When creating the `psft_customizations.yaml` file for silent mode installation, enter the passwords in clear text. Do not enter encrypted passwords.
- Replace the entire attribute string.

The parameters in the delivered YAML files are written with Hieria interpolation functions that act as variables. To modify each parameter, you must replace the entire string after the colon, and enclose your new value in double quotes. For example, in the `psft_deployment.yaml` file, the location for an Oracle WebLogic installation is given by the following parameters:

```
weblogic_location: "%{hieria('pt_location')}/bea"
weblogic:
  location: "%{hieria('weblogic_location')}"
```

The second Hieria function refers to the first. When `pt_location` is set as `C:/psft`, Oracle WebLogic will be installed in `C:/psft/bea`. To change this, remove both strings of text `"%{hieria('pt_location')}/bea"` and `"%{hieria('weblogic_location')}"`, and replace them with the full path to the new location. Retain the two-space indentation, and use a forward slash (/) for paths on both Microsoft Windows and Linux; for example:

On Microsoft Windows:

```
weblogic_location: "C:/psft/weblogic"
weblogic:
  location: "C:/psft/weblogic"
```

On Linux:

```
weblogic_location: "/opt/bea/weblogic"
weblogic:
  location: "/opt/bea/weblogic"
```

- Do not use the customizations to set up a non-Unicode environment if you are deploying the PeopleSoft Update Image DPKs for use with PeopleSoft Update Manager.

The environments for the PeopleSoft Update Images are required to be Unicode.

- Verify existing installations before beginning deployment.

You have the option to use existing installations, for example for Oracle WebLogic, but you have the responsibility to ensure that the installation is supported, complete, and correct. The deployment script does

not verify whether an installation directory includes a valid, working installation.

See *Preparing the Customization File for Component Software Locations*.

- Set the Puppet environment if necessary.

The process to complete the initialization using the customizations, as described in the section *Completing the Customized Deployment*, runs the `psft_puppet_apply` script that sets necessary environment variables, and runs the puppet apply command. If you choose to use the `puppet apply` command directly rather than the script, you may get a message saying that "puppet" is not recognized. This message may indicate that the Puppet software is not included in your system's path. In that case, you can use the commands given here to set the Puppet environment. You should also set the Puppet environment if you need to run `puppet apply` after the script execution has ended with an error.

- On Microsoft Windows, to set the Puppet environment, run this command:

```
"C:\Program Files\Puppet Labs\Puppet\bin\puppet_shell.bat"
```

- On Linux, specify the following environment variables before running the `puppet apply` command:

```
export PUPPET_DIR=/opt/puppetlabs
export PUPPET_BIN=${PUPPET_DIR}/bin
export PUPPET_LIB=${PUPPET_DIR}/lib
export PATH=${PUPPET_BIN}:${PATH}
export LD_LIBRARY_PATH=${PUPPET_LIB}:${LD_LIBRARY_PATH}
```

- On AIX or Solaris, specify the following environment variables before running the `puppet apply` command:

```
export PUPPET_DIR=/opt/oracle/puppetlabs
export PUPPET_BIN=${PUPPET_DIR}/bin
export PUPPET_LIB=${PUPPET_DIR}/lib
export PATH=${PUPPET_BIN}:${PATH}
export LIBPATH=${PUPPET_LIB}:${LIBPATH}
```

- On HP-UX, specify the following environment variables before running the `puppet apply` command:

```
export PUPPET_DIR=/opt/oracle/puppetlabs
export PUPPET_BIN=${PUPPET_DIR}/bin
export PUPPET_LIB=${PUPPET_DIR}/lib
export PATH=${PUPPET_BIN}:${PATH}
export SHLIB_PATH=${PUPPET_LIB}:${SHLIB_PATH}
export LD_LIBRARY_PATH=${PUPPET_LIB}:${LD_LIBRARY_PATH}
```

- On AIX, HP-UX, or Solaris operating systems, instead of using the export commands above, you can use the `pspuppet.sh` script to set the Puppet environment.

Use this method if the DPK setup script is interrupted, either intentionally to apply customizations, or by an error, and you choose to run the `puppet apply` command, rather than the `psft_puppet_apply` script. The `pspuppet.sh` script will set the Puppet PATH and LIBRARY environment variables. The `pspuppet.sh` script is installed by the DPK setup script in `/opt/oracle/puppetlabs`. Source the script by entering the following command:

```
. /opt/oracle/puppetlabs/pspuppet.sh
```

The dot, or period (".") at the beginning of the command is a source operator that ensures that the script commands persist in the shell environment that you are deploying from. After sourcing the script, continue with the deployment by running the `puppet apply` command.

- Use only the predefined web profiles.

PeopleSoft PeopleTools includes four predefined web profiles — DEV, KIOSK, PROD, and TEST. In the delivered YAML file `psft_configuration.yaml`, the web profile is specified by the scalar parameter `pia_webprofile_name: PROD`. If you want to specify a different value using `psft_customizations.yaml`, be sure to use one of the four predefined values.

See *PeopleTools: Portal Technology*, "Configuring Web Profiles."

- When using the customizations for a PeopleSoft web server domain, do not use the names PIA, PIA1, PIA2, or weblogic for the domain name.

The name of the WebLogic domain and the server and cluster names within it must be unique. The names PIA, PIA1, and PIA2 are reserved for use by the PeopleSoft system. The name weblogic is reserved for use by the Oracle WebLogic software. These restrictions apply to single server and multi-server domain creation.

See *Preparing the Customization File for PeopleSoft Domain Definitions*.

See *PeopleTools: System and Server Administration*, "WebLogic Domain Types."

- To specify a non-default location for the Process Scheduler Report Repository, you must create the Report Repository directory before you begin the DPK installation.

The Report Repository is the designated server for reports that are generated from the PeopleSoft Process Scheduler Server. In the delivered YAML file `psft_configuration.yaml`, the Report Repository location is defined as a subdirectory of `PS_CFG_HOME`, as specified by this scalar parameter:

```
report_repository_dir: "%{hiera('ps_config_home')}/psreports"
```

To define a different location, create the directory first. Use the `report_repository_dir` parameter with the customized location in the `psft_customizations.yaml` file.

See *PeopleTools: Process Scheduler*, "PeopleSoft Process Scheduler Architecture."

See the task *Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository* in the PeopleSoft 9.2 Application Installation guide for your database platform.

See Oracle's PeopleSoft PeopleTools 8.58 Home Page, My Oracle Support, Doc ID 2602329.2.

Task 4-1: Preparing Customization Files for Linux, AIX, HP-UX, or Solaris Users and Groups

This section discusses:

- Preparing the Customization File for a Single User and Single Group
- Preparing the Customization File for a New Single User, New Primary Group, and Existing Secondary Group
- Preparing the Customization File for Existing Users and Groups

Note. If you are running the DPK setup script as a non-root user, the customizations for users and groups in this section are not supported.

Note. If you want to set up your environment to use existing LDAP or existing users and groups on Linux, AIX, HP-UX, or Solaris, you must meet these requirements: 1) The user home directory should have read/write/execute permission for the root user. 2) The user default shell should be Bash.

Note. To use an encrypted password with one of the customization files in this section, note that the successful use of the encrypted password depends on the presence of the public and private keys in the `BASE_DIR/dpk/puppet` directory referred to in the `eyaml encrypt` command. You cannot save an encrypted password and use it with an installation with a different `BASE_DIR`.

Task 4-1-1: Preparing the Customization File for a Single User and Single Group

This user customization applies to Linux, AIX, HP-UX, and Solaris OS platforms only. If you choose the default initialization when running the DPK setup script, the Puppet framework creates local users and default groups, which are contained in the generated `psft_unix_system.yaml` file. Use the sample customization file in this section if you do not want to use the default users and groups, and instead want to set up your environment with a different single user and single group for the whole PeopleSoft environment.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

This user customization applies to the following scenarios:

- New single user + new single group
 - New single user + existing single group
 - Existing single user + new single group
 - Existing single user + existing single group
-

Note. After completing the initialization, the system will prompt you to provide a new password the first time you log in. This requirement applies to both a new single user and an existing single user.

To use the customization for an existing single user, do not enter a password in the `psft_customizations.yaml` file.

This customization will create a single user and single group. You must specify values for two parameters that are not included in the generated `psft_unix_system.yaml` file, `psft_user` and `psft_group`.

- `groups/psft_group`
 - Use the `groups/psft_group` collection parameter only if you want to create a group for a single user. The DPK process will create the group. If there is an existing group with the same name, the script will skip it.
 - Specify the same value for `groups/psft_group/name` and for `users/psft_user/gid`.
Use a group name (string), not a GID (number), for both the name in the group collection parameter, and the gid in the users collection parameter.
 - Note that you must use the parameters exactly as given in this documentation. If you try to create a different parameter name or alter the parameter, the DPK process will not recognize it.
- `users/psft_user`
 - Use the `users/psft_user` collection parameter to create a new user and add that user to the group specified by `groups/psft_group`.
 - This group is the primary group for the new user.
 - Specify the same value for `users/psft_user/name` and for the scalar parameter `psft_runtime_user_name`.
 - The single user has all the roles and permissions that the default users would have.
See "Completing the Installation," Using the PeopleSoft Installation, for a list of the default users and permissions.
- `users/psft_user/home_dir`

When you run the DPK setup script, it includes a prompt for the users' home directory. That value is included in the generated `psft_unix_system.yaml` file. You can accept that same value in this customization file for `users/psft_user/home_dir`, or you can change it here. If you change it, the DPK process will create the new home directory.

To prepare the customization file:

1. Create a `psft_customizations.yaml` using a standard editing tool, such as `vi` on Linux, and save it in the same location as the `psft_unix_system.yaml` file.
By default, the DPK setup script installs the YAML files in `BASE_DIR/dpk/puppet/production/data`.
2. Use the sample below in creating the `psft_customizations.yaml` file, and modify the values as needed.

Note. Be sure that your final `psft_customizations.yaml` file includes the indentation shown here. The indentation may be lost if you copy from this documentation and paste into the file.

In this example, the new single user *newusr* will be created and assigned to the primary group *newgrp*.

```
---
groups:
  psft_group:
    name: newgrp
    remove: false

psft_runtime_user_name: newusr

users:
  psft_user:
    name: newusr
    gid: newgrp
    home_dir: /dpk_base/home/userhome
    password: ENC[PKCS7,MIIBeQYJKoZIhvcNA.....]
    remove: false
```

Important! Verify that you fulfill the following requirements:

- Ensure that the file begins with three dashes (- - -).
- For a new user, replace the password sample above with an encrypted password.

Enter the encrypted password on a single line. Do not include spaces or line feeds. See the instructions later in this documentation to generate the encrypted password.

See "Encrypting Passwords for Customizations on Linux, AIX, HP-UX, or Solaris."

Note. Use clear text passwords for silent mode installation.

- Do not enter a password for an existing user.
3. Save the file.
 4. Continue with the steps in Completing the Customized Deployment.

Task 4-1-2: Preparing the Customization File for a New Single User, New Primary Group, and Existing Secondary Group

This user customization applies to Linux, AIX, HP-UX, and Solaris OS platforms only. If you choose the default initialization when running the DPK setup script, the Puppet framework creates local users and default groups, which are contained in the generated `psft_unix_system.yaml` file. Use the sample customization file in this section if you do not want to use the default users and groups, and instead want to set up your environment with a new single user assigned to two groups.

See "Completing the Installation," Using the PeopleSoft Installation, for a list of the default users and permissions.

Note. After completing the initialization, the system will prompt you to provide a new password for the new user, the first time you log in.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

This customization will create a new single user and a new group, the primary group. The new user is also assigned to an existing, secondary group. You must specify values for two parameters that are not included in the generated `psft_unix_system.yaml` file, `psft_user` and `psft_group`.

- **groups/psft_group**
 - Use the `groups/psft_group` collection parameter only if you want to create a new group for a single user. The DPK process will create the group. If there is an existing group with the same name, the script will skip it.
 - Specify the same value for `groups/psft_group/name` and for `users/psft_user/gid`.
Use a group name (string), not a GID (number), for both the name in the group collection parameter, and the gid in the users collection parameter.
 - Note that you must use the parameters exactly as given in this documentation. If you try to create a different parameter name or alter the parameter, the DPK process will not recognize it.
- **users/psft_user**
 - Use the `users/psft_user` collection parameter to create a new user and add that user to the new group specified by `groups/psft_group/name`.
 - Specify the same value for `users/psft_user/name` and for the scalar parameter `psft_runtime_user_name`.
 - The new group specified by `users/psft_user/gid` and `groups/psft_group/name` is the primary group for the new user.
 - The existing group specified by `users/psft_user/groups` is the secondary group for the new user.
 - The single user has all the roles and permissions that the default users would have.
See "Completing the Installation," Using the PeopleSoft Installation, for a list of the default users and permissions.
- **users/psft_user/home_dir**

When you run the DPK setup script, it includes a prompt for the users' home directory. That value is included in the generated `psft_unix_system.yaml` file. You can accept that same value in this customization file for `users/psft_user/home_dir`, or you can change it here. If you change it, the DPK process will create the new home directory.

To prepare the customization file:

1. Create a `psft_customizations.yaml` using a standard editing tool, such as `vi` on Linux, and save it in the same location as the `psft_unix_system.yaml` file.
By default, the DPK setup script installs the YAML files in `BASE_DIR/dpk/puppet/production/data`.
2. Use the sample below in creating the `psft_customizations.yaml` file, and modify the values as needed.

Note. Be sure that your final `psft_customizations.yaml` file includes the indentation shown here. The indentation may be lost if you copy from this documentation and paste into the file.

In this example, the new single user `newusr2` will be created and assigned to the newly created primary group `primgrp` and the existing secondary group `secgrp`.

```

---
groups:
  psft_group:
    name: primgrp
    remove: false

psft_runtime_user_name: newusr2

users:
  psft_user:
    name: newusr2
    gid: primgrp
    groups: secgrp
    home_dir: /dpk_base/home/userhome
    password: ENC[PKCS7,MIIBeQYJKoZIhvcNA.....]
    remove: false

```

Important! Verify that you fulfill the following requirements:

- Ensure that the file begins with three dashes (- - -).
- Replace the password sample above with an encrypted password.

Enter the encrypted password on a single line. Do not include spaces or line feeds. See the instructions later in this documentation to generate the encrypted password.

See "Encrypting Passwords for Customizations on Linux, AIX, HP-UX, or Solaris."

Note. Use clear text passwords for silent mode installation.

3. Save the file.
4. Continue with the steps in Completing the Customized Deployment.

Task 4-1-3: Preparing the Customization File for Existing Users and Groups

This user customization applies to Linux, AIX, HP-UX, and Solaris OS platforms only. If you choose the default initialization, the Puppet framework creates default local users and groups. However, your security policies may prohibit creating these OS users. In such a scenario, you can override these default users using the customizations file. The customizations file can refer to one or more existing users or existing groups and Puppet will use them instead of the default users.

See "Completing the Installation," Using the PeopleSoft Installation, for a list of the default users and permissions.

Note. After completing the initialization, the system will prompt you to provide a new password for the existing user, the first time you log in.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

Ensure you fulfill these requirements:

- The users, groups, and GIDs that you specify in the psft_customizations.yaml file are present before you begin the installation.
- Do not include a password in psft_customizations.yaml.

The customizations file does not specify new passwords, because it is assumed that the passwords associated with the existing users will be used.

- When you run the DPK setup script, you must specify a user home directory in which the existing user resides.
1. Locate the `psft_unix_system.yaml` file, which includes default users and groups.

By default, the DPK setup script installs the YAML files in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as `vi` on Linux, and save it in the same location as the `psft_unix_system.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line. Do not indent the dashes.

3. Copy the entire section for the users and groups from the `psft_unix_system.yaml` file into the `psft_customizations.yaml` file and modify the values as needed.

Note. Be sure that your final `psft_customizations.yaml` file includes the indentation from the generated YAML file. The indentation may be lost when you copy and paste.

For example:

```
---
psft_install_user_name:      psadm5
psft_runtime_user_name:     psadm6
psft_app_install_user_name: psadm7
oracle_user_name:           oraclex3

psft_runtime_group_name:     psftrungrp
psft_app_install_group_name: psftappgrp
oracle_install_group_name:   orainstgrp
oracle_runtime_group_name:   orarungrp

user_home_dir:  /data1/home
users:
  tools_install_user:
    name:      "%{hiera('psft_install_user_name')}}"
    gid:       orainstgrp
    groups:    "%{hiera('psft_runtime_group_name')}}"
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_install_user_⇒
name')}}"

  psft_runtime_user:
    name:      "%{hiera('psft_runtime_user_name')}}"
    gid:       orainstgrp
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_runtime_user_⇒
name')}}"

  app_install_user:
    name:      "%{hiera('psft_app_install_user_name')}}"
    gid:       psftappgrp
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_app_install_user_⇒
name')}}"

  oracle_user:
    name:      "%{hiera('oracle_user_name')}}"
    gid:       orainstgrp
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('oracle_user_name')}}"

  es_user:
    name:      esuserx3
    gid:       users
    home_dir:  /data1/home/esuserx3
```

The following table describes the parameters in the sample `psft_customizations.yaml` and the default values in `psft_unix_system.yaml`:

Attribute and Sample Value in <code>psft_customizations.yaml</code>	Default Value in <code>psft_unix_system.yaml</code>	Description
<code>psft_install_user ⇒ name: psadm5</code>	Replaces the default user psadm1.	This is the PeopleSoft PeopleTools installation administrator, who owns <i>PS_HOME</i> , but cannot write into <i>PS_CFG_HOME</i> .
<code>psft_runtime_user ⇒ name: psadm6</code>	Replaces the default user psadm2.	This is the PeopleSoft PeopleTools domain user who creates and configures the Application Server domain, Process Scheduler (batch server) domain, and the web server domain. This user cannot write to <i>PS_HOME</i> , but has read/execute access.
<code>psft_app_install_user ⇒ name: psadm7</code>	Replaces the default user psadm3.	This is the PeopleSoft application installation administrator who owns <i>PS_APP_HOME</i> .
<code>oracle_user_name: ⇒ oraclex3</code>	Replaces the default user oracle2.	This is the Oracle Database Server owner, who owns <i>ORACLE_HOME</i> .
<code>psft_runtime_group ⇒ name: psftrungrp</code>	Replaces the default group psft.	Note. Do not use the same name for the four group name parameters. Ensure that the names that you specify for these parameters in <code>psft_customizations.yaml</code> are different.
<code>psft_app_install ⇒ group_name: psftapp ⇒ grp</code>	Replaces the default group appinst.	This group is the primary group for the <code>app_install_user</code> . Note. Do not use the same name for the four group name parameters. Ensure that the names that you specify for these parameters in <code>psft_customizations.yaml</code> are different.
<code>oracle_install_group ⇒ name: orainstgrp</code>	Replaces the default group name oinstall.	This group is the primary group for the <code>oracle_user</code> , <code>psft_runtime_user</code> , and <code>tools_install_user</code> . Note. Do not use the same name for the four group name parameters. Ensure that the names that you specify for these parameters in <code>psft_customizations.yaml</code> are different.

Attribute and Sample Value in psft_customizations.yaml	Default Value in psft_unix_system.yaml	Description
<pre>oracle_runtime_group_⇒ name: orarungrp</pre>	Replaces the default group name dba.	Note. Do not use the same name for the four group name parameters. Ensure that the names that you specify for these parameters in psft_customizations.yaml are different.
<pre>users: tools_install_user: name: "%⇒ {hiera('psft_install_⇒ user_name')}%" gid: orainst⇒ grp groups: "%⇒ {hiera('psft_runtime_⇒ group_name')}%" home_dir: "%⇒ {hiera('user_home_⇒ dir')}"/%{hiera('psft_⇒ install_user_name')}%"</pre>	NA	- The name for the tools_install_user is the same as the psft_install_user_name, as specified by an interpolation function. - The orainstgrp is the primary group for the tools_install_user. - The tools_install_user must belong to the psft runtime group as a secondary group. To satisfy this requirement, the value for users/tools_install_user/groups is set to the interpolation function "%{hiera('psft_runtime_group_name')}%".

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-2: Preparing the Customization File for PeopleSoft Domain Definitions

This section discusses:

- Preparing the psft_customizations.yaml File
- Reviewing the Domain Definitions in psft_configuration.yaml
- Reviewing the Customization File for a Single Application Server Domain
- Reviewing the Customization File for a Single Process Scheduler Domain
- Reviewing the Customization File for a Single PIA Domain
- Reviewing the Customization File for a PIA Domain on a Separate Host
- Reviewing the Customization File for Multiple Web Sites in a Single Web Domain
- Reviewing the Customization File for Multiple Domains

Task 4-2-1: Preparing the `psft_customizations.yaml` File

Use this information if you want to customize the PeopleSoft domains — the application server, Process Scheduler, and PIA domains. For example, you may want to create multiple Application Server domains rather than a single domain.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

Note. As mentioned, do not use the names PIA, PIA1, PIA2, or weblogic to create a PIA (web server) domain.

1. Locate the `psft_configuration.yaml` file, which was installed by the deployment, in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the sections that you want to customize from the `psft_configuration.yaml` file into the `psft_customizations.yaml` file and modify the values as needed.

Be sure to retain the indentation as given in the delivered YAML file.

The following sections in this task include sample `psft_customizations.yaml` files.

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-2-2: Reviewing the Domain Definitions in `psft_configuration.yaml`

To customize the PeopleSoft domains, you begin with the `psft_configuration.yaml` file, which lists the attributes pertinent to the PeopleSoft domains. Be sure to retain the indentation as given in the delivered YAML file when you copy the sections into the `psft_customizations.yaml` file.

Note. The `psft_configuration.yaml` file includes definitions for Automated Configuration Manager (ACM) plug-ins, which configure components such as Integration Broker and Report Distribution. Depending upon the PeopleSoft domain being set up, certain ACM configurations will run as part of the deployment.

This sample shows a portion of a `psft_configuration.yaml` file, with annotations added (marked by ###) for the purposes of this explanation. The default application server name, APPDOM, is defined in the first portion of the file for the parameter `appserver_domain_name`, which is then referenced with an interpolation token `"${hiera('appserver_domain_name')}"` in the `appserver_domain_list` section.

The DPK setup script encrypts user-supplied passwords and includes them in the generated YAML files. The encrypted text will be a long single line of letters and numbers. Be sure to copy the text in one unbroken line, with no spaces or line feeds. This sample includes short strings of text beginning with "ENC" to represent encrypted passwords.

Note. Use clear text passwords for silent mode installation.

```

---
db_name:          FS85806C
db_user:          VP1

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####
db_user_pwd:      ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
db_connect_id:    people

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####
db_connect_pwd:   ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

domain_user:      "%{hiera('psft_runtime_user_name')}}"
ps_config_home:   "C:/Users/%{::env_username}/psft/pt/8.58"
appserver_template: small
appserver_domain_name: APPDOM
prcs_domain_name: PRCSDOM
prcs_domain_id:   "PRCS%{::rand}"
report_node_name: "%{hiera('prcs_domain_id')}}"
pia_domain_name:  peoplesoft
pia_site_name:    ps
pia_http_port:    8000
pia_https_port:   8443
jolt_port:        9033
wsl_port:         7000
db_port:          1521
gateway_node_name: QE_LOCAL
pia_gateway_user: administrator

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####
pia_gateway_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

webserver_type:   weblogic
pia_webprofile_name: PROD
pia_psserver_list: "%{::fqdn}:%{hiera('jolt_port')}}"
report_repository_dir: "%{hiera('ps_config_home')}/psreports"

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####
domain_conn_pwd:  ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

help_uri:         pt854pbh1
tns_dir:          "%{hiera('db_location')}}"

```

```

tns_admin_list:
  "%{hiera('db_name')}":
    db_host:      "%{::fqdn}"
    db_port:      "%{hiera('db_port')}}"
    db_protocol:  TCP
    db_service_name: "%{hiera('db_name')}}"

db2_server_list:
  "%{hiera('db_name')}":
    db2_type:      "%{hiera('db_platform')}}"
    db2_host:      "%{::fqdn}"
    db2_port:      "%{hiera('db_port')}}"
    db2_node:      TCPLNX01
    db2_target_db: "%{hiera('db_name')}}"

mssql_server_list:
  "%{hiera('db_name')}":
    mss_server_name: "%{::fqdn}"
    mss_odbc_name:   "ODBC Driver 11 for SQL Server"

#####
# Copy the entire section beginning here for
# application server customization.
#####

appserver_domain_list:
  "%{hiera('appserver_domain_name')}":
    os_user:      "%{hiera('domain_user')}}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"
    template_type: "%{hiera('appserver_template')}}"

db_settings:
  db_name:      "%{hiera('db_name')}}"
  db_type:      "%{hiera('db_platform')}}"
  db_opr_id:     "%{hiera('db_user')}}"
  db_opr_pwd:    "%{hiera('db_user_pwd')}}"
  db_connect_id: "%{hiera('db_connect_id')}}"
  db_connect_pwd: "%{hiera('db_connect_pwd')}}"

config_settings:
  Domain Settings/Domain ID:  "%{hiera('appserver_domain_name')}}"
  PSAPPSRV/Min Instances:     2
  PSAPPSRV/Max Instances:     2
  PSAPPSRV/Max Fetch Size:    15000
  Security/DomainConnectionPwd: "%{hiera('domain_conn_pwd')}}"
  JOLT Listener/Port:          "%{hiera('jolt_port')}}"
  JOLT Listener/Address:       0.0.0.0
  Workstation Listener/Port:    "%{hiera('wsl_port')}}"

feature_settings:
  PUBSUB:      "Yes"
  QUICKSRV:    "No"
  QUERYSRV:    "No"

```

```

JOLT:          "Yes"
JRAD:          "No"
WSL:           "Yes"
DBGSRV:        "No"
RENSRV:        "No"
MCF:           "No"
PPM:           "Yes"
PSPMSRV:       "Yes"
ANALYTICSRV:   "No"
SERVER_EVENTS: "Yes"
DOMAIN_GW:     "No"
#####
# End application server section.
#####

#####
# Copy the entire section beginning here for
# Process Scheduler customization
#####

prcs_domain_list:
  "%{hiera('prcs_domain_name')}":
    os_user:          "%{hiera('domain_user')}}"
    ps_cfg_home_dir:  "%{hiera('ps_config_home')}}"

    db_settings:
      db_name:         "%{hiera('db_name')}}"
      db_type:         "%{hiera('db_platform')}}"
      db_opr_id:       "%{hiera('db_user')}}"
      db_opr_pwd:      "%{hiera('db_user_pwd')}}"
      db_connect_id:   "%{hiera('db_connect_id')}}"
      db_connect_pwd:  "%{hiera('db_connect_pwd')}}"

    config_settings:
      Process Scheduler/PrsServerName: "%{hiera('prcs_domain_id')}}"
      Security/DomainConnectionPwd:    "%{hiera('domain_conn_pwd')}}"

    feature_settings:
      MSTRSRV:         "Yes"
      APPENG:          "Yes"
#####
# End Process Scheduler section.
#####

#####
# Copy the entire section beginning here for PIA customization.
#####
pia_domain_list:
  "%{hiera('pia_domain_name')}":
    os_user:          "%{hiera('domain_user')}}"
    ps_cfg_home_dir:  "%{hiera('ps_config_home')}}"
    gateway_user:     "%{hiera('pia_gateway_user')}}"
    gateway_user_pwd: "%{hiera('pia_gateway_user_pwd')}}"

```

```

auth_token_domain:      ".%{::domain}"

webserver_settings:
  webserver_type:        "%{hiera('webserver_type')}}"
  webserver_home:        "%{hiera('weblogic_location')}}"
  webserver_admin_user:  system
  webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

  webserver_admin_port:  "%{hiera('pia_http_port')}}"
  webserver_http_port:   "%{hiera('pia_http_port')}}"
  webserver_https_port:  "%{hiera('pia_https_port')}}"

site_list:
  "%{hiera('pia_site_name')}":
    appserver_connections: "%{hiera('pia_psserver_list')}}"
    domain_conn_pwd:        "%{hiera('domain_conn_pwd')}}"

  webprofile_settings:
    profile_name:           "%{hiera('pia_webprofile_name')}}"
    profile_user:           PTWEBSEVER
    profile_user_pwd:       ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

    report_repository_dir: "%{hiera('report_repository_dir')}}"
#####
# End PIA section.                                          #
#####

ohs_domain:
  name:                ohsdom

#####
# Remaining text removed for brevity.                      #
#####

```

Task 4-2-3: Reviewing the Customization File for a Single Application Server Domain

This sample shows a `psft_customizations.yaml` file for a single application server domain with the domain name `APPDOM1`. Be sure to retain the indentation as given in the delivered `psft_configuration.yaml` file when you copy the sections into the `psft_customizations.yaml` file. This sample includes annotations (marked by `###`) for the purposes of this explanation.

If you want to create PeopleSoft domains in a non-default *PS_CFG_HOME* location, you must specify the desired value for the scalar parameter *ps_config_home* outside the *appserver_domain_list* section.

Note. Specify the same value for *ps_config_home* and for the *ps_cfg_home_dir* parameter in the *appserver_domain_list* section. They both must reference the same location.

See Preparing the Customization File for the *PS_CFG_HOME* Location.

```
---
appserver_domain_list:

### Custom application server domain name ###
"APPDOM1":
    os_user:          "%{hiera('domain_user')}}"
    template_type:    "%{hiera('appserver_template')}}"

    ### Do not change the ps_cfg_home_dir parameter. ###
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

db_settings:
    db_name:          "%{hiera('db_name')}}"
    db_type:          "%{hiera('db_platform')}}"
    db_opr_id:        "%{hiera('db_user')}}"
    db_opr_pwd:       "%{hiera('db_user_pwd')}}"
    db_connect_id:    "%{hiera('db_connect_id')}}"
    db_connect_pwd:   "%{hiera('db_connect_pwd')}}"

config_settings:
    Domain Settings/Domain ID:    IBUPG0
    PSAPPSRV/Min Instances:       3
    PSAPPSRV/Max Instances:       5
    JOLT Listener/Port:           "%{hiera('jolt_port')}}"
    Workstation Listener/Port:    "%{hiera('wsl_port')}}"

feature_settings:
    PUBSUB:               "Yes"
    QUICKSRV:             "No"
    QUERYSRV:             "No"
    JOLT:                  "Yes"
    JRAD:                  "No"
    WSL:                   "Yes"
    DBGSRV:               "No"
    RENSrv:                "No"
    MCF:                   "No"
    PPM:                   "Yes"
    PSPPMSRV:             "Yes"
    ANALYTICSRV:          "No"
    SERVER_EVENTS:        "Yes"
    DOMAIN_GW:            "No"
```


Task 4-2-4: Reviewing the Customization File for a Single Process Scheduler Domain

This sample shows a `psft_customizations.yaml` file for a single Process Scheduler domain with the domain name `PRCSDOM1`. Be sure to retain the indentation as given in the delivered `psft_configuration.yaml` file when you copy the sections into the `psft_customizations.yaml` file. This sample includes annotations (marked by `###`) for the purposes of this explanation.

If you want to create PeopleSoft domains in a non-default `PS_CFG_HOME` location, you must specify the desired value for the scalar parameter `ps_config_home` outside the `prcs_domain_list` section.

Note. Specify the same value for `ps_config_home` and for the `ps_cfg_home_dir` parameter in the `appserver_domain_list` section. They both must reference the same location.

See Preparing the Customization File for the `PS_CFG_HOME` Location.

```
---
prcs_domain_list:

### Custom Process Scheduler domain name ###
  "PRCSDOM1":
    os_user:          "%{hiera('domain_user')}}"

    ### Do not change the ps_cfg_home_dir parameter. ###
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

    db_settings:
      db_name:         "%{hiera('db_name')}}"
      db_type:         "%{hiera('db_platform')}}"
      db_opr_id:       "%{hiera('db_user')}}"
      db_opr_pwd:      "%{hiera('db_user_pwd')}}"
      db_connect_id:   "%{hiera('db_connect_id')}}"
      db_connect_pwd:  "%{hiera('db_connect_pwd')}}"

    config_settings:
      Process Scheduler/PrsServerName: "%{hiera('prcs_domain_id')}}"
      Security/DomainConnectionPwd:    "%{hiera('domain_conn_pwd')}}"

    feature_settings:
      MSTRSRV:      "Yes"
      APPENG:       "Yes"
```

Task 4-2-5: Reviewing the Customization File for a Single PIA Domain

This sample shows a `psft_customizations.yaml` file for a single PIA domain with the domain name `PIAHR1`. Be sure to retain the indentation as given in the delivered `psft_configuration.yaml` file when you copy the sections into the `psft_customizations.yaml` file. This sample includes annotations (marked by `###`) for the purposes of this explanation.

Note. Do not use the reserved names `PIA`, `PIA1`, `PIA2`, or `weblogic` for the PIA (web server) domain.

If you want to create PeopleSoft domains in a non-default *PS_CFG_HOME* location, you must specify the desired value for the scalar parameter *ps_config_home* outside the *pia_domain_list* section.

Note. Specify the same value for *ps_config_home* and for the *ps_cfg_home_dir* parameter in the *appserver_domain_list* section. They both must reference the same location.

See Preparing the Customization File for the PS_CFG_HOME Location.

```
---
pia_domain_list:

## Custom PIA domain name###
"PIAHR1":
  os_user:                "%{hiera('domain_user')}}"

  ### Do not change the ps_cfg_home_dir parameter. ###
  ps_cfg_home_dir:        "%{hiera('ps_config_home')}}"
  gateway_user:           "%{hiera('pia_gateway_user')}}"
  gateway_user_pwd:       "%{hiera('pia_gateway_user_pwd')}}"
  auth_token_domain:      ".%{::domain}"
  webserver_install_type: "%{hiera('webserver_install_type')}}"

  webserver_settings:
    webserver_type:        "%{hiera('webserver_type')}}"
    webserver_home:        "%{hiera('weblogic_location')}}"
    webserver_admin_user:  system
    webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
    webserver_admin_port:  "%{hiera('pia_http_port')}}"
    webserver_http_port:   "%{hiera('pia_http_port')}}"
    webserver_https_port:  "%{hiera('pia_https_port')}}"

  site_list:
    "%{hiera('pia_site_name')}":
      appserver_connections: "%{hiera('pia_psserver_list')}}"
      domain_conn_pwd:       "%{hiera('domain_conn_pwd')}}"

      webprofile_settings:
        profile_name:        "%{hiera('pia_webprofile_name')}}"
        profile_user:         PTWEBSEVER
        profile_user_pwd:     ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

      report_repository_dir: "%{hiera('report_repository_dir')}}"
```

Task 4-2-6: Reviewing the Customization File for a PIA Domain on a Separate Host

If you want to set up an environment in which the PIA domain and web server are not on the same machine as the application server domain, you must use customizations to specify the machine where the application server is installed. This customization is required for the Integration Broker configuration.

The generated *psft_configuration.yaml* includes the following parameter, which sets the host for Integration Broker to the PIA host, which by default is the machine where the DPK setup script is run:

```
env.ib_appserver_host:           "%{hiera('pia_host_name')}}"
```

If you use the DPK setup script to set up a PIA domain only, and the PIA domain is not on the same machine as your application server domain, the value for the `env.ib_appserver_host` parameter must be set to the application server machine name.

See "Deploying the PeopleSoft PeopleTools Deployment Packages," Running the DPK Setup Script to Deploy a PIA Domain.

Copy the entire `component_postboot_setup_list` collection type parameter section (comprised of several lines) from `psft_configuration.yaml` and paste it into `psft_customizations.yaml`. Change the value for `env.ib_appserver_host` to point to the host where the application server is set up, for example `ps_app_server1`. Be sure to retain the indentation as given in the delivered YAML file when you copy the sections into the `psft_customizations.yaml` file.

Note. Do not use the reserved names PIA, PIA1, PIA2, or weblogic for the PIA (web server) domain.

This sample shows a sample `psft_customizations.yaml` file, with annotations added (marked by `###`) for the purposes of this explanation.

```
---
component_postboot_setup_list:
  integration_broker:
    run_control_id:          intbroker
    os_user:                  "%{hiera('domain_user')}}"

    db_settings:
      db_name:                "%{hiera('db_name')}}"
      db_type:                 "%{hiera('db_platform')}}"
      db_opr_id:               "%{hiera('db_user')}}"
      db_opr_pwd:              "%{hiera('db_user_pwd')}}"
      db_connect_id:           "%{hiera('db_connect_id')}}"
      db_connect_pwd:          "%{hiera('db_connect_pwd')}}"

  acm_plugin_list:
    PTIBActivateDomain:
      domain.activate_retry_count: 10
      domain.activate_wait_time:   10

    PTIBConfigureGatewayNodes:
      env.gateway_host:            "%{hiera('pia_host_name')}}"
      env.gateway_port:            "%{hiera('pia_http_port')}}"
      env.gateway_ssl_port:        "%{hiera('pia_https_port')}}"
      env.use_ssl_gateway:         false
      env.default_local_node:      "%{hiera('gateway_node_name')}}"
      env.gateway_user:            "%{hiera('pia_gateway_user')}}"
      env.gateway_password:        "%{hiera('pia_gateway_user_⇒
pwd')}}"

  ###Custom application server name ###
    env.ib_appserver_host:        ps_app_server1
    env.ib_jolt_port:              "%{hiera('jolt_port')}}"
    env.ib_node_proxy_userid:      "%{hiera('db_user')}}"
    env.ib_node_proxy_password:    "%{hiera('db_user_pwd')}}"
    env.tools_release:             "%ToolsRelease"
```

```

    env.ib_appserver_domain_password: "%{hiera('domain_conn_pwd')}}"
    env.ib_set_as_default_node:      true

PTIBConfigureGatewayProperties:
    env.gateway_keystore_password:  password

PTWebServerConfigUpdate:
    env.domainname:                 "%{hiera('pia_domain_name')}}"
    env.sitename:                   "%{hiera('pia_site_name')}}"
    env.piahome:                    "%{hiera('ps_config_home')}}"
    env.psserver:                   ""
    env.KeyStorePwd:                ""

acm_plugin_order:
- PTIBActivateDomain
- PTIBConfigureGatewayNodes
- PTIBConfigureGatewayProperties
- PTWebServerConfigUpdate

```

Task 4-2-7: Reviewing the Customization File for Multiple Web Sites in a Single Web Domain

Use these guidelines to create the `psft_customizations.yaml` file for a single PIA (web server) domain with two or more web sites. This sample shows the `psft_customizations.yaml` file for a single PIA domain, called PIAHR2, with two web sites, `hr92dev` and `hr92site`. Be sure to also fulfill the guidelines in the section `Preparing the psft_customizations.yaml File`.

Be sure to retain the indentation as given in the delivered YAML file when you copy the sections into the `psft_customizations.yaml` file.

- Copy the entire `pia_domain_list` collection type parameter (comprised of several lines) from `psft_configuration.yaml` and change the value `"%{hiera('pia_domain_name')}}"` to the desired name for the PIA domain, PIAHR2 in this example.

Note. Do not use the reserved names PIA, PIA1, PIA2, or weblogic for the PIA (web server) domain.

- In the `pia_domain_list` collection type parameter, to add a second web site, copy the portion defining the web site, and paste it below the first, default, web site definition. Copy and paste the web site portion for as many web sites as you need, and specify different names for the each site.
- Replace the password sample here with encrypted text from the generated `psft_configuration.yaml` file.

Note. Use clear text passwords for silent mode installation.

Here is a sample `psft_customizations.yaml` file, with annotations added (marked by `###`) for the purposes of this explanation.

```

---
### PIA domain with modified name###
pia_domain_list:
  "PIAHR2":
    os_user:                 "%{hiera('domain_user')}}"
    ps_cfg_home_dir:         "%{hiera('ps_config_home')}}"
    gateway_user:            "%{hiera('pia_gateway_user')}}"

```

```

gateway_user_pwd:      "%{hiera('pia_gateway_user_pwd')}}"
auth_token_domain:    "%{::domain}"

webserver_settings:
  webserver_type:      "%{hiera('webserver_type')}}"
  webserver_home:      "%{hiera('weblogic_location')}}"
  webserver_admin_user: system
  webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
  webserver_admin_port: "50000"
  webserver_http_port: "50000"
  webserver_https_port: "50005"

site_list:
### First web site with modified name ###
  "hr92dev":
    appserver_connections: "%{hiera('pia_psserver_list')}}"
    domain_conn_pwd:       "%{hiera('domain_conn_pwd')}}"

    webprofile_settings:
      profile_name:        "%{hiera('pia_webprofile_name')}}"
      profile_user:        PTWEBSERVER
      profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

    report_repository_dir: "%{hiera('report_repository_dir')}}"

### Second web site with modified name ###
  "hr92site":
    appserver_connections: "%{hiera('pia_psserver_list')}}"
    domain_conn_pwd:       "%{hiera('domain_conn_pwd')}}"

    webprofile_settings:
      profile_name:        "%{hiera('pia_webprofile_name')}}"
      profile_user:        PTWEBSERVER
      profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

    report_repository_dir: "%{hiera('report_repository_dir')}}"

```

Task 4-2-8: Reviewing the Customization File for Multiple Domains

For multiple domains, duplicate the entire domain section, again maintaining the indentation from the original `psft_configuration.yaml` file. This sample shows a `psft_customizations.yaml` file for two application server domains, two PIA domains, and two Process Scheduler domains, with annotations added for the purposes of this explanation. The annotations are labelled with letters referring to the text discussion, and by `###` characters, such as `###(A)###`.

Follow these guidelines in creating a `psft_customizations.yaml` file for customized PeopleSoft domains. The letters correspond to those in the code sample.

- (A) For more than one application server, include the `pia_psserver_list` entry at the top of the `psft_customizations.yaml` definitions. List the application server domains that are used by the PIA domains, using the format `<application_server_host>:<Jolt port>`. Separate the entries with a comma.
- (B) Copy the entire section for the domains that you want to customize.

Be sure to retain the indentation as given in the delivered YAML file when you copy the sections into the `psft_customizations.yaml` file.

- (C) Specify unique names for each domain.
- (D) Specify unique ports for each domain.
- (E) If specifying more than one application server domain, you must configure the REN server to use a unique port by setting the attribute `PSRENSRV/default_http_port` to a value other than the default, 7180 in the `psft_customizations.yaml`.

Note. The REN server setting is also a requirement for a traditional PeopleSoft installation when setting up more than one application server on a single machine.

- (F) If specifying more than one Process Scheduler domain, you must specify unique Process Scheduler server names.

In this sample, the first Process Scheduler server uses the default value, which is defined as an interpolation token. The second Process Scheduler server has a different name, `PRCS222`.

(G) In addition, the Master Scheduler Server should be enabled for the first Process Scheduler domain (`MSTRSRV: "Yes"`), and disabled for subsequent Process Scheduler domains (`MSTRSRV: "No"`).

See *PeopleTools: Process Scheduler*, "Understanding PeopleSoft Master Scheduler Server."

- (H) If specifying more than one PIA domain, you must specify different site names for each.

In this sample, the first PIA site name uses the default value, which is defined as an interpolation token. The second PIA site name has a different name, `ps222`.

```
---
pia_psserver_list:    "hostname.example.com:9033,hostname.example.com:9043"
### (A) ###

appserver_domain_list:
  "APPDOM111":                                     ### (B), (C) ###
    os_user:      "%{hiera('domain_user')}}"
    template_type: "%{hiera('appserver_template')}}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

    db_settings:
      db_name:      "%{hiera('db_name')}}"
      db_type:      "%{hiera('db_platform')}}"
      db_opr_id:    "%{hiera('db_user')}}"
      db_opr_pwd:   "%{hiera('db_user_pwd')}}"
      db_connect_id: "%{hiera('db_connect_id')}}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}}"

    config_settings:
      Domain Settings/Domain ID:    IBUPG0
      PSAPPSRV/Min Instances:        3
      PSAPPSRV/Max Instances:        5
      JOLT Listener/Port:            9033          ### (D) ###
      Workstation Listener/Port:     7000          ### (D) ###

    feature_settings:
      PUBSUB:      "Yes"
      QUICKSRV:    "No"
```

```

QUERYSRV:      "No"
JOLT:          "Yes"
JRAD:          "No"
WSL:           "Yes"
DBGSRV:        "No"
RENSRV:        "No"
MCF:           "No"
PPM:           "Yes"
PSPPMRSRV:     "Yes"
ANALYTICSRV:   "No"
SERVER_EVENTS: "Yes"
DOMAIN_GW:     "No"

```

```
"APPDOM222":                                     ### (B) , (C) ###
```

```

  os_user:      "%{hiera('domain_user')}}"
  template_type: "%{hiera('appserver_template')}}"
  ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

```

```

db_settings:
  db_name:      "%{hiera('db_name')}}"
  db_type:      "%{hiera('db_platform')}}"
  db_opr_id:    "%{hiera('db_user')}}"
  db_opr_pwd:   "%{hiera('db_user_pwd')}}"
  db_connect_id: "%{hiera('db_connect_id')}}"
  db_connect_pwd: "%{hiera('db_connect_pwd')}}"

```

```

config_settings:
  Domain Settings/Domain ID:    IBUPG0
  PSAPPSRV/Min Instances:       3
  PSAPPSRV/Max Instances:       5
  JOLT Listener/Port:           9043      ### (D) ###
  Workstation Listener/Port:    7001      ### (D) ###
  PSRENSRV/default_http_port:   7191      ### (E) ###

```

```

feature_settings:
  PUBSUB:      "Yes"
  QUICKSRV:    "No"
  QUERYSRV:    "No"
  JOLT:        "Yes"
  JRAD:        "No"
  WSL:         "Yes"
  DBGSRV:      "No"
  RENSrv:      "No"
  MCF:         "No"
  PPM:         "Yes"
  PSPPMRSRV:   "Yes"
  ANALYTICSRV: "No"
  SERVER_EVENTS: "Yes"
  DOMAIN_GW:   "No"

```

```

pia_domain_list:
  "PIADOM111":                                     ### (B) , (C) ###

```

```

os_user:                "%{hiera('domain_user')}}"
ps_cfg_home_dir:        "%{hiera('ps_config_home')}}"
gateway_user:           "%{hiera('pia_gateway_user')}}"
gateway_user_pwd:       "%{hiera('pia_gateway_user_pwd')}}"
auth_token_domain:      ".%{::domain}"

webserver_settings:
  webserver_type:        "%{hiera('webserver_type')}}"
  webserver_home:        "%{hiera('weblogic_location')}}"
  webserver_admin_user:  system
  webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

  webserver_admin_port:  8000                                ### (D) ###
  webserver_http_port:   8000                                ### (D) ###
  webserver_https_port:  8443                                ### (D) ###

site_list:
  "%{hiera('pia_site_name')}":                               ### (H) ###
    appserver_connections: "%{hiera('pia_psserver_list')}}"
    domain_conn_pwd:       "%{hiera('domain_conn_pwd')}}"

  webprofile_settings:
    profile_name:          "%{hiera('pia_webprofile_name')}}"
    profile_user:          PTWEBSEVER
    profile_user_pwd:      ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

  report_repository_dir: "%{hiera('report_repository_dir')}}"

"PIADOM222":
  os_user:                "%{hiera('domain_user')}}"
  ps_cfg_home_dir:        "%{hiera('ps_config_home')}}"
  gateway_user:           "%{hiera('pia_gateway_user')}}"
  gateway_user_pwd:       "%{hiera('pia_gateway_user_pwd')}}"
  auth_token_domain:      ".%{::domain}"

webserver_settings:
  webserver_type:        "%{hiera('webserver_type')}}"
  webserver_home:        "%{hiera('weblogic_location')}}"
  webserver_admin_user:  system
  webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #

```



```

# generated psft_configuration.yaml file. #
#####

    webserver_admin_port:      8002          ### (D) ###
    webserver_http_port:      8002          ### (D) ###
    webserver_https_port:     8445          ### (D) ###

site_list:
  "ps222":                                ### (H) ###
    appserver_connections: "%{hiera('pia_psserver_list')}}"
    domain_conn_pwd:       "%{hiera('domain_conn_pwd')}}"

    webprofile_settings:
      profile_name:        "%{hiera('pia_webprofile_name')}}"
      profile_user:        PTWEBSERVER
      profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file. #
#####

    report_repository_dir: "%{hiera('report_repository_dir')}}"

prcs_domain_list:
  "PRCSDOM111":
    os_user:      "%{hiera('domain_user')}}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

    db_settings:
      db_name:      "%{hiera('db_name')}}"
      db_type:      "%{hiera('db_platform')}}"
      db_opr_id:     "%{hiera('db_user')}}"
      db_opr_pwd:    "%{hiera('db_user_pwd')}}"
      db_connect_id: "%{hiera('db_connect_id')}}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}}"

    config_settings:
      Process Scheduler/PrcsServerName: "%{hiera('prcs_domain_id')}}" ###=>
(F) ###
      Security/DomainConnectionPwd:     "%{hiera('domain_conn_pwd')}}"

    feature_settings:
      MSTRSRV:      "Yes"          ### (G) ###
      APPENG:       "Yes"

  "PRCSDOM222":
    os_user:      "%{hiera('domain_user')}}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}}"

    db_settings:
      db_name:      "%{hiera('db_name')}}"

```

```

db_type:           "%{hiera('db_platform')}}"
db_opr_id:         "%{hiera('db_user')}}"
db_opr_pwd:        "%{hiera('db_user_pwd')}}"
db_connect_id:     "%{hiera('db_connect_id')}}"
db_connect_pwd:    "%{hiera('db_connect_pwd')}}"

config_settings:
  Process Scheduler/PrCsServerName: PRCS222          ### (F) ###
  Security/DomainConnectionPwd:    "%{hiera('domain_conn_pwd')}}"

feature_settings:
  MSTRSRV:         "No"                               ### (G) ###
  APPENG:          "Yes"

```

Task 4-3: Preparing the Customization File to Create PeopleSoft Domains Without Configuration

The default DPK initialization includes pre-boot and post-boot processes that use Automated Configuration Manager (ACM) plug-ins to configure and start the PeopleSoft domains. The ACM configuration, for example, sets up Integration Broker and the report repository for the Process Scheduler.

Use this customization if you want to install the necessary software for the PeopleSoft Application Server, PIA, and Process Scheduler servers without running the pre-boot and post-boot ACM processes. After you complete the DPK deployment with this customization, you can complete the configuration as needed.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

To prepare the customization file:

1. Locate the `psft_configuration.yaml` file, which was installed by the deployment, in `BASE_DIR/dpk/puppet/production/data`.
2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the generated `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the parameters below from the `psft_configuration.yaml` file and paste them into the `psft_customizations.yaml` file.

Retain the indentation as given in the delivered YAML file.

```

run_preboot_config_setup: true
run_postboot_config_setup: true

```

4. To specify that the deployment does not run the pre-boot and post-boot ACM processes, change the values to "false"; for example:

```

---
run_preboot_config_setup: false
run_postboot_config_setup: false

```

5. Save the file.

6. Continue with the steps in Completing the Customized Deployment.

Task 4-4: Preparing the Customization File for Component Software Locations

Use the information in this section if you want to customize an installation location, for example to use an existing installation of Oracle Tuxedo or Oracle WebLogic.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_deployment.yaml` file in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

The installation locations for Oracle Tuxedo, Oracle WebLogic, and JDK are defined in the `psft_deployment.yaml` file that is installed with the deployment.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX or Solaris, and save it in the same location as the `psft_deployment.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Select one or more of the sections corresponding to the components that you want to customize, and copy them to the `psft_customizations.yaml` file.

As previously mentioned, setting the optional attribute `remove: false` means that the parameters in this section will not be deleted when the deployed environment is removed.

- For JDK, copy the `jdk_location` scalar parameter, and the entire `jdk` collection-type section (comprised of two lines) from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file. Be sure to set the locations to the same value. Retain the indentation as given in the delivered YAML file.

```
---
jdk_location:    C:/jdk
jdk:
  location:     C:/jdk
  remove:      false
```

- For Oracle Tuxedo, copy both the `tuxedo_location` scalar parameter and the entire `tuxedo` collection-type section (comprised of two lines) from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file. Be sure to set the locations to the same value. Retain the indentation as given in the delivered YAML file.

```
---
tuxedo_location: C:/psft/tuxedo
tuxedo:
  location:      C:/psft/tuxedo
  remove:      false
```

- For Oracle WebLogic, copy both the `weblogic_location` scalar parameter and the entire `weblogic` collection-type section (comprised of two lines) from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file. Be sure to set the locations to the same value. Retain the indentation as

given in the delivered YAML file.

```
---
weblogic_location: C:/psft/weblogic
weblogic:
  location: C:/psft/weblogic
  remove: false
```

- If you want to customize JDK, Oracle Tuxedo, and Oracle WebLogic, add all three entries to `psft_customizations.yaml`; for example:

```
---

jdk_location: C:/jdk
jdk:
  location: C:/jdk
  remove: false

tuxedo_location: C:/psft/tuxedo
tuxedo:
  location: C:/psft/tuxedo
  remove: false

weblogic_location: C:/psft/weblogic
weblogic:
  location: C:/psft/weblogic
  remove: false
```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-5: Preparing the Customization File for Unicode

Use these instructions if you want to change the Unicode designation for your database.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_deployment.yaml` file.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

By default, the DPK setup script installs the YAML files in `BASE_DIR/dpk/puppet/production/data`.

The `unicode_db` parameter is part of the `ps_home` section.

```
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     "%{hiera('ps_home_location')}}"
```

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_deployment.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the entire `ps_home` section from `psft_deployment.yaml`, maintaining the indentation, into the `psft_customizations.yaml` file.

For a Unicode database, set the value for `unicode_db` to `true`:

```
---
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   true
  location:     "%{hiera('ps_home_location')}}"
```

For a non-Unicode database, set the value for `unicode_db` to `false`:

```
---
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   false
  location:     "%{hiera('ps_home_location')}}"
```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-6: Preparing the Customization Files for the PeopleSoft Homes

This section discusses:

- Preparing the Customization File for the `PS_HOME` Location
- Preparing the Customization File for the `PS_APP_HOME` Location
- Preparing the Customization File for the `PS_CFG_HOME` Location
- Preparing the Customization File for the `PS_CUST_HOME` Location

Task 4-6-1: Preparing the Customization File for the `PS_HOME` Location

By default, the DPK setup script creates the `PS_HOME` directory in `BASE_DIR/pt/ps_home<release>`, where `<release>` is the PeopleSoft PeopleTools patch release, such as 8.58.12. Use these steps to specify a different `PS_HOME` location.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_deployment.yaml` file in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

The `PS_HOME` installation location is specified by the `ps_home` section (comprised of four lines).

```
ps_home:
  db_type:      "%{hiera('db_platform')}}"
```

```
unicode_db: "%{hiera('unicode_db')}}"
location:   "%{hiera('ps_home_location')}}"
```

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_deployment.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the entire section from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file and modify the location value as needed.

Retain the indentation as given in the delivered YAML file.

For example, on Linux, AIX, HP-UX, or Solaris:

```
---
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     "/home/psft8.58.12"
```

For example, on Microsoft Windows:

```
---
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     "C:/psft8.58.12"
```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-6-2: Preparing the Customization File for the PS_APP_HOME Location

By default, the DPK setup script creates the `PS_APP_HOME` directory in `BASE_DIR/pt/<Product>_app_home`, where `<Product>` is the abbreviation for the PeopleSoft application, such as `fscm` for PeopleSoft Financials and Supply Chain Management.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

Here are two scenarios where you might use this customization:

- If you are performing a new installation using the PeopleSoft DPKs, and you do not want to use the default `PS_APP_HOME` location created by the DPK setup script, use this customization to specify and create the desired `PS_APP_HOME` directory.
- If you are performing a mid-tier deployment to connect to an existing environment, use this customization to specify the existing `PS_APP_HOME`.

Use these steps to specify the `PS_APP_HOME` location.

1. Locate the `psft_deployment.yaml` file in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

The `PS_APP_HOME` installation location is specified by the `ps_app_home` section.

```
ps_apphome_location:  "%{hiera('pt_location')}/hcm_app_home"
ps_app_home:
  db_type:  "%{hiera('db_platform')}"
  include_ml_files: false
  location:  "%{hiera('ps_apphome_location')}"
```

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_deployment.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. To override the location, copy the entire section from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file and modify the location value as needed.

Retain the indentation as given in the delivered YAML file.

For example, on Linux, AIX, HP-UX, or Solaris:

```
---
ps_apphome_location:  "/home/hcm92_home"
ps_app_home:
  db_type:  "%{hiera('db_platform')}"
  include_ml_files: false
  location:  "/home/hcm92_home"
```

For example, on Microsoft Windows:

```
---
ps_apphome_location:  "C:/hcm92_home"
ps_app_home:
  db_type:  "%{hiera('db_platform')}"
  include_ml_files: false
  location:  "C:/hcm92_home"
```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-6-3: Preparing the Customization File for the `PS_CFG_HOME` Location

By default, the DPK setup script creates the `PS_CFG_HOME` directory in `<user_profile>/psft/pt/8.58`, such as `C:/users/username/psft/pt/8.58` on Microsoft Windows, and `/home/psadm2/psft/pt/8.58` on Linux, AIX, HP-UX, or Solaris. Note that you cannot specify different `PS_CFG_HOME` locations for different PeopleSoft domains. The DPK installation requires the same `PS_CFG_HOME` be used for all domains. Use these steps to specify the `PS_CFG_HOME` location.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_configuration.yaml` file in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

The `PS_CFG_HOME` installation location is specified by the `ps_config_home` parameter.

```
ps_config_home:      "%{hiera('user_home_dir')}/%{hiera('domain_⇒
user')}/psft/pt/8.58"
```

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the entire section from the `psft_configuration.yaml` file into the `psft_customizations.yaml` file and modify the location value as needed.

Retain the indentation as given in the delivered YAML file.

For example, on Linux, AIX, HP-UX, or Solaris:

```
---
ps_config_home:      "/home/pt858_config"
```

For example, on Microsoft Windows:

```
---
ps_config_home:      "C:/pt858_config"
```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-6-4: Preparing the Customization File for the PS_CUST_HOME Location

Use the `PS_CUST_HOME` location for files such as COBOL and SQR that originate with your organization. The delivered YAML files do not include a `PS_CUST_HOME` location. The DPK setup script creates the `PS_CUST_HOME` if it does not exist.

Note. Setting a `PS_CUST_HOME` environment variable, which was used for non-DPK deployments, does not work.

1. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

2. Add the following parameters in the `psft_customizations.yaml` file and modify the location value as needed.

Retain the indentation as given in the delivered YAML file.

For example, on Linux, AIX, HP-UX, or Solaris:

```
---
ps_cust_home_location:  "/home/pscusthome"
ps_cust_home:
```



```
location:    "/home/pscusthome"
```

For example, on Microsoft Windows:

```
---
ps_cust_home_location:    "C:/pscusthome"
ps_cust_home:
  location:    "C:/pscusthome"
```

3. Save the file.
4. Continue with the steps in Completing the Customized Deployment.

Task 4-7: Preparing the Customization File for Jolt SSL and WSL SSL Ports

You have the option to use the Secure Socket Layers/Transport Layer Security (SSL/TSL) protocol for Workstation Listener and Jolt Listener ports for the application server configuration. To use this protocol you must set up an Oracle wallet for the digital certificates.

See *PeopleTools: Security Administration*, "Installing Web Server-Based Digital Certificates."

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_configuration.yaml` file in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the entire `appserver_domain_list` section from `psft_configuration.yaml` to `psft_customizations.yaml`.

When you copy, retain the indentation as given in the delivered YAML file.

4. Add the following parameters to the `psft_customizations.yaml` file:

Note. These parameters are not included in the delivered `psft_configuration.yaml` file.

- Specify the SSL/TSL port for the Jolt listener; for example 9010.
JOLT Listener/SSL Port: 9010
- Specify the SSL/TSL port for the Workstation listener, for example 7010:
Workstation Listener/SSL Port: 7010
- Specify the location of the wallet containing the certificates:
Oracle Wallet/SEC_PRINCIPAL_LOCATION: test/security
- Specify the wallet name, for example `psft`:

```
Oracle Wallet/SEC_PRINCIPAL_NAME:      psft
```

- Specify the wallet password:

```
Oracle Wallet/SEC_PRINCIPAL_PASSWORD:
```

5. Modify the `psft_customizations.yaml` file, including the added parameters from the previous step, with values for your environment.

Note. Be sure to retain the indentation shown in this example.

This sample `psft_customizations.yaml` file shows the parameters added from step 4 in bold font:

```
---
```

```
appserver_domain_list:
  "%{hiera('appserver_domain_name')}":
    os_user:      "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"
    template_type: "%{hiera('appserver_template')}"

    db_settings:
      db_name:      "%{hiera('db_name')}"
      db_type:      "%{hiera('db_platform')}"
      db_opr_id:    "%{hiera('db_user')}"
      db_opr_pwd:   "%{hiera('db_user_pwd')}"
      db_connect_id: "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Allow Dynamic Changes:      Y
      Domain Settings/Domain ID:                  "%{hiera('appserver_domain_⇒
name')}%"
      PSAPPSRV/Min Instances:                      2
      PSAPPSRV/Max Instances:                      2
      PSAPPSRV/Max Fetch Size:                    15000
      Security/DomainConnectionPwd:               "%{hiera('domain_conn_⇒
pwd')}%"
      JOLT Listener/Port:                         "%{hiera('jolt_port')}"
      JOLT Listener/Address:                      0.0.0.0
      JOLT Listener/SSL Port:                  9010
      Workstation Listener/Port:                  "%{hiera('wsl_port')}"
      Workstation Listener/SSL Port:            7010

      Oracle Wallet/SEC_PRINCIPAL_LOCATION: test/security

      Oracle Wallet/SEC_PRINCIPAL_NAME:      psft

      Oracle Wallet/SEC_PRINCIPAL_PASSWORD:

    feature_settings:
      PUBSUB:      "Yes"
      QUICKSRV:    "No"
```

```

QUERYSRV:      "No"
JOLT:          "Yes"
JRAD:          "No"
WSL:           "Yes"
DBGSRV:        "No"
RENSRV:        "No"
MCF:           "No"
PPM:           "Yes"
PSPMSRV:       "Yes"
ANALYTICSRV:   "No"
SERVER_EVENTS: "Yes"
DOMAIN_GW:     "No"

```

6. Save the file.
7. Continue with the steps in Completing the Customized Deployment.

Task 4-8: Preparing the Customization File for Oracle HTTP Server

Use the information in this section if you want to customize the installation of Oracle HTTP Server (OHS). OHS is included as part of Oracle WebLogic, and is used as a reverse proxy server (RPS).

Note. You cannot install OHS alone. The OHS installation is part of the PeopleTools DPK deployment.

See *PeopleTools: Portal Technology*, "Using Reverse Proxy Servers."

See *Fusion Middleware Installing and Configuring Oracle HTTP Server*, Oracle Help Center, <https://docs.oracle.com/middleware/1213/core/install-ohs/toc.htm>.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_deployment.yaml` and `psft_configuration.yaml` files in `BASE_DIR/dpk/puppet/production/data`.

The parameter to turn OHS on, and the installation location are located in `psft_deployment.yaml`. The OHS domain configuration parameters are included in `psft_configuration.yaml`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_deployment.yaml` and `psft_configuration.yaml` files.

Ensure that the file begins with three dashes (- - -).

3. Change the value for `setup_ohs` to true.

This is mandatory to enable OHS. In addition, select other sections listed below, corresponding to the components that you want to customize, and copy them to the `psft_customizations.yaml` file.

As previously mentioned, setting the optional attribute `remove: false` means that the parameters in this section will not be deleted when the deployed environment is removed.

- To enable OHS (mandatory), copy the `setup_ohs` scalar parameter from `psft_deployment.yaml` into the

psft_customizations.yaml file, and set it to true. Retain the indentation as given in the delivered YAML file, as shown in this example:

```
---
setup_ohs:  true
```

Note. If you copy only this parameter into psft_customizations.yaml, the deployment will use the default installation location and default domain configuration.

- To change the location of the OHS installation (optional), copy the following scalar and collection parameters from psft_deployment.yaml into the psft_customizations.yaml file. Retain the indentation as given in the delivered YAML files.

Edit the parameters to specify the desired location. Enter the full path to the installation location. Be sure to enter the same value for both ohs_location and the location under ohs.

```
---
setup_ohs:  true
ohs_location:      "%{hiera('pt_location')}/bea/ohs"

ohs:
  location: "%{hiera('ohs_location')}"
```

- To customize the OHS domain configuration (optional), copy the following collection parameters from psft_configuration.yaml into the psft_customizations.yaml file and modify for your environment.

Retain the indentation as given in the delivered YAML file.

Replace the password sample below (for webserver_admin_user_pwd) with an encrypted password. Enter the encrypted password on a single line. Do not include spaces or line feeds.

See "Encrypting Passwords for Customizations on Linux, AIX, HP-UX, or Solaris."

Note. Use clear text passwords for silent mode installation.

```
---
setup_ohs:  true
ohs_domain:
  name:      ohsdom
  os_user:   "%{hiera('domain_user')}"
  domain_home_dir: "%{hiera('ps_config_home')}"
  pia_webserver_type: "%{hiera('webserver_type')}"
  pia_webserver_host: "%{hiera('pia_host_name')}"
  pia_webserver_port: "%{hiera('pia_http_port')}"
  node_manager_port: 7500

  webserver_settings:
    webserver_type:      ohs
    webserver_home:      "%{hiera('ohs_location')}"
    webserver_admin_user: system
    webserver_admin_user_pwd: ENC[PKCS7,MIIBeQYJKoZ.....]
    webserver_admin_port: 7700
    webserver_http_port:  7740
    webserver_https_port: 7743
```

- If you want to customize the installation location and domain configuration, copy all three entries into psft_customizations.yaml and edit. For example, to modify the installation location and the OHS domain

```

name:
---
setup_ohs:  true

ohs_location:      "C:/psft_ohs"

ohs:
  location: "C:/psft_ohs"

ohs_domain:
  name:          ohsdomain2
  os_user:       "%{hiera('domain_user')}}"
  domain_home_dir: "%{hiera('ps_config_home')}}"
  pia_webserver_type: "%{hiera('webserver_type')}}"
  pia_webserver_host: "%{hiera('pia_host_name')}}"
  pia_webserver_port: "%{hiera('pia_http_port')}}"
  node_manager_port: 7500

  webserver_settings:
    webserver_type:      ohs
    webserver_home:      "%{hiera('ohs_location')}}"
    webserver_admin_user: system
    webserver_admin_user_pwd: ENC[PKCS7,MIIBeQYJKoZ.....]
    webserver_admin_port: 7700
    webserver_http_port:  7740
    webserver_https_port: 7743

```

4. Save the file.
5. Continue with the steps in Completing the Customized Deployment.

Task 4-9: Preparing the Customization File for Mid-Tier Connection to a DB2 z/OS Database

Use these steps to set up PeopleSoft mid-tier components to connect to a DB2 z/OS database. The DPK setup script does not identify or verify the database client software on the host machine. You have the responsibility to ensure that the installation is supported, complete, and correct.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

This section assumes:

- You installed the appropriate client software for DB2 z/OS on the host machine and made a note of the DB2 client installation location.
 - When running the DPK setup script, you specified DB2 z/OS (DB2ODBC) as the database platform.
 - You have completed manually cataloging the database, and noted the values you used.
1. Locate the `psft_configuration.yaml` and `psft_deployment.yaml` files in `BASE_DIR/dpk/puppet/production/data`.

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your `psft_customizations.yaml` file.

You need parameters from both files. The `db_platform` parameter appears in `psft_deployment.yaml`, and the `db2_server_list` section appears in `psft_configuration.yaml`.

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the `psft_configuration.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the `db_platform` section from `psft_deployment.yaml` to `psft_customizations.yaml`.

Retain the indentation as given in the delivered YAML files.

```
db_platform:      DB2ODBC
```

4. Copy the `db_name`, `db_user` and `db_user_pwd` scalar parameters from `psft_configuration.yaml` to `psft_customizations.yaml` and change for your environment.

Retain the indentation as given in the delivered YAML files.

```
db_name:          EP92DMO
db_user:          VP1
db_user_pwd:      ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
```

5. Copy the `db2_server_list` section from `psft_configuration.yaml` to `psft_customizations.yaml`.

Retain the indentation as given in the delivered YAML files.

```
db2_server_list:
  "%{hiera('db_name')}":
    db2_type:      "%{hiera('db_platform')}"
    db2_host:      "%{::fqdn}"
    db2_port:      "%{hiera('db_port')}"
    db2_node:      TCPLNX01
    db2_target_db: "%{hiera('db_name')}"
```

6. Add the `db2_client` section:

```
db2_client:
  sqllib_location: /home/ibm/sqllib
  instance_user:   ibm
  remove:          false
```

7. If necessary for your environment, add `db2_user_name`, `db2_user_pwd`, and `instance_user` (Linux, AIX, HP-UX, or Solaris).

8. Modify the `psft_customizations.yaml` for your environment.

For example, on Linux, AIX, HP-UX, or Solaris:

```
---
db_platform:          DB2ODBC
db_name:              EP92DMO
db_user:              VP1
db_user_pwd:          ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

db2_client:
  sqllib_location:    /home/ibm/sqllib
  instance_user:       ibm
  remove:              false

db2_server_list:
  "EP92DMO":
    db2_type:          DB2ODBC
    db2_host:           sysb21
    db2_port:           5126
    db2_node:           TCPDS3B
    db2_target_db:      DB2DS3B
    db2_user_name:      psftuser
    db2_user_pwd:       password
    remove:             false
```

Note. The `instance_user` attribute only applies to Linux, AIX, HP-UX, and Solaris platforms. This refers to the user name where the sqllib is installed.

On Microsoft Windows:

```
----
db_platform:          DB2ODBC
db_name:              EP92DMO
db_user:              VP1
db_user_pwd:          ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

#####
# Replace this password sample with encrypted text from the #
# generated psft_configuration.yaml file.                  #
#####

db2_client:
  sqllib_location:     C:/db2105
  remove:              false

db2_server_list:
  "EP92DMO":
```

```

db2_type:          DB2ODBC
db2_host:          sysb21
db2_port:          5126
db2_node:          TCPDS3B
db2_target_db:     DB2DS3B
db2_user_name:     psftuser
db2_user_pwd:      password
remove:            false

```

Use these guidelines in completing the `psft_customizations.yaml`:

psft_customizations.yaml attribute and sample value	Description
<pre>db_platform: DB2ODBC and db2_type: DB2ODBC</pre>	Specify the RDBMS for DB2 z/OS.
<pre>db_name: EP92DMO and db2_server_list: "EP92DMO"</pre>	Specify the database name you supplied to the DPK setup script. This is the logical PeopleSoft database name, and also the name of the ODBC system DSN. The DB2 z/OS system uses this as the database alias.
<pre>db_user: VP1</pre>	Specify the PeopleSoft User ID (operator ID) such as VP1 or PS.
<pre>db_user_password: encryp_password</pre>	Specify the password for the PeopleSoft User. Enter encrypted text from the <code>psft_configuration.yaml</code> file. Note. Use clear text passwords for silent mode installation.
<pre>sqllib_location: C:/db2105</pre>	Specify the location of the connectivity software for the DB2 client.
<pre>db2_host: sysb21</pre>	Specify the host name where the DB2 z/OS subsystem resides.
<pre>db2_port: 5126</pre>	Specify the TCP/IP port used by the DB2 z/OS subsystem.
<pre>db2_node: TCPDS3B</pre>	Specify the TCP/IP node name.
<pre>db2_target_db: DB2DS3B</pre>	Specify the DB2 subsystem name.
<pre>db2_user_name: psftuser db2_user_pwd: password</pre>	Specify the PeopleSoft access ID and password.

9. Save the file.

10. Continue with the steps in Completing the Customized Deployment.

Task 4-10: Preparing the Customization File for sysctl and ulimit Parameters on Linux, AIX, HP-UX, or Solaris

This section discusses:

- Preparing the Customization File to Change the setup_sysctl Parameter
- Preparing the Customization File to Overwrite the sysctl Parameters
- Preparing the Customization File to Overwrite the ulimit Parameters

Task 4-10-1: Preparing the Customization File to Change the setup_sysctl Parameter

Use these instructions for a deployment in this situation:

- The existing sysctl parameters on your system meet the DPK requirements.
The values must be equal to or greater than the values for the parameters in the generated psft_unix_system.yaml file.
- You do not want the DPK setup script to overwrite the sysctl parameters

See "Prerequisites," Reviewing the System Parameters on Linux, AIX, HP-UX, or Solaris.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the psft_unix_system.yaml file, which was installed by the deployment, in *BASE_DIR/dpk/puppet/production/data*.
2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as vi on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the generated psft_unix_system.yaml file.
If this is the first entry in the psft_customizations.yaml file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.
3. Copy the parameter below from the psft_unix_system.yaml file and paste it into the psft_customizations.yaml file.
Retain the indentation as given in the delivered YAML file.

```
setup_sysctl: true
```
4. To specify that the deployment does not overwrite the sysctl parameters, change the value to "false"; for example:

```
---
setup_sysctl: false
```
5. Save the file.
6. Continue with the steps in Completing the Customized Deployment.

Task 4-10-2: Preparing the Customization File to Overwrite the sysctl Parameters

Use these instructions in this situation:

- You want to allow the DPK setup script to change the sysctl settings on your system.
- You want to specify sysctl values that are equal to or greater than the values for the parameters in the generated `psft_unix_system.yaml` file.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_unix_system.yaml` file, which was installed by the deployment, in `BASE_DIR/dpk/puppet/production/data`.
2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the generated `psft_unix_system.yaml` file.
If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.
3. Copy the `setup_sysctl: true` scalar parameter from the `psft_unix_system.yaml` file and paste it into the `psft_customizations.yaml` file.
Do not change the parameter; it must be set to "true". Retain the indentation as given in the delivered YAML file.
4. Copy the entire `sysctl: collection` type parameter (comprised of several lines) from the `psft_unix_system.yaml` file and paste it into the `psft_customizations.yaml` file.
Retain the indentation as given in the delivered YAML file.

```

---
setup_sysctl: true
sysctl:
  kernel.msgmnb:          65538
  kernel.msgmni:          1024
  kernel.msgmax:          65536
  kernel.shmmax:          68719476736
  kernel.shmall:          4294967296
  kernel.core_uses_pid:   1
  net.ipv4.tcp_keepalive_time: 90
  net.ipv4.tcp_timestamps: 1
  net.ipv4.tcp_window_scaling: 1
  net.ipv4.ip_local_port_range: '10000 65500'

```

5. Change the values of the `sysctl` parameters in `psft_customizations.yaml` as needed, but the values must be equal to or greater than those in the generated `psft_unix_system.yaml` file.
6. Save the file.
7. Continue with the steps in Completing the Customized Deployment.

Task 4-10-3: Preparing the Customization File to Overwrite the ulimit Parameters

Use these instructions if you want to specify ulimit values that are equal to or greater than the values for the parameters in the generated `psft_unix_system.yaml` file.

There is no parameter that you can use to specify whether the DPK setup script sets the ulimit parameters. You can change the values, but there is no parameter to prevent the DPK setup script from changing the ulimit parameters.

Note. Review the requirements in Understanding PeopleSoft Environment Customizations before preparing the customization file.

1. Locate the `psft_unix_system.yaml` file, which was installed by the deployment, in `BASE_DIR/dpk/puppet/production/data`.
2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as `vi` on Linux, AIX, HP-UX, or Solaris, and save it in the same location as the generated `psft_unix_system.yaml` file.

If this is the first entry in the `psft_customizations.yaml` file, ensure that there are three dashes (- - -) on the first line of the file. Do not indent the dashes.

3. Copy the entire `ulimit:` collection type parameter (comprised of several lines) from the `psft_unix_system.yaml` file and paste it into the `psft_customizations.yaml` file.

Retain the indentation as given in the delivered YAML file.

```
ulimit:
  group:
    hard.nofile: 65536
    soft.nofile: 65536
    hard.nproc: 65536
    soft.nproc: 65536
    hard.core: unlimited
    soft.core: unlimited
    hard.memlock: 500000
    soft.memlock: 500000
    hard.stack: 102400
    soft.stack: 102400

    user:
      hard.nofile: 131072
      soft.nofile: 131072
      hard.nproc: 131072
      soft.nproc: 131072
      hard.core: unlimited
      soft.core: unlimited
      hard.memlock: 500000
      soft.memlock: 500000
```

4. Change the values of the `ulimit` parameters in `psft_customizations.yaml` as needed, but the values must be equal to or greater than those in the generated `psft_unix_system.yaml` file.
5. Save the file.
6. Continue with the steps in Completing the Customized Deployment.

Task 4-11: Completing the Customized Deployment

Use these steps to complete the customized deployment of the PeopleSoft environment:

1. Run the DPK setup script as previously described.
See "Deploying the PeopleSoft PeopleTools Deployment Packages."
2. Answer *n* (no) to the following prompt:

```
Do you want to continue with the default initialization process? [y|n]: ⇒
n
```

The script stops, and displays instructions for completing the initialization. Leave the command window or terminal window open to refer to the instructions provided.

3. Prepare the `psft_customizations.yaml` file as previously described and save it in *BASE_DIR/dpk/puppet/production/data*.
4. As directed by the message displayed when the DPK setup script exited, enter the full path and script name, and wait until the deployment is complete.

Since the script redirects the output to a log file, you cannot follow the progress on the command window or terminal window. The process is complete when the prompt returns.

On Microsoft Windows:

```
BASE_DIR\psft_puppet_apply.cmd
```

On Linux, AIX, HP-UX, or Solaris:

```
BASE_DIR/psft_puppet_apply.sh
```

The `psft_puppet_apply.<ext>` script performs these actions:

- Sets the required PATH, library path, and PYTHON path.
- Runs the `puppet apply` command to set up the PeopleSoft environment using the values in `psft_customizations.yaml` and the generated YAML files.

As mentioned, the values in `psft_customizations.yaml` override those in the generated YAML files.

- Saves the log file as *BASE_DIR/psft_dpk_setup_apply.log*.
5. If you want to exclude the Puppet debug messages from the log file, run the script with the `nodebug` option:

Note. You must run the script as instructed by the script message. Do not copy the `psft_puppet_apply` script into a different *BASE_DIR* to run.

On Microsoft Windows:

```
BASE_DIR\psft_puppet_apply.cmd --nodebug
```

On Linux, AIX, HP-UX, or Solaris:

```
BASE_DIR/psft_puppet_apply.sh --nodebug
```

Note that you can run the `puppet apply` command directly, but Oracle recommends that you use the script provided, which sets the required environment variables to specify the locations for the Puppet software and the YAML files. Oracle also recommends that you do not run `puppet apply -debug`.

Chapter 5

Setting Up the Install Workstation

This chapter discusses:

- Understanding the Install Workstation
- Prerequisites
- Starting Configuration Manager
- Setting Startup Options
- Editing the Default Profile
- Running Client Setup

Understanding the Install Workstation

This chapter describes how to set up a PeopleSoft Windows-based client for connecting to the database server in two-tier mode, specifically for the purpose of performing install-related tasks from the workstation. You must configure at least one two-tier Windows-based client for running the Server Transfer, Data Mover, and SQR processes required for setting up the batch server and for creating the PeopleSoft database. For some installations you may wish to set up multiple install workstations, so that you can perform asynchronous tasks at the same time; for example, you could create and populate multiple databases simultaneously. You can quickly configure multiple workstations by exporting a configuration file from one workstation and importing it to another workstation.

See Also

PeopleTools: System and Server Administration

Prerequisites

The following tasks are prerequisites for setting up the install workstation:

- The workstation must have database connectivity software installed.
- You must have planned your database creation strategy. You should know the precise names of the databases that you intend to create.
- Make sure that you have created your connect strategy. You must use a Connect ID. You should know both the Connect ID and Connect password.

For information on PeopleSoft Connect ID and Connect password, consult the *PeopleTools: System and Server Administration* product documentation for information on setting Application Server domain parameters.

- The workstation must have a logical drive mapped to *PS_HOME* on the file server (or, if the file server and install workstation are one and the same, *PS_HOME* can be installed on a local drive).
- The person performing the installation must have read access to the *PS_HOME* directory.

If this is the same workstation on which the PeopleSoft PeopleTools installation was performed, it should have a PeopleTools 8.5 installation program group, which was created when you loaded the PeopleTools software. This isn't a requirement, but it does make it more convenient to run the PeopleTools install applications.

See Also

"Preparing for Installation"

"Using the PeopleSoft Installer"

Task 5-1: Starting Configuration Manager

Configuration Manager is a utility for configuring workstations being used as the PeopleTools Development Environment. These are its principal functions:

- Sets up and make changes to PeopleSoft configuration settings.
- Creates a program group containing Microsoft Windows shortcuts to PeopleSoft applications.
- Installs local DLLs.

The first time you run Configuration Manager on the client, it will populate certain fields with default values specified in a configuration file stored on the file server, specifically: *PS_HOME\setup\pstools.cfg*. This configuration file was set up when you ran the installation. Once you set up and run Configuration Manager, it will populate fields using values that are stored in the Windows system registry.

To start Configuration Manager, do one of the following:

- Locate PeopleTools 8.58, Configuration Manager in the list of programs, for example from the Start menu or the Apps screen.

Note. See the documentation for your operating system for information on accessing the Apps screen. The PeopleTools program group will be available if you installed PeopleSoft PeopleTools on this workstation.

- If the *PeopleTools 8.58* program group was not installed on this workstation, run *pscfig.exe* directly from the *PS_HOME\bin\client\winx86* directory on the file server.

Task 5-2: Setting Startup Options

The Startup tab of Configuration Manager sets the default options for the PeopleSoft sign-on screen that is used for connecting to a PeopleSoft database. It also contains a setting that specifies the local directory for storing cached PeopleSoft data.

To set Startup options:

1. Confirm that you are viewing the Configuration Manager Startup tab (this tab is what you see if you started Configuration Manager as described in the previous task).
2. Set the following options:
 - *Database type* — Verify the type of RDBMS. This should already be set to DB2 UDB for OS/390.

- *Application Server Name* — This option appears if you select a database type of Application Server. It is where you enter your application server name if you are setting up a three-tier connection.
- *Database name* — The name of the default database to connect to. Enter the name of one of the databases that you intend to create.
- *User ID* — The name of the default user that will appear in the sign-on screen. This can be any valid user name, although for installation setup it normally matches the name of one of the built-in PeopleSoft users (typically PS or VP1) that will be installed in the database.

If you have decided to modify the PeopleSoft database directly and use a user ID other than a user ID delivered by PeopleSoft, type your user ID into this field.

- *Connect ID and Connect Password* — Type your connect ID and password into these fields. Connect ID is required for this PeopleSoft release. The connect ID and password must match the z/OS ID that you set up in the chapter "Preparing for Installation."

See Also

"Preparing for Installation," Using Connect ID

Task 5-3: Editing the Default Profile

Begin by editing the default profile for the workstation. Among other things, this will verify that the paths to *PS_HOME* and its subdirectories are correctly set, which is required for subsequent tasks.

For more information on using Configuration Manager, see the *PeopleTools: System and Server Administration* product documentation for configuring user profiles.

To edit the default profile:

1. Select the Profile tab in Configuration Manager.
Only one profile, the Default Profile, has been defined.
2. Select Edit to display the Edit Profile dialog box, and then select the Process Scheduler tab.

3. In the Process Scheduler tab verify the options listed below the example.
These should have been set correctly by the PeopleSoft installation program.

Edit Profile - 'Default'

Database/Application Server | **Process Scheduler** | nVision | Common

General

PeopleSoft Home Directory (PS_HOME): C:\psft\pt\ps_home8.58\ ...

PeopleSoft App Home Directory (PS_APP_HOME): C:\psft\pt\pscm_app_home ...

PeopleSoft Customizations Home Directory (PS_CUST_HOME): ...

Temp Directory (TEMP): c:\temp ...

Crystal Reports (CRWRPTPATH): C:\psft\pt\ps_home8.58\crw ...

Database Drivers (DBBIN): C:\sqlib\bin| ...

Output Directory (OUTPUT): c:\temp\ ...

Word Executables Directory (WINWORD): ...

Log Directory (LOG): c:\temp ...

☐ Redirect Output

Application Engine

☐ Debug

☐ Disable Restart

SQR

SQR Executables (SQRBIN): C:\psft\pt\ps_home8.58\bin\sqr\DB2\binw ...

PSSQR Path: C:\psft\pt\ps_home8.58\sqr ...

SQR Flags (PSSQRFLAGS): -ZIFC:\psft\pt\ps_home8.58\sqr\pssqr.ini

COBOL

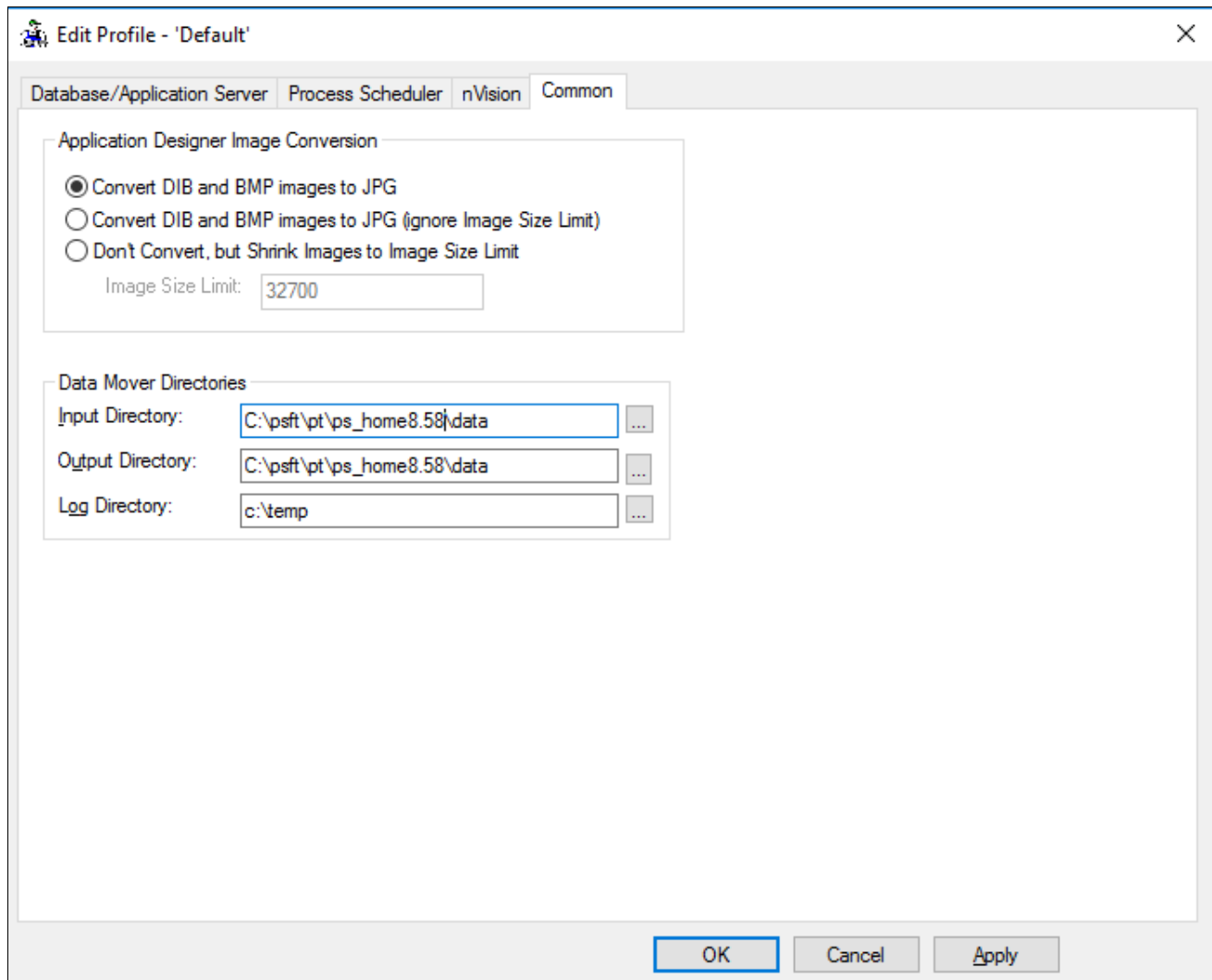
COBOL Executables (CBLBIN): C:\psft\pt\ps_home8.58\cblbin ...

OK Cancel Apply

Edit Profile dialog box: Process Scheduler tab

- Verify that the PeopleSoft Home Directory (PS_HOME) field is set to the path to *PS_HOME* on the file server.
- On Microsoft Windows operating systems, set the Database Drivers (DBBIN) field to the location of the database connectivity files on the workstation.
The example shows the default for DB2 z/OS, c:\sqlib\bin.
- Set the SQR Executables (SQRBIN) field to the file server directory where SQR for Windows was installed when you ran the installation.
- Set the SQR Flags (PSSQRFLAGS) field to *-ZIF<PS_HOME>\sqr\pssqr.ini*.
- Set the SQR Report Search 1 (PSSQR1) field to *PS_HOME\sqr*. The remaining SQR Report Search fields can be left blank, because no additional SQR report directories have been created yet.

4. Select the Common tab of the Edit Profile dialog box, shown in this example:



Edit Profile dialog box: Common tab

The following fields on the Common tab are used to set Data Mover default input, output, and log directories.

- Verify that the Input Directory and Output Directory fields are set to *PS_HOME*\data. This directory will store the Data Mover scripts and .DAT files required to populate the PeopleSoft database.
- Set the Log Directory to a local workstation directory to store the Data Mover log files. The default is C:\TEMP.

Data Mover will not create a new directory under *PS_APP_HOME* or *PS_HOME* for log files. If you want Data Mover to write log files into *PS_APP_HOME*, you must create a new directory named log under *PS_APP_HOME*.

5. Select OK to close the Edit Profile dialog box.

Task 5-4: Running Client Setup

The Client Setup tab does the following:

- Installs a PeopleSoft program group on the workstation.

- Installs system DLLs on the workstation.

These Client Setup functions are performed when you click OK or Apply from Configuration Manager only if the Install Workstation option on the Client Setup tab is selected.

Note. Any files installed by Client Setup on the workstation from the file server use the paths specified in the default profile.

To run Client Setup:

1. Select the Client Setup tab in Configuration Manager.
2. In the Group Title text box enter the name of the program group for the icons you want on the client workstation. (A program group name cannot contain any of the following characters: \ / : * ? " < > |)
You can call the program group anything you want, but this documentation uses *PeopleTools 8.58*.
3. If you do not have a PeopleTools 8.58 program group set up on the workstation, be sure to check the following two options for installing shortcuts to applications essential for installation.

Note. When you run Client Setup, it will uninstall any existing shortcuts in the PeopleTools 8.58 program group, and install shortcuts for the applications you have selected. If you subsequently want to install or uninstall shortcuts, you can always re-run Client Setup.

- *Data Mover*
 - *Configuration Manager*
4. Select the option Install Workstation.
This check box determines whether Client Setup runs when you click Apply or OK in Configuration Manager. If this option is not selected, Client Setup will create or update settings in the registry, but it will not set up the PeopleTools 8.58 program group or install local DLLs.
 5. Click OK to run Client Setup and close Configuration Manager.

Chapter 6

Setting Up the Batch Environment on z/OS

This chapter discusses:

- Understanding COBOL and the Batch Environment
- Setting Up Your Batch Environment
- Completing the Preinstallation Worksheet
- Allocating z/OS Partitioned Datasets
- Using PeopleSoft Server Transfer
- Transferring Files to z/OS Using SFTP
- Setting up the USS Environment Variables and Granting Access to USS Files
- Installing SQR for z/OS
- Binding the SQR DB2 Plan
- Assembling PeopleTools Programs
- Compiling and Link-Editing DB2 COBOL
- Compiling and Link-Editing COBOL
- Changing the IBM Enterprise COBOL Compiler Version

Understanding COBOL and the Batch Environment

This chapter describes how to compile and link PeopleSoft ASSEMBLER and COBOL batch programs, if necessary. Note that COBOL is no longer needed for PeopleTools because the Process Scheduler is written in C++. In addition, COBOL is not required for applications that contain no COBOL programs.

Note. We require that you maintain a "central repository" of your COBOL source code on the file server. The multiplatform installer will place all the needed COBOL source code on your Microsoft Windows and UNIX servers during the initial install. However, if you download any COBOL patches or make any customizations, you should apply them to your file server. From there you can transfer the updated COBOL source code out to any relevant application or batch servers. This approach will help you keep your COBOL source code in sync, even if it resides on multiple machines. For Microsoft Windows operating systems, COBOL stored SQL statements are only installed on the file server as well.

Carry out the procedures in this chapter to set up COBOL if your batch (Process Scheduler) server is on a supported z/OS operating system. See the My Oracle Support, Certifications area for the supported COBOL compilers for PeopleSoft PeopleTools.

If you are using IBM Enterprise COBOL for z/OS follow the instructions in this chapter. Otherwise, to compile COBOL on Microsoft Windows and UNIX operating systems, see the chapters "Installing and Compiling COBOL on Windows" and "Installing and Compiling COBOL on UNIX."

See Also

PeopleTools: Global Technology

My Oracle Support, Certifications

Setting Up Your Batch Environment

This chapter describes how to set up your batch environment on a z/OS database server. This process involves compiling and linking PeopleSoft COBOL batch programs that you will use for such PeopleSoft products as PeopleSoft Human Capital Management's Payroll or PeopleSoft Financial Management's General Ledger. The PeopleSoft Server Transfer program creates a script that your FTP program will use to transfer files from the file server to the database or batch server. It also creates scripts to configure the batch environment.

Note. Remember, COBOL is not required for applications that contain no COBOL programs.

The batch environment components reside in two locations: the z/OS server and UNIX System Services. COBOL, SQR and other installation-related components reside on the z/OS server; Process Scheduler and Application Engine components reside in UNIX System Services.

The Server Transfer process must be executed using an ID that has the authority to access both the z/OS Server and UNIX System Services (USS). PDS and PDSE members will be created on the z/OS server, and directories and files will be created in UNIX System Services. UNIX System Services security requires that any IDs or USER values deployed in subsequent batch processes must belong to the same GROUP as the User ID that initially created the libraries and files on USS. During batch execution, both permanent and temporary files are written to UNIX Systems Services, and the ID creating these files must have the proper authority to create directories and files. Oracle recommends that this be administered at the UNIX security GROUP level.

After you compile your COBOL components in the following steps you will only need to re-compile COBOL in the following situations:

- Any COBOL programs change
- The supported COBOL compiler changes
- You change the version of your RDBMS
- You change your version of your operating system
- You apply a patch or a fix

See Also

My Oracle Support, Certifications

My Oracle Support, Patches & Updates

Task 6-1: Completing the Preinstallation Worksheet

Use the preinstallation worksheet below to record site-specific information to expedite editing and transferring COBOL and SQR files to z/OS. Try to complete it before going on to the next step. Typically, z/OS and DB2 systems administrators should be able to supply the required information.

Parameter values will be blank the first time you run the PeopleSoft Server Transfer program. You must specify your own site-specific values. The sample values, where provided, are only suggestions. In subsequent executions of the Server Transfer program, the program will use the values stored in %TEMP%\PSXFR.CFG, built during the initial run. Note that %TEMP% is a system or environment variable.

Transfer Parameters	Site-Specific Value	Sample Value
<i>1. OS390 Dataset High Level Qualifier (HLQ.PPVVV)</i> The high-level qualifier used for PeopleSoft COBOL and SQR datasets. Suggested usage: <i>hlq.ppvvv</i> where <i>hlq</i> is the highest-level qualifier, and <i>ppvvv</i> is the PeopleSoft product and release (such as HR920). Note. This documentation often uses HLQ.PPVVV as an example.	<enter value>	PS.HR920
<i>2. PeopleSoft File Server High Level Directory</i> Set to <i>PS_HOME</i>, the directory to which you installed the PeopleSoft software, such as N:\HR920.	<enter value>	N:\HR920
<i>3. Target Directory for Generated Files</i> The workstation directory that will contain a variety of files generated when you run the PeopleSoft Server Transfer program, including file transfers, COBOL compile JCL, and translated SQRs (for example [and] translated to \). Suggested usage: <i>PS_HOME\STAGE</i>	<enter value>	N:\HR920\STAGE
<i>4. File Transfer Method</i> Indicates which file transfer protocol will be used. Suggested usage: Microsoft FTP	<enter value>	Microsoft File Transfer Protocol (FTP)
<i>5. Database Server Host/Node Name</i> FTP Only: Symbolic IP Name For z/OS System Suggested usage: IP Name of Server If you do not use FTP, specify any alphanumeric character in this field.	<enter value>	Server IP name

Transfer Parameters	Site-Specific Value	Sample Value
6. Database Server Login ID FTP Only: z/OS user ID used to connect to z/OS server and create files and directories on USS. <i>Note:</i> This ID MUST be in the same UNIX GROUP as any IDs under which subsequent batch processing will be executed. Suggested usage: LOGONID If you do not use FTP, specify any alphanumeric character in this field.	<enter value>	USER1
7. Job Card Line 1 This is the first line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program. Enter // in first two positions followed by job card information such as job name, keyword JOB, account information, and so on. If the job card extends to two lines, end the first line with a comma and complete Job Card Line 2. <i>Note:</i> Any USER= parm coded MUST be in the same UNIX GROUP as the Database Server Logon ID noted in Parameter 6 above.	<enter value>	//PSHR920 JOB (PSOFT),'J',CLASS=A,MSGCLASS=A
8. Job Card, Line 2 (Enter /* if blank) This is the second line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program. Enter // in first two positions followed by at least one space before continuing to add job card information. Suggested usage: /*	<enter value>	//REGION=OM,MSGLEVEL=(1,1),USER=BATCHID1,PASSWORD=BPSWD1
9. Job Card, Line 3 (Enter /* if blank) This is the third line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program. Enter // in first two positions followed by at least one space before continuing to add job card information. Suggested usage: /*	<enter value>	// NOTIFY=&SYSUID

Transfer Parameters	Site-Specific Value	Sample Value
10. S390/DB2 Operator ID This parameter is for PeopleSoft internal use. Let it default to OPRID.	<enter value>	OPRID
11. S390/DB2 Table Owner ID This is the PeopleSoft table owner ID—the high-level qualifier for DB2 tables (also known as "CREATOR" in the IBM SYS Catalog tables). If you are using secondary authorization, this will be your secondary authorization ID, otherwise it will be your primary authorization ID. Suggested usage: PSOWNER	<enter value>	PS001
12. DB2 Subsystem Name This is the DB2 Subsystem used for the PeopleSoft application you are currently installing (DMO or SYS). Suggested usage: DDDD	<enter value>	DSNT
13. DB2 System Dataset Containing DSN Member This is the DB2 system dataset that contains member DSN.	<enter value>	DSNn10.SDSNLOAD (n is an alphanumeric variable)
14. DB2 System Dataset Containing DSN3@ATH Member This is the DB2 system dataset that contains member DSN3@ATH. DSN3@ATH is a sample authorization exit. By implementing the sample authorization exits you can provide group names as secondary authorization IDs.	<enter value>	DSNn10.SDSNEXIT (n is an alphanumeric variable)
15. DB2 System Dataset Containing DSNTEP2 Member This is the DB2 runtime system dataset containing member DSNTEP2.	<enter value>	DSNn10.RUNLIB.LOAD (n is an alphanumeric variable)
16. PeopleSoft Database Name Suggested usage: DB	<enter value>	PSHR920

Transfer Parameters	Site-Specific Value	Sample Value
<i>17. Plan Name for PTPSQLRT via TSO Attach Facility</i> This is DB2 Plan used by PTPSQLRT (the COBOL/DB2 API used by COBOL batch and process scheduler jobs). Suggested usage: PTPSQLRT	<enter value>	PTPSQLRT
<i>18. Package Name for PTPSQLRT via TSO Attach Facility</i> This is the DB2 Package used by PTPSQLRT (the COBOL/DB2 API used by COBOL batch and process scheduler jobs). Suggested usage: PAKSQLRT	<enter value>	PAKSQLRT
<i>19. Plan Name for PTPSQLRT via Call Attach facility (for USS)</i> Suggested usage: PTPSQLRA	<enter value>	PTPSQLRA
<i>20. Package Name for PTPSQLRT via CALL Attach facility (for USS)</i> Suggested usage: PAKSQLRA	<enter value>	PAKSQLRA
<i>21. Language Environment runtime library (that is, CEE.SCEERUN)</i> We recommend that you ensure the LE runtime libraries are present on the system: xxx.SCEERUNxxx.SCEERUN2	<enter value>	Check with System Administrator for installation LE library name. For example: SYS1.CEE.SCEERUN
<i>22. Language Environment linkedit library (that is, CEE.SCEELKED)</i> Note that SQR uses PM Binder CEE.SCEEBIND.	<enter value>	CEE.SCEELKED

Transfer Parameters	Site-Specific Value	Sample Value
23. CBL System Dataset Containing IGY* Members This is the COBOL load library containing modules used by COBOL compiler. Its members include IGYCASM1, IGYCINIT, and so on. Suggested usage: - For IBM Enterprise COBOL V4.2: - IGY.V4R2M0.SIGYCOMP - IGY.V4R2M0.SIGYCOMP for ANSI Database (EBCDIC) - IGY.V4R2M0.SIGYCOMP for Unicode Database - For IBM Enterprise COBOL V5.1 (Version 5 Release 1): IGY.V5R1M0.SIGYCOMP - For IBM Enterprise COBOL V5.2 (Version 5 Release 2): IGY.V5R2M0.SIGYCOMP - For IBM Enterprise COBOL V6.1 (Version 6 Release 1): IGY.V6R1M0.SIGYCOMP See Changing the IBM Enterprise COBOL Compiler Version	<enter value>	Check with the System Administrator for the installation of IBM Enterprise COBOL V4.2, V5.1, V5.2, or V6.1. For example: - IGY.V4R2M0.SIGYCOMP - IGY.V5R1M0.SIGYCOMP - IGY.V5R2M0.SIGYCOMP - IGY.V6R1M0.SIGYCOMP
24. COBOL Compiler Select the COBOL compiler version from the drop-down list: - IGY61 IBM Enterprise COBOL V6.1 (Version 6 Release 1) - IGY52 IBM Enterprise COBOL V5.2 (Version 5 Release 2) - IGY51 IBM Enterprise COBOL V5.1 (Version 5 Release 1) - IGY42 IBM Enterprise COBOL V4.2 (Version 4 Release 2) See Changing the IBM Enterprise COBOL Compiler Version	<enter value>	IGY51

Transfer Parameters	Site-Specific Value	Sample Value
25. <i>System Storage Name for Temporary Datasets</i> This is the storage device name used for temporary datasets—used in sorting, passing temporary datasets, and so forth—that are deleted after the job completes. Suggested usage: SYSTEMP	<enter value>	SYSTEMP
26. <i>System Storage Name for Permanent Datasets</i> This is the storage device name used for permanent datasets used in dataset allocation, such as those used to store COBOL and SQR files. Suggested usage: SYSPERM	<enter value>	SYSPERM
27. <i>Assembler System Dataset Containing STIMER</i>	<enter value>	SYS1.MACLIB
28. <i>Assembler Program Name</i>	<enter value>	ASMA90
29. <i>SQR High Level Qualifier</i> This is the high-level qualifier used for SQR datasets. Suggested usage: PS.HR920.SQR	<enter value>	PS.HR920.SQR
30. <i>SQR Program Name Found in SQR Load Library</i> This is the name of the SQR program contained in the SQR Load Library. Suggested usage: SQR	<enter value>	SQR
31. <i>SQR Plan Name</i> This is the DB2 Plan name assigned for SQR. Suggested usage: DBCALLS	<enter value>	SQR920
32. <i>SQR Package Name</i> This is the DB2 Package name assigned for SQR. Suggested usage: PAKSQR	<enter value>	PAKSQR
33. <i>Target Server Hardware Platform</i>	<enter value>	UNIX System Services (OS390z/OS)

Transfer Parameters	Site-Specific Value	Sample Value
34. <i>PeopleSoft UNIX System Services Home Directory</i> Suggested usage: /u/data001/dbname	<enter value>	/u/data001/PSHR800
35. <i>Library for DB2 CLI Load Module (i.e., DSNAOCLI)</i>	<enter value>	DSNn10.SDSNLOAD (n is an alphanumeric variable)
36. <i>Plan Name for CLI Packages (i.e., DSNA CLI)</i> Suggested usage: DSNA CLI	<enter value>	DSNA CLI
37. <i>Attachment Type for ODBC to Connect to DB2</i> Suggested usage: RRSAF	<enter value>	RRSAF (Resource Recovery Services Attachment Facility)
38. <i>HFS path to top level of JDK product</i> This will provide the value for the JDK_HOME environment variable in the psconfig.sh file. Suggested usage: /usr/lpp/java/J1.8	<enter value>	/usr/lpp/java/J1.8

Task 6-2: Allocating z/OS Partitioned Datasets

Allocate a z/OS partitioned dataset as HLQ.PPVVV.CNTL, where HLQ is the highest-level dataset qualifier, and PPVVV is the current release of your PeopleSoft software (such as HR920).

File attributes are: FB, LRECL=80,BLKSIZE=6160, Dir Blks 5, SPACE (Primary 15 Tracks, Secondary 5 Tracks). This dataset will be used to transfer allocation JCL.

To complete allocating the datasets:

1. Transfer *PS_HOME*\SRC\CBL\MVS\PSLIBCBL.JCL to HLQ.PPVVV.CNTL(PSLIBCBL).
2. Transfer *PS_HOME*\SRC\CBL\MVS\PSLIBSQR.JCL to HLQ.PPVVV.CNTL(PSLIBSQR).
3. Log on to z/OS and edit PSLIBCBL and PSLIBSQR to reflect the appropriate values for your site as follows:
 - a. Add a job card.
 - b. Change all occurrences of \$PSHLQ\$ to the z/OS Dataset High Level Qualifier determined in the preinstallation worksheet.
 - c. Change all occurrences of \$SYSPERM\$ to the System Storage Name for Permanent Datasets value determined in the preinstallation worksheet.
 - d. Change all occurrences of \$SQRHLQ\$ to the z/OS Dataset High Level Qualifier determined in the preinstallation worksheet.

See Completing the Preinstallation Worksheet.

4. Submit (PSLIBCBL) and (PSLIBSQR) to allocate files.

Task 6-3: Using PeopleSoft Server Transfer

This section discusses:

- Understanding PeopleSoft Server Transfer
- Running the PeopleSoft Server Transfer Program
- Transferring Files to Host Manually
- Mapping PeopleSoft Installation Directories to z/OS

Understanding PeopleSoft Server Transfer

The PeopleSoft Server Transfer program simplifies editing and transferring COBOL and SQR files to z/OS. Pre-compile, Compile, Linkedit, binds, and Process Scheduler-initiated COBOL and SQR jobs are ready to submit following the file transfer, assuming the worksheet values you enter are correct.

Note. Remember, before you can run the Server Transfer program to set up a batch server on z/OS, you must install PeopleSoft PeopleTools on a Microsoft Windows machine. This Microsoft Windows machine will then function as your file server, from which you can run Server Transfer.

The PeopleSoft Server Transfer program performs the following functions:

- Generates a file containing transfer commands to transfer files to z/OS and UNIX System Services (USS). This file is named PSFTXFR.TXT for transferring files to z/OS using FTP.
For information on using secure FTP (SFTP) for file transfers, see Transferring Files to z/OS Using SFTP.
- Generates COBOL compile JCL — program preparation JCL.
- Edits various JCL and PRC files to site-specific standards using values from the transfer parameters specified in the PeopleSoft Server Transfer program.
- Translates [and] characters to a \ (backslash) to correct an ASCII-to-EBCDIC translation problem that occurs during the transfer of SQR files.

Later in this chapter you will learn how workstation file directories relate to z/OS partitioned datasets.

See Mapping PeopleSoft Installation Directories to z/OS.

Before running the PeopleSoft Server Transfer program, ensure that an environment variable (%TMP%) is set to a "temporary" directory to which you have write access. Oracle recommends using C:\temp for this use.

The transfer program writes the following two files to the %TMP% directory:

- PSXFR.LOG — a log file that summarizes the program's execution.
- PSXFR.CFG — a configuration file that stores the parameters you selected.

Note. The PeopleSoft Server Transfer program writes the above files to the %TMP% directory, or to the %TEMP% directory if the %TMP% environment variable is undefined.

Note. The Server Transfer program is used only to transfer files to your batch server.

Task 6-3-1: Running the PeopleSoft Server Transfer Program

To run the PeopleSoft Server Transfer program:

1. Start PeopleSoft Server Transfer.

Enter the following path into the Run dialog box:

```
PS_HOME\BIN\CLIENT\WINX86\pstrans.exe
```

Alternatively, select the Server Transfer shortcut, if you elected to create a Program Group during the PeopleSoft PeopleTools installation.

The PeopleSoft Server Transfer screen appears, as shown in this example, which contains all of the parameters whose values you should have determined while filling out the preinstallation worksheet.

	Parameter Description	Parameter Value
1	OS390 Dataset High Level Qualifier (HLQ.PPWW)	PS.HR920
2	PeopleSoft File Server High Level Directory	
3	Target Directory for Generated files	
4	File Transfer Method	
5	Database Server Host/Node Name	
6	Database Server Login ID	
7	Job Card, Line 1	
8	Job Card, Line 2 (Enter /** if blank)	
9	Job Card, Line 3 (Enter /** if blank)	
10	S390/DB2 Operator Id	
11	S390/DB2 Table Owner Id	
12	DB2 Subsystem Name	

Host/Node Login ID Password

OK Reset Cancel Help

PeopleSoft Server Transfer dialog box

2. Enter the appropriate value for each parameter.

Referring to the preinstallation worksheet you completed earlier, click in the Parameter Value field, and enter the parameter values describing how you want to install the PeopleSoft batch environment on your database server. Some of the parameter values may already exist either as default values or as values from a previous execution of the Server Transfer program. To select an individual row, just click it. To enter or change a particular parameter value, either select from predefined values in a drop-down list or enter the values manually if there is no drop-down list.

Note. You must specify a value for each edit field. If you are not sure what value to use, type in the default suggested by Oracle for PeopleSoft software (see the preinstallation worksheet for suggested values) and edit the parameter value following the file transfer on z/OS.

For parameters that require a directory path, you may enter it directly. If you don't know the exact location, click Browse to select the directory from the Select Directory dialog box. The Browse button is available when you click in a field that requires a directory path.

3. Enter the appropriate value for Host/Node Login ID Password. This value should be the password for the

Host/Node Name specified as parameter number 5 in the Server Transfer panel.

This password is mandatory regardless of your database platform or site specifications. Microsoft's FTP software requires a password.

4. Once you enter all the correct parameter values for your site, click OK. (If instead you want to clear all of your entries and start over, press Reset. To close this instance of the PeopleSoft Server Transfer, press Cancel.)

The PeopleSoft Server Transfer prepares the files for transfer, which can take from a few seconds to a few minutes, depending on the number of files and the type of processing required.

The PeopleSoft Server Transfer program will generate a number of files that will be located in the *Target Directory for Generated Files* that you specified previously.

5. In the PeopleSoft Server Transfer Output window, if you want to verify that the Transfer program created all the proper files, click the Display Log button.

The Display Log button calls the PSXFR.LOG in your %TMP% directory (or %TEMP% directory if %TMP% is undefined) and displays it in Microsoft Notepad. PSXFR.LOG provides summary information about the transfer program's execution that can be helpful for identifying potential errors and inconsistencies. It contains the following sections:

- **SELECTED PARAMETERS:** Shows the parameters you selected from the PeopleSoft Server Transfer main window.
- **SUMMARY OF SELECTED FILES:** Shows which files—and how many of them—will be transferred. It also shows which directory they were copied from and their new location.
- **FILE TRANSFER NOTES:** Shows important details regarding your transfer process, such as the command line option and where log files are located.

Note. Only click Close if you want to dismiss the PeopleSoft Server Transfer Output window and transfer the files manually from the command line.

6. Click the Transfer Now button to begin the transfer process. This button will launch the file transfer method that you selected on the server transfer main screen.

Note. The Transfer Now button assumes that the destination partitioned datasets exist. See "Allocating z/OS Partitioned Datasets."

7. When the transfer has completed, the FTPOUT.LOG will display in Notepad. You should review this file for any errors that may have occurred during the transfer. The file is located in the Target Directory for Generated Files that you specified previously.
8. Close Notepad and press the CLOSE button on the PeopleSoft Server Transfer Output Panel.

Note. If your transfer is unsuccessful or you would rather transfer the files manually, read the following section.

The following table summarizes the files generated during the use of the PeopleSoft Server Transfer utility, in the order in which they are generated, along with their locations and a description.

File Name	Location	Contents
PSXFR.CFG	%TMP%	Configuration file generated by the PeopleSoft Server Transfer Utility. It contains the parameters entered in a somewhat cryptic format.

File Name	Location	Contents
PSXFR.LOG	%TMP%	Summary file generated by the PeopleSoft Server Transfer Utility. It contains a summary of the parameters entered, the files that will be transferred, and instructions on how to manually transfer the files, if you choose to do so later.
PSFTXFR.TXT	The Target Directory for Generated Files that you specified previously.	A Microsoft FTP command file that contains the FTP statements to be executed to transfer the files. This file is only generated if you selected the Microsoft FTP file transfer protocol option.
FTPEXEC.BAT	The Target Directory for Generated Files that you specified previously.	The .bat file that calls the Microsoft FTP command file, from which the FTP process is initiated. The PeopleSoft Server Transfer utility will initiate this batch file if you select the Transfer Now option.
FTPOUT.LOG	The Target Directory for Generated Files that you specified previously.	This is the FTP log file generated by the FTP utility that details the transfer results for each file processed.

Task 6-3-2: Transferring Files to Host Manually

From a command line utility (DOS shell) in Microsoft Windows, transfer application files to z/OS using the transfer/send file generated by the PeopleSoft Server Transfer program. For the Microsoft FTP file transfer protocol, the file containing transfer commands is in *PS_HOME\STAGE* and is called PSFTXFR.TXT.

You can initiate Server Transfer by executing the FTPEXEC.BAT file in *PS_HOME\STAGE*. Allow at least 45 minutes to complete the file transfer. If the transfer fails:

- Make sure the z/OS datasets to which the files are transferred have been allocated.
- Check whether a z/OS dataset is underallocated or allocated on a volume with insufficient space.
- Verify that the Database Server Login ID specified in Parameter 6 has write access to z/OS and UNIX System Services.

Task 6-3-3: Mapping PeopleSoft Installation Directories to z/OS

The following tables show the mapping between workstation files and the suggested z/OS target datasets. The root directory is assumed to be PPVVV, which denotes the high-level PeopleSoft directory, such as \HR920. Each table lists the files, datasets, and descriptions for a subdirectory of PPVVV.

Mapping in subdirectory \SRC\CBL\BASE:

Files	z/OS Dataset	Description
??P*.CBL	HLQ.PPVVV.SRCLIB	COBOL programs
??C*.CBL	HLQ.PPVVV.COPYLIB	COBOL copy members

Mapping in subdirectory \SRC\CBL\MVS:

Files	z/OS Dataset	Description
??P*.CBL	HLQ.PPVVV.SRCLIB	z/OS specific programs
??C*.CBL	HLQ.PPVVV.COPYLIB	z/OS COBOL copy members
*.ASM	HLQ.PPVVV.SRCLIB	Assembler programs
*.JCL	HLQ.PPVVV.JCLLIB	Compile, bind, Process Scheduler jobs
*.PRC	HLQ.PPVVV.PROCLIB	Procs for compile, bind, assemble
*.JCT	/u/datax/ppvvv/appserv/prcs/shelljcl	JCL Shells for COBOL and SQR Processes

Mapping in \SQR subdirectory:

Files	z/OS Dataset	Description
*.SQR	HLQ.PPVVV.SQRSRC	Application SQRs
*.SQC	HLQ.PPVVV.SQRINC	Application SQR include members
SQRPARMS.PAR	HLQ.PPVVV.PARMLIB	SQR parameter file
SQRSAMP.JCL	HLQ.PPVVV.JCLLIB	Sample SQR JCL
SQRPROC.PRC	HLQ.PPVVV.PROCLIB	SQR cataloged procedures

Mapping in \SCRIPTS subdirectory:

Files	z/OS Dataset	Description
??DDL.SQL	HLQ.PPVVV.DDLLIB	DDL script files used to build PeopleSoft database in the chapter Creating a Database
??DDL.U.SQL	HLQ.PPVVV.DDLLIB	Script files for Unicode databases

Mapping in \APPSERV\PRCS subdirectory:

Files	z/OS Dataset	Description
*.IN	/u/datax/ppvvv/appserv	PSADMIN program utility files
psprcsunix.val	/u/datax/ppvvv/appserv/prcs	Process Scheduler value Validation file

Mapping in \BIN\SERVER subdirectory:

Files	z/OS Dataset	Description
.	/u/datax/ppvvv/bin	Process Scheduler executables for USS

Note. The \SRC\CBL\MVS directory contains files specifically for the DB2 for z/OS platform. Certain files will appear in both the \SRC\CBL\BASE and \SRC\CBL\MVS directories. The *.CBL files in the \SRC\CBL\BASE directory will be transferred first, followed by the *.CBL files in the \SRC\CBL\MVS directory. As a result, the z/OS-specific files will overwrite the generic files. In other words, the order in which files are FTPed to the server does matter. The PeopleSoft Server Transfer program FTPs the files to the server in the correct order.

Task 6-4: Transferring Files to z/OS Using SFTP

This section discusses:

- Understanding File Transfer Using SFTP
- Preparing for the SFTP File Transfer
- Transferring PSLIBCBL.JCL and PSLIBSQR.JCL from Microsoft Windows to USS
- Converting and Copying PSLIBCBL.JCL and PSLIBSQR.JCL
- Completing the Preinstallation Worksheet for SFTP
- Creating the Staging Folder on Microsoft Windows
- Transferring from Microsoft Windows to USS
- Running psft_uss.sh on USS

Understanding File Transfer Using SFTP

The file transfer from the Microsoft Windows file server to z/OS using PeopleSoft Server Transfer (pstrans.exe) employs FTP. If you want to use secure FTP (SFTP), you must use a different process, which is needed because the z/OS platform does not support SFTP. The process requires both a Microsoft Windows file server and USS server. Using scripts installed with PeopleSoft PeopleTools, you transfer files from the Microsoft Windows file server to USS and then to z/OS.

Here is a high-level overview of the SFTP file transfer:

Systems Used	Activity	Reference
Microsoft Windows file server	- Install PeopleTools - Install PuTTY (PSFTP is included with the PuTTY installation)	Preparing for the SFTP File Transfer
From Microsoft Windows file server to USS	Transfer PSLIBCBL.JCL and PSLIBSQR.JCL.	Transferring PSLIBCBL.JCL and PSLIBSQR.JCL from Microsoft Windows to USS
USS	Convert PSLIBCBL.JCL and PSLIBSQR.JCL formats.	Converting and Copying PSLIBCBL.JCL and PSLIBSQR.JCL
From USS to z/OS	Transfer PSLIBCBL.JCL and PSLIBSQR.JCL to z/OS datasets.	Converting and Copying PSLIBCBL.JCL and PSLIBSQR.JCL
Microsoft Windows file server	Use pstrans.exe to create a staging directory.	- Completing the Preinstallation Worksheet for SFTP - Creating the Staging Folder on Microsoft Windows
From Microsoft Windows file server to USS	Run the PeopleSoft SFTP transfer script to transfer files and create USS script.	Transferring from Microsoft Windows to USS
From USS to z/OS	Run the generated USS script to transfer files to z/OS.	Running psft_uss.sh on USS

Task 6-4-1: Preparing for the SFTP File Transfer

Before you begin this procedure, ensure that you have completed the following:

- Installed PeopleTools on the Microsoft Windows File Server
After you complete the required prerequisites, you use the setup.bat script located in *PS_HOME/setup/SFTP_Transfer* to perform the transfer.
- Installed Putty on the Microsoft Windows File Server
This process uses the PSFTP utility that is included with the PuTTY open-source software. PuTTY is distributed under the MIT license, and the documentation is included with the installation.
See the PuTTY web site, <https://www.chiark.greenend.org.uk/~sgtatham/putty/>.

Task 6-4-2: Transferring PSLIBCBL.JCL and PSLIBSQR.JCL from Microsoft Windows to USS

Use the PuTTY psftp utility to copy the PeopleSoft PSLIBCBL.JCL and PSLIBSQR.JCL files from Microsoft Windows to USS. The files contain the information needed to allocate required datasets on the z/OS mainframe.

- Start psftp, for example from the Windows Start menu.

Alternatively, go to the PuTTY installation folder and double-click psftp.exe.

2. Sign in to the USS server with user ID psftuser and password.

```
psftp> userid@uss_server.example.com -pw password
```

3. Change directory on the Microsoft Windows server, which is the local system for sftp:

```
psftp> lcd PS_HOME\src\cbl\mvs
```

For example,

```
psftp> lcd C:\psft\pt\ps_home8.58.05\src\cbl\mvs
```

4. On the USS server, create a temporary directory; for example:

```
mkdir /var/tmp_dir
```

5. Change to the temporary directory on the USS server, which is the sftp target:

```
psftp> cd /var/tmp_dir/
```

6. Copy each file from the Microsoft Window server to the USS server, and append the suffix ".binary" to the filenames, with the psftp.exe put command.

Note. The command includes the name change because the SFTP process transfers all files as binary.

The commands echo the action taken, as shown in bold font in this example:

```
psftp> put PSLIBCBL.JCL PSLIBCBL.JCL.binary
local:PSLIBCBL.JCL => remote:/var/tmp_dir/PSLIBCBL.JCL.binary
psftp> put PSLIBSQR.JCL PSLIBSQR.JCL.binary
local:PSLIBSQR.JCL => remote:/var/tmp_dir/PSLIBSQR.JCL.binary
```

Task 6-4-3: Converting and Copying PSLIBCBL.JCL and PSLIBSQR.JCL

The SFTP transfer supports only binary files. The transfer from file to the z/OS dataset requires ASCII formats. On USS, enter the following commands to convert the files you transferred from binary to a format that can be read on the z/OS system.

1. Change the file permission to give the owner read/write/execute permissions and everyone else read/execute permissions, with this command:

```
chmod 755 PSLIBCBL.JCL.binary PSLIBSQR.JCL.binary
```

2. Run the iconv shell utility for each file.

The command instructs the system to interpret the files, which were transferred in binary mode, as having UTF-8 encoding, and saves copies without the .binary suffix in a z/OS format.

```
iconv -f UTF-8 -t IBM-1047 PSLIBSQR.JCL.binary > PSLIBSQR.JCL
iconv -f UTF-8 -t IBM-1047 PSLIBCBL.JCL.binary > PSLIBCBL.JCL
```

3. Run the following command to copy the converted files from USS to a dataset on z/OS.

The option **-F crnl** specifies that the copy process sets the end-of-line delimiter to a carriage line followed by a new line.

```
cp -F crnl PSLIBCBL.JCL //'PS.TEMP(PSLIBCBL)'
cp -F crnl PSLIBSQR.JCL //'PS.TEMP(PSLIBSQR)'
```

You can use any dataset name, such as "QA.POR.DDLLIB":

```
cp -F crnl PSLIBCBL.JCL //'QA.POR.DDLLIB(PSLIBCBL) '"
cp -F crnl PSLIBSQR.JCL //'QA.POR.DDLLIB(PSLIBSQR) '"
```

Task 6-4-4: Completing the Preinstallation Worksheet for SFTP

Use the preinstallation worksheet below to record site-specific information to expedite the SFTP transfer. Typically, z/OS and DB2 systems administrators should be able to supply the required information.

Parameter values will be blank the first time you run the PeopleSoft Server Transfer program. You must specify your own site-specific values. The sample values, where provided, are only suggestions. In subsequent executions of the Server Transfer program, the program will use the values stored in %TEMP%\PSXFR.CFG, built during the initial run. Note that %TEMP% is a system or environment variable.

This table lists the Transfers Parameters included in the PeopleSoft Server Transfer program, as well as the parameters listed in PSXFR.CFG, and suggested usages. The definitions for the parameters are listed in the table in the section Completing the Preinstallation Worksheet.

Parameter No.	Transfer Parameters on the pstrans.exe window	Transfer Parameters in PSXFR.CFG	Sample Value
	Not included	OPSYS	MVS
	Not included	RDBMS	DB2
1	OS390 Dataset High Level Qualifier (HLQ.PPVVV)	PSHLQ	PS.HR920
2	PeopleSoft File Server High Level Directory Set to <i>PS_HOME</i>	PSHLD	N:\HR920
3	Target Directory for Generated Files	STGDIR	N:\HR920\STAGE
4	File Transfer Method	XFRMTH	MSFTDB2
5	Database Server Host/Node Name	HSTNAM	z/OS server name
6	Database Server Login ID	HSTID	USER1
7	Job Card Line 1	JC1	//PSHR920 JOB (PSOFT),'J',CLASS=A,MSG CLASS=A,
8	Job Card, Line 2 (Enter /* if blank)	JC2	//REGION=OM,MSGLEVE L=(1,1),USER=BATCHID1, PASSWORD=BPSWD1
9	Job Card, Line 3 (Enter /* if blank)	JC3	//NOTIFY=&SYSUID

Parameter No.	Transfer Parameters on the pstrans.exe window	Transfer Parameters in PSXFR.CFG	Sample Value
10	S390/DB2 Operator ID	OPRID	OPRID
11	S390/DB2 Table Owner ID	OWNERID	PS001
12	DB2 Subsystem Name	DDDD	DSNT
13	DB2 System Dataset Containing DSN Member	DB2LOAD	DSNn10.SDSNLOAD (n is an alphanumeric variable)
14	DB2 System Dataset Containing DSN3@ATH Member	DB2EXIT	DSNn10.SDSNEXIT (n is an alphanumeric variable)
15	DB2 System Dataset Containing DSNTEP2 Member	DB2RUN	DSNn10.RUNLIB.LOAD (n is an alphanumeric variable)
16	PeopleSoft Database Name	QQDBQQ	PSHR920
17	Plan Name for PTPSQLRT via TSO Attach Facility	PLANTSO	PTPSQLRT
18	Package Name for PTPSQLRT via TSO Attach Facility	PACKTSO	PAKSQLRT
19	Plan Name for PTPSQLRT via Call Attach facility (for USS)	PLANCAF	PTPSQLRA
20	Package Name for PTPSQLRT via CALL Attach facility (for USS)	PACKCAF	PAKSQLRA
21	Language Environment runtime library (that is, CEE.SCEERUN)	LERUN	SYS1.CEE.SCEERUN Check with System Administrator for installation LE library name.
22	Language Environment linkedit library (that is, CEE.SCEELKED)	LELINK	CEE.SCEELKED
23	CBL System Dataset Containing IGY* Members	COB2LOAD	IGY.V5R1M0.SIGYCOMP

Parameter No.	Transfer Parameters on the pstrans.exe window	Transfer Parameters in PSXFR.CFG	Sample Value
24	COBOL Compiler	IGYTYPE	IGY51
25	System Storage Name for Temporary Datasets	SYSTEMP	SYSTEMP
26	System Storage Name for Permanent Datasets	SYSPERM	SYSPERM
27	Assembler System Dataset Containing STIMER	MACLIB	SYS1.MACLIB
28	Assembler Program Name	ASMLIB	ASMA90
29	SQR High Level Qualifier	SQRHLQ	PS.HR920.SQR
30	SQR Program Name Found in SQR Load Library	SQRPGM	SQR
31	SQR Plan Name	SQRPLAN	SQR920
32	SQR Package Name	SQRPACK	PAKSQR
33	Target Server Hardware Platform	HSTPLT	UNIX System Services (OS390z/OS)
34	PeopleSoft UNIX System Services Home Directory	PSHOME	/u/data001/PSHR920
35	Library for DB2 CLI Load Module (i.e., DSNAOCLI)	DSNAOCLI	DSNn10.SDSNLOAD (n is an alphanumeric variable)
36	Plan Name for CLI Packages (i.e., DSNACLI)	CLIPLAN	DSNACLI
37	Attachment Type for ODBC to Connect to DB2	CNCTYPE	RRSAF
38	HFS path to top level of JDK product	JDKHOME	usr/lpp/java/J1.8

Task 6-4-5: Creating the Staging Folder on Microsoft Windows

This section uses the PeopleSoft Server Transfer utility only to create the staging folder on the Microsoft Windows server.

1. Follow the steps in the previous section to fill out the preinstallation worksheet.

See Completing the Preinstallation Worksheet for SFTP.

2. Start PeopleSoft Server Transfer.

Enter the following path into the Run dialog box:

```
PS_HOME\BIN\CLIENT\WINX86\pstrans.exe
```

The PeopleSoft Server Transfer screen appears, which contains all of the parameters whose values you determined while filling out the preinstallation worksheet.

3. Enter the appropriate value for each parameter.

Referring to the preinstallation worksheet you completed earlier, click in the Parameter Value field, and enter the parameter values describing how you want to install the PeopleSoft batch environment on your database server. Some of the parameter values may already exist either as default values or as values from a previous execution of the Server Transfer program. To select an individual row, just click it. To enter or change a particular parameter value, either select from predefined values in a drop-down list or enter the values manually if there is no drop-down list.

Note. You must specify a value for each edit field. If you are not sure what value to use, type in the default suggested by for PeopleSoft environments earlier (see the preinstallation worksheet for suggested values) and edit the parameter value following the file transfer on z/OS.

For parameters that require a directory path, you may enter it directly. If you don't know the exact location, click Browse to select the directory from the Select Directory dialog box. The Browse button is available when you click in a field that requires a directory path.

4. Enter the appropriate value for Host/Node Login ID Password.

This value should be the password for the Host/Node Name specified as parameter number 5 in the Server Transfer panel. This password is mandatory regardless of your database platform or site specifications.

5. Once you enter all the correct parameter values for your site, click OK.

The PeopleSoft Server Transfer prepares the files for transfer, which can take from a few seconds to a few minutes, depending on the number of files and the type of processing required.

The PeopleSoft Server Transfer program will generate a number of files that will be located in the *Target Directory for Generated Files* that you specified previously.

6. Stop here.

Do not proceed to transfer the files. Instead, continue with the next section.

Task 6-4-6: Transferring from Microsoft Windows to USS

Run the setup.bat script on the Microsoft Windows server. This section assumes that PuTTY is present on the Microsoft Windows server.

The setup.bat script performs these actions:

- Calls a Python script, `PS_HOME\setup\SFTP_Transfer\InstData\pstrans_sftp.py`
- Creates `psftsftp.txt`, which defines SFTP operations in the staging folder.
- Uses the PuTTY `psftp.exe` utility with `psftsftp.txt` to transfer the files to the `USS_PS_HOME/stage` directory on the USS server.

You specified `USS_PS_HOME` as parameter 34. PeopleSoft UNIX System Services Home Directory in the Server Transfer panel. The script creates the stage subdirectory.

- Creates a UNIX script, `psft_uss.sh.binary`, and uploads it to `USS_PS_HOME/stage` on the USS server.

You use this script in the following section. It includes the commands needed to convert the files and copy

them from USS to the z/OS datasets.

1. Open a command prompt and change directory to *PS_HOME\setup\SFTP_Transfer*.
2. Run setup.bat with this command:

```
setup.bat -S <staging folder on Windows> -P <Full path for PuTTY⇒
installation> -H <z/OS target server name>
```

For example:

```
setup.bat -S C:\psft\stage -P "C:\Program Files (x86)\PuTTY" -H zOS_⇒
server
```

Note. If the paths include spaces, surround them with double quotes, as shown in this example.

Task 6-4-7: Running psft_uss.sh on USS

The setup.bat script creates a USS script, psft_uss.sh.binary, which is uploaded to USS. When you run the script it performs the following:

- Converts all of the files in the USS staging directory from the UTF-8 format to the format IBM-1047
 - Removes CTRL-M characters
 - Changes the file permissions to 755
 - Sets the end-of-line delimiter to a carriage line followed by a new line.
 - Copies the files from USS to the z/OS datasets specified by PSLIBSQR.JCL and PSLIBCBL.JCL.
1. On USS, go to the *USS_PS_HOME/stage* directory.
 2. Run the iconv shell utility.

The command instructs the system to interpret the file, which was transferred in binary mode, as having UTF-8 encoding, and save a copy without the .binary suffix in a z/OS format.

```
iconv -f UTF-8 -t IBM-1047 psft_uss.sh.binary > psft_uss.sh
```

3. Change the permissions for the file to read/write/execute for the file owner, and read/execute for other users.
- ```
chmod 755 psft_uss.sh
```

4. Run the script.
- ```
./psft_uss.sh
```

Task 6-5: Setting up the USS Environment Variables and Granting Access to USS Files

Before installing SQR for z/OS, you need to set up USS environment variables by executing the psconfig.sh shell script, and grant access to specific libraries in UNIX System Services by executing the psmv.sh shell script.

To execute the psconfig.sh and psmv.sh shell scripts:

1. Locate the files psconfig.sh and psmv.sh in USS Home directory /u/datax/ppvvv.

This is the same directory specified in the preinstallation worksheet, parameter 30. Make this directory your current working directory.

2. Grant execute authority to the file by entering the following at the prompt:
`chmod 755 psmv.sh`
3. Execute the scripts by entering `psconfig.sh` and `psmv.sh` at the prompt.

Task 6-6: Installing SQR for z/OS

To install SQR in the designated partitioned dataset, you need to run the `INSTALLSQR.SH` shell script. The shell script performs the following tasks:

- Copies all SQR installation binary files from the HFS directory `PS_HOME/bin/sqr` into the designated SQR sequential data sets.
- Submits `HLQ.PPVVV.JCLLIB (RECVSQR)` that will use IBM's `RECV` utility to migrate all the binaries from the sequential data set to the designated SQR partitioned dataset.

To execute the `installsqr.sh` shell script:

1. Change directory to the USS Home directory `/u/datax/ppvvv`. This is the same directory specified in the preinstallation worksheet (item 30).
2. Enter `installsqr.sh` at the prompt.

When the shell script submits the JCL to unpack all the SQR binaries from the installation sequential data set, review the status of the JCL from TSO to verify that all steps using the `RECV` utility have successfully completed with return code of 0.

Task 6-7: Binding the SQR DB2 Plan

Once SQR is installed, you have to run the DSN subcommand `BIND` to build an application plan for SQR. All DB2 programs require an application plan to allocate resources and to support SQL requests made during execution. The keywords and parameters you should use when exercising the DSN `BIND` commands follow. Refer to the IBM DB2 Command and Utility Reference Manual for further information on `BIND`.

To create the DB2 Plan for SQR, submit the following JCL job:

```
HLQ.PPVVV.JCLLIB (PSBNDSQL)
```

Note. To execute an `XPLINK` program, the `SCEERUN2` as well as the `SCEERUN` data set must be in the z/OS program search order (see the `{_PLIB_PREFIX}` environment variable). The following data sets are also used: The data sets `{_PLIB_PREFIX}.SCEERUN` and `{_PLIB_PREFIX}.SCEERUN2` contain the runtime library programs. These data sets are listed here for information only, to assist in identifying the correct data sets to be added to the z/OS program search order. The default value is "CEE".

Task 6-8: Assembling PeopleTools Programs

You need to assemble the PeopleSoft program `PTPSQLTM`. `PTPSQLTM`, called by `PTPSQLRT`, collects time-interval data to produce the statistics report.

In z/OS, submit the following job:

```
HLQ.PPVVV.JCLLIB (PSASM)
```

On job output, the expected return code is 0 or 4.

Note. In the catalogued procedure PSASM, the ASM step EXEC statement contains the assembler program specified during the PeopleSoft Server Transfer program. \$ASMLIB\$ is replaced by the "Assembler Program Name" transfer parameter. The expected assembler program name is ASMA90. However, IEV90 may also be used, but the SYSLIN DD statement in the ASM step must be commented first to be assembled successfully.

Task 6-9: Compiling and Link-Editing DB2 COBOL

Precompile, compile, and link-edit PTPSQLRT (PeopleSoft's COBOL/DB2 API) as follows:

- Submit HLQ.PPVVV.JCLLIB(PSCOB*). Acceptable return codes are 0 and 4 for pre-compiles and compiles, and 0 for the link-edit step.
- PSCOBDA: for DB2 precompile, compile and linkedit of program PTPSQLRT for Native CAF for USS.
- PSCOBDE: for DB2 precompile, compile and linkedit of program PTPSQLRT for TSO CAF.
- PSCOBNET: for compile and linkedit COBOL program PTPNETRT for Native CAF for USS.

Common compile errors include:

- Users inadvertently introducing tab characters into source code while viewing it using workstation editors before file transfer. Check to see if you have X'05' (or other odd hex values) in the z/OS source.
- Failure to transfer all the BASE and z/OS copy members from the file server, or perhaps overwriting the z/OS versions with the BASE versions. Check PSFTXFR.TXT to see the order in which the files were transferred.
- Failure in LINKEDIT of PSCOBNET with error message "Attempt to get file status for an HFS file failed..." usually results when the User ID under which the PSCOBNET job is running does not have read access to the necessary USS file.

Note. Oracle delivers procedure library members PSCOB, PSCOBDA, and PSCOBDE, which set the DB2 precompiler options DATE(ISO) and TIME(ISO). Do not change these settings, because PeopleSoft applications rely on the ISO format for date and time processing.

Task 6-10: Compiling and Link-Editing COBOL

Submit HLQ.PPVVV.JCLLIB(PSCOB*) to compile COBOL programs.

Note. Previous versions of PSCOB had to be manually divided into multiple jobs if they contained more than 125 COBOL programs to compile. This step is now done by the Server Transfer process, which will create the PSCOB* members.

Next, serialize compile jobs to avoid problems associated with concurrent PDS updating, and submit the PSCOB job(s). Acceptable return codes are 0 or 4 for pre-compiles and compiles, and 0 for the link-edit step.

Common compile errors include:

- Users inadvertently introducing tab characters into source code while viewing them using workstation editors before file transfer. Check to see if you have X'05' (or other odd hex values) in the z/OS source.
- Failure to transfer all the BASE and z/OS copy members from the file server, or perhaps overlaying the z/OS versions with the BASE versions. Check PSFTXFR.TXT to see the order in which the files were transferred.

Task 6-11: Changing the IBM Enterprise COBOL Compiler Version

After you have run the PeopleSoft Server Transfer program, pstrans.exe, use this procedure if you want to change the version of the IBM Enterprise COBOL compiler manually.

1. Locate the following procs in the COBOL PROCLIB (that is, HLQ.PPVVV.PROCLIB):

- For IBM Enterprise COBOL for z/OS V6.1, PSSTCCN5 and PSOPTCN5

Note. IBM Enterprise COBOL for z/OS V6.1 uses PSSTCCN5 and PSOPTCN5 since the parameters haven't changed between versions V5.1 and V6.1.

- For IBM Enterprise COBOL for z/OS V5.2, PSSTCCN5 and PSOPTCN5
 - For IBM Enterprise COBOL for z/OS V5.1, PSSTCCN5 and PSOPTCN5
 - For IBM Enterprise COBOL for z/OS V4.2, PSSTCCN4 and PSOPTCN4
2. Make backup copies of PSSTCCOB and PSOPTCOB.
 3. To use IBM Enterprise COBOL for z/OS V5.1, V5.2, or V6.1, perform these steps on TSO:
 - a. Copy PSSTCCN5 to PSSTCCOB, overwriting the proc PSSTCCOB with PSSTCCN5.
 - b. Copy PSOPTCN5 to PSOPTCOB, overwriting the proc PSOPTCOB with PSOPTCN5.
 4. To use IBM Enterprise COBOL for z/OS V4.2, perform these steps on TSO:
 - a. Copy PSSTCCN4 to PSSTCCOB, overwriting the proc PSSTCCOB with PSSTCCN4.
 - b. Copy PSOPTCN4 to PSOPTCOB, overwriting the proc PSOPTCOB with PSOPTCN4.
 5. Compile COBOL programs as done previously; that is, run PSCOBDA.JCL, PSCOBDE.JCL, and PSCOBNET.JCL.
 6. To confirm the COBOL compiler version, review the JCL output.

The COBOL compiler version 4.2, 5.1, 5.2, or 6.1 is included in the JOB output.

Chapter 7

Creating a Database Using Universal Tablespaces

This chapter discusses:

- Understanding Database Creation
- Planning the Installation with Universal Tablespaces
- Transferring PSDDL.SQL to z/OS
- Creating PS.PSDBOWNER Table
- Granting Privileges on PS.PSDBOWNER
- Granting Additional Privileges to Owner ID
- Creating Storage Groups
- Configuring DB2 Connect
- Creating Data Mover Import Scripts
- Running Data Mover Import Scripts
- Cleaning Up Orphaned Language Data
- Checking the Log Files and Troubleshooting
- Creating PeopleSoft Views
- Building Temporary Tables
- Creating PeopleSoft Triggers
- Running Additional Data Mover Scripts
- Running SQR Reports
- Updating PeopleSoft System Tables
- Binding DB2 Plans
- Changing the Base Language
- Checking the Database
- Disabling %UpdateStats

Understanding Database Creation

This section describes the tasks required to create a PeopleSoft product database using universal tablespaces. See the chapter "Creating a Db2 z/OS Database Using Segmented Tablespaces" to create a PeopleSoft product database using segmented tablespaces. During a standard PeopleSoft installation you will execute these tasks to create two distinct types of databases.

- *System*: The System (SYS) database has no company specific data, and can be used to load your data and begin development of your production database.
- *Demo*: The Demo (DMO) database contains data for a sample company, and can be used immediately for demonstration, for testing, and as a development reference.

Note. The PeopleTools System Database (PTSYS) is not available with the current release. As an alternative, install the latest PeopleSoft Interaction Hub database.

Note. If you are using the PeopleSoft Upgrade Source Image, you must create a Demo database.

The requirements for these databases vary, so not all of this section's tasks apply to each database. The instructions will note any distinctions between creating a Demo and a System database.

- You must have installed the Database component of your PeopleSoft application installation software to your database server.
- You must have the PeopleTools Development Environment set up to create your database.

Important! Do not forget that application-specific installation steps are provided in a separate document specific to the application. For instance, if you are performing PeopleSoft CRM installation, you need both this documentation for the basic installation of PeopleSoft PeopleTools and the PeopleSoft application, and any additional instructions provided by CRM. Search in My Oracle Support for the installation documentation specific to your application.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

See Also

"Preparing for Installation," Planning Database Creation

"Setting Up the Install Workstation"

Planning the Installation with Universal Tablespaces

This section discusses:

- Reviewing Important Features of the Installation with Universal Tablespaces
- Fulfilling the Minimum Db2 Requirement to Use Universal Tablespaces
- Using %UpdateStats
- Using Temporary Tables

Reviewing Important Features of the Installation with Universal Tablespaces

Traditionally, the installation of a PeopleSoft product database for Db2 for z/OS used the delivered xxDDL.SQL (EBCDIC), xxDDL.U.SQL (Unicode), TBDDL.SQL, TBDDL.U.SQL, and IXDDL.SQL scripts as applicable to define Db2 physical databases, tablespaces, tables and indexes.

See "Creating a Db2 z/OS Database Using Segmented Tablespaces."

Note that *none* of these scripts is used to create a PeopleSoft database with universal tablespaces. Instead, all DDL required to define a Db2 PeopleSoft database using universal tablespaces is dynamically generated by PeopleTools. You can choose one of these two options to execute dynamically generated UTS DDL to create and populate a PeopleSoft product database:

- A single-step import process in which you invoke Data Mover to both execute the dynamically generated DDL and import data.

See the section Using Data Mover to Generate and Execute UTS DDL and Import Data.

- A multi-step import process in which you first invoke Data Mover to extract the DDL to a script and then execute that DDL outside of PeopleTools using your SQL interface of choice.

Finally, you invoke Data Mover again to create a data import script to populate existing Db2 objects that were created by the extracted DDL script.

See the section Using Data Mover to Extract UTS DDL to a Script and then Import Data.

Physical Db2 database names are generated dynamically using a concatenation that consists of the first three characters of the logical database name to a numeric value retrieved from a mandatory sequence object defined in the Db2 subsystem. One sequence object per PeopleSoft product database must be created in the Db2 subsystem. Specific details on the naming convention and the DDL syntax that must be used when creating the sequence object are explained later in this chapter.

Universal Tablespace names are generated dynamically using a concatenation that consists of a portion of the table name to a numeric sequence.

Fulfilling the Minimum Db2 Requirement to Use Universal Tablespaces

Db2 z/OS v12.1 or later is mandatory to install a PeopleSoft product database using universal tablespaces.

Using %UpdateStats

%UpdateStats is an optional feature that lets you invoke the DB2 Utility RUNSTATS from within an Application Engine or COBOL process. Consider the following if you plan to use %UpdateStats:

- You can initiate RUNSTATS dynamically via the IBM stored procedure DSNUTILS. Before you can use %UpdateStats, the stored procedure DSNUTILS must be configured in the DB2 subsystem in which you run the PeopleSoft applications. If %UpdateStats is enabled but DSNUTILS is not in place, a processing error will result. Please refer to your IBM Systems documentation for instructions on enabling and configuring the DSNUTILS stored procedure.
- Using %UpdateStats with COBOL requires modifications to some delivered PeopleSoft code. These modifications are described in the *PeopleTools: Data Management* product documentation.
- %UpdateStats can be enabled or disabled based on the DBFLAGS Process Scheduler configuration parameter. Disabling %UpdateStats will cause the functionality to be bypassed, without causing any processing errors. Note that the default setting for DBFLAGS for UNIX and Windows Process Schedulers is ON (DBFLAGS=0). The default setting for USS is DBFLAGS=0 (Enable Second DB Connection).

Using Temporary Tables

Temporary tables are an object type defined in Application Designer to support Application Engine concurrent processing. For PeopleSoft installations, we refer to these objects as temporary tables, but to the DB2 z/OS database they will be defined as "permanent" SQL tables. Each temporary table defines a base table from which additional instances or copies of the base table are scripted and physically created on your DB2 z/OS PeopleSoft database. Only the definition of the base table is stored in Application Designer. The actual number of instances is governed by a global value for Online concurrent processes, and a value defined either at a Global level (for EPM) or at the Application Engine Process Level for batch processes.

See *PeopleTools: Application Engine*.

In an attempt to limit the number of potentially unused objects created on your database, we have reduced the number of temporary table instances to a minimum setting. Depending on the actual products you are installing, your processing characteristics and workloads, you may need to modify the number of temporary table instances to improve performance. This will become evident if you have a number of processes queuing to use a limited number of temporary table instances. The actual scripting and creation of the temporary tables are performed as a separate step in the installation process, so you may intervene during this process to increase the number of temporary table instances if you feel you have substantial batch processing workloads and/or a large volume of online transaction processing. Temporary tables can be regenerated at any time in the life of your database, so you don't need to determine the exact number of instances that will be right for your environment at installation time.

When the number of instances of the temporary tables within the PeopleSoft application is changed, all temporary tables should be regenerated. The same values in the PeopleTools tables that are used to determine how many temporary tables instances should be created, are also used to determine how many should be available to an Application Engine process. The expectation is that the number of instances defined within the PeopleTools tables actually exists on the database. A later task in this chapter describes how to create the temporary tables.

Task 7-1: Transferring PSDDL.SQL to z/OS

If you have set up your batch environment on the z/OS mainframe following the instructions in the chapter "Setting Up the Batch Environment on z/OS," these files have already been transferred and you can skip this step.

Transfer the PSDDL.SQL file from the PS_HOME/scripts directory, as a member of the HLQ.PPVVV.DDLLIB PDS library using Microsoft File Transfer Protocol (FTP).

This script contains the DDL statements to create the PS.PSDBOWNER table.

Task 7-2: Creating PS.PSDBOWNER Table

You can skip this step if a PS.PSDBOWNER table already exists in the same DB2 subsystem as your new database. This would be the case if you already have an existing PeopleSoft database in the target DB2 subsystem. You will have one PS.PSDBOWNER table per subsystem.

Edit and execute HLQ.PSVVV.DDLLIB(PSDDL) using SPUFI or DSNTEP2. The PS.PSDBOWNER must exist in each DB2 subsystem where PeopleSoft databases will be installed and it is the only table that Oracle provides for PeopleSoft software where an OWNERID cannot be customized. PeopleSoft PeopleTools applications select from this table to obtain the Owner ID and Database Name information during the PeopleSoft Sign-on process.

Note. For UNICODE databases, it is not necessary to use the CCSID=UNICODE option of the Create Database statement when creating the PSOWNRDB (this contains the PS.PSDBOWNER table). IBM supports the use of Unicode, EBCDIC, and ASCII tables in the same subsystem, and the ability to join data using any of these encoding schemes in DB2 for z/OS New Function Mode.

Note. References to *owner ID* in this document, and in any DDL generated by PeopleTools, refers to the DB2 Secondary Authorization ID if using Secondary Authorization ID processing, or to the DB2 Primary Authorization ID, if not.

Task 7-3: Granting Privileges on PS.PSDBOWNER

Grant the ALL authority to the table owner ID used for the PeopleSoft database:

```
GRANT ALL ON TABLE PS.PSDBOWNER TO <Owner_ID> WITH GRANT OPTION;
```

Task 7-4: Granting Additional Privileges to Owner ID

Before creating your PeopleSoft application database, ensure that the owner ID has been granted the following Db2 authorizations:

```
GRANT SELECT ON SYSIBM.SYSEQUENCES TO <OWNER_ID>;
```

```
GRANT CREATEDBA TO <OWNER_ID>;
```

Note. The CREATEDBA authorization grants the owner ID the privilege to issue the CREATE DATABASE DDL statement and to acquire DBADM authority over the created databases.

```
GRANT BINDADD TO <OWNER_ID>;
```

```
GRANT USE OF BUFFERPOOL BP1 TO <OWNER_ID>;
```

```
GRANT USE OF BUFFERPOOL BP2 TO <OWNER_ID>;
```

```
GRANT USE OF BUFFERPOOL BP3 TO <OWNER_ID>;
```

```
GRANT USE OF BUFFERPOOL BP32K TO <OWNER_ID>;
```

Task 7-5: Creating Storage Groups

This section discusses:

- Understanding Db2 Storage Groups
- Creating the Mandatory Db2 Sequence Object
- Creating Multiple PeopleSoft Application Databases per Db2 Subsystem

Understanding Db2 Storage Groups

Oracle delivers a generic script called CREATESG.SQL that can be used as a model to create Db2 for z/OS storage groups. Replace the generic storage group name, volume names, and catalog name found in the script with your site-specific values and execute the script using your chosen SQL interface.

Task 7-5-1: Creating the Mandatory Db2 Sequence Object

As alluded to earlier, one Db2 sequence object per PeopleSoft application database must be created in the Db2 subsystem. PeopleTools will use the Db2 sequence object to derive the Db2 database naming convention for the physical Db2 databases that will comprise the logical PeopleSoft application database, and to control the total number of databases that will be created.

To create the sequence object:

1. Open `PS_HOME/scripts/createutssequenceobject.sql` for editing.

The script has the following contents, with the items to be replaced in bold font:

```
SET CURRENT SQLID='OWNER#ID';
COMMIT;
```

```
CREATE SEQUENCE #seqname
AS SMALLINT
START WITH 1
INCREMENT BY 1
MAXVALUE 5000
CYCLE;
```

```
COMMIT;
```

2. Make the following modifications to the script:

- Replace 'OWNER#ID' in the script with the owner value that will be used to qualify all objects in the PeopleSoft database.

This will be the same value that will ultimately be stored in the OWNERID column of table PS.PSDBOWNER.

- Replace the #seqname in the script with the logical name of the PeopleSoft application database.

The sequence object name *must* match the logical application database name.

3. Create the sequence object by executing the createutssequenceobject.sql script using your chosen SQL interface.

Use an ID that has SYSADM, SYSCTRL, or system DBADM authority in the Db2 subsystem.

After the sequence object is created, PeopleTools uses it as follows:

The sequence object, as delivered by the createutssequenceobject.sql script, will generate values from 1-5000 and then cycle. To derive database names, PeopleTools will obtain the next value from the sequence object and concatenate that value to the first three characters of the logical database name.

Consider a hypothetical HCM database with a logical database name of HC192PRD. The first physical Db2 database name to be derived will be HC100001. The next derived database name will be HC100002 and so on, until the sequence reaches 5000. The sequence object will then automatically cycle back to 1. PeopleTools will continue to obtain the next sequence value and create new databases using this naming convention as long as no database already exists with the 'next' name. If the database exists, it will be reused. Using the sequence object in this fashion, PeopleTools will create a maximum of 5000 databases for this logical HC192PRD database (HC100001 - HC105000).

Note. As of Db2 z/OS v12, a subsystem can contain a maximum of 65,217 unique DBIDs (database internal identifier), or database names.

To avoid creating too many universal tablespaces per database, PeopleTools determines the number of universal tablespaces that already reside in an existing database before reusing the database. If a database to be reused already contains 20 universal tablespaces, PeopleTools attempts to find a database with fewer tablespaces. Note that if all 5000 databases eventually contain 20 universal tablespaces, they will continue to be reused, that is, PeopleTools will not fail or issue an error message.

Task 7-5-2: Creating Multiple PeopleSoft Application Databases per Db2 Subsystem

If you intend to create more than one PeopleSoft application database per Db2 subsystem, you *must* exercise caution to prevent PeopleTools from deriving overlapping database names, which will cause fatal errors when executing DDL. This includes all types of application databases, including upgrade source and target databases, development, quality assurance, user acceptance testing databases and so on.

Use the following tips to prevent overlapping database names:

- Ensure that the first three character combinations of the logical database names are unique.

The following table gives examples of naming conventions and derived physical database names for four HCM databases in the same subsystem. The logical database names, when used with a sequence object as defined in the delivered createutssequenceobject.sql script, will lead to the derived physical database names shown.

Database Type	Logical Database Name	Derived Physical Database Names
Development	HC192DEV	(HC100001- HC105000)
Quality assurance	HC292QAT	(HC200001- HC205000),
User acceptance testing	HC392UA1	(HC300001- HC305000)
User acceptance testing	HC492UA2	(HC400001- HC405000)

- Make a copy of the createutssequenceobject.sql script for each database that you intend to create and modify the START WITH and MAXVALUE parameters of the sequence object DDL before creating the sequence object so that the sequence ranges are staggered.

In this example, the four sets of START WITH and MAXVALUE parameters are in bold font:

```
SET CURRENT SQLID='HC192OWN';
COMMIT;
```

```
CREATE SEQUENCE HC192DEV
AS SMALLINT
START WITH 10000
INCREMENT BY 1
MAXVALUE 15000
CYCLE;
```

```
COMMIT;
```

Derived database names: HC110000 – HC115000

```
SET CURRENT SQLID='HC292OWN';  
COMMIT;
```

```
CREATE SEQUENCE HC292QAT  
AS SMALLINT  
START WITH 20000  
INCREMENT BY 1  
MAXVALUE 25000  
CYCLE;
```

```
COMMIT;
```

Derived database names: HC220000 - HC225000

```
SET CURRENT SQLID='HC392OWN';  
COMMIT;
```

```
CREATE SEQUENCE HC392UA1  
AS SMALLINT  
START WITH 30000  
INCREMENT BY 1  
MAXVALUE 35000  
CYCLE;
```

```
COMMIT;
```

Derived database names: HC330000 - HC335000

```
SET CURRENT SQLID='HC492OWN';  
COMMIT;
```

```
CREATE SEQUENCE HC492UA2  
AS SMALLINT  
START WITH 40000  
INCREMENT BY 1  
MAXVALUE 45000  
CYCLE;
```

```
COMMIT;
```

Derived database names: HC440000 - HC445000

- You *must always* use the CYCLE parameter when creating the sequence objects.
- If you modify the range such that more than 5000 database names will be derived, use caution not to exceed the 65,217 DBID limit. .

Doing so will prevent additional databases from being created, because Db2 will return SQL error code -497.

Task 7-6: Configuring DB2 Connect

Because subsequent installation tasks require connectivity to the remote database, you now need to configure DB2 Connect, cataloging an alias for the PeopleSoft database. You also need to perform any additional tasks required for connectivity that you didn't already complete during preparation. For instructions on performing these tasks, see "Installing and Configuring DB2 Connect" in this documentation. For details on DB2 Connect configuration, refer to your IBM DB2 Connect documentation.

Task 7-7: Creating Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Method 1 - Using Data Mover to Generate and Execute UTS DDL and Import Data
- Method 2 - Using Data Mover to Extract UTS DDL to a Script and Import Data

Understanding Data Mover Import Scripts

The Data Mover Import scripts are used to populate the PeopleSoft database with data. You use the Database Setup feature of the PeopleSoft Data Mover program to create the Data Mover Import scripts.

You must perform this procedure for each type of database that you create (System and Demo databases). Also, if your database supports Unicode, you must decide whether to use a Unicode or ANSI database before beginning this procedure.

See *PeopleTools: Global Technology*.

To complete the database creation procedure you must supply information on various authorization IDs and passwords, including Access ID, Connect ID, Symbolic ID, and User IDs. Before beginning this procedure, review the information in the section Planning Database Creation and make a note of the authorization information for your environment. For PeopleSoft PeopleTools 8.53 and later releases, the user profiles in PeopleTools demo databases are delivered disabled. During the procedure to create Data Mover import scripts you will choose whether to enable the delivered user profiles, and how to assign passwords for the profiles. In addition, you will supply several passwords that were previously provided as defaults. Be sure to note the passwords that you supply, as they will be needed for subsequent installation procedures.

See the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

See "Preparing for Installation," Planning Database Creation.

This section describes two methods for creating data mover import scripts. Choose the method most convenient to you.

Task 7-7-1: Method 1 - Using Data Mover to Generate and Execute UTS DDL and Import Data

Preparing to Create the UTS Installation Script

This method uses Data Mover Database Setup to create a single UTS installation script that will execute DDL to create database objects and subsequently import data.

Before beginning this procedure, ensure that you have completed the following:

- Granted the required authorizations to the access id as previously directed in the section Granting Additional Privileges to Owner ID.
- Created the mandatory sequence object in the Db2 subsystem by executing the `createutssequenceobject.sql` script as directed previously in the section Understanding the Database Naming Convention for Universal Tablespaces.

See *PeopleTools: Lifecycle Management Guide*, "Understanding PeopleSoft Data Mover."

See *PeopleTools: Security Administration*, "PeopleSoft Authorization IDs"

Using Data Mover to Create the UTS Installation Script

To create the import scripts using Data Mover:

1. Run Configuration Manager by using one of the following methods:
 - On Microsoft Windows, access the Apps screen and navigate to PeopleTools 8.58, Configuration Manager.
 - Run `PS_HOME\bin\client\winx86\pscfg.exe`.

2. Verify in the Signon Defaults on the Startup page that the Database Type of DB2 UDB for OS/390 is selected, as shown in the example.

Configuration Manager 8.58

Client Setup Import/Export Profile

Startup Display Bus. Interlink/JDeveloper Trace Workflow Remote Call/AE

Signon Defaults

Database Type: DB2 UDB for OS/390

Application Server Name:

Server Name:

Database Name: HC192PRD

User ID: PS

Connect ID: people

Connect Password:

Connect Password (confirm):

☐ Numeric keypad - Enter Key tabs to next field

User Can Override

☒ Database Type

☒ Database Name

☒ User ID

Cache Files

Directory: C:\PS\CACHE

Purge Cache Directories...

OK Cancel Apply

Startup tab on the Configuration Manager dialog box

3. Verify that the connect ID is correct.
If you accepted all defaults, the connect ID is people. Enter and confirm a value for the connect ID password.
4. Run Data Mover by using one of these methods:
 - On Microsoft Windows systems, access the Apps screen or Start menu, and navigate to PeopleTools 8.58, Data Mover.
 - Run `PS_HOME\bin\client\winx86\psdmt.exe`.
5. Log on using the Access ID and password you defined in your mainframe security software application; this will start Data Mover in bootstrap mode.

Note. When logging onto Data Mover in bootstrap mode, be sure to specify the logical database name that also matches the Db2 Connect alias that you defined in the task Configuring Db2 Connect.

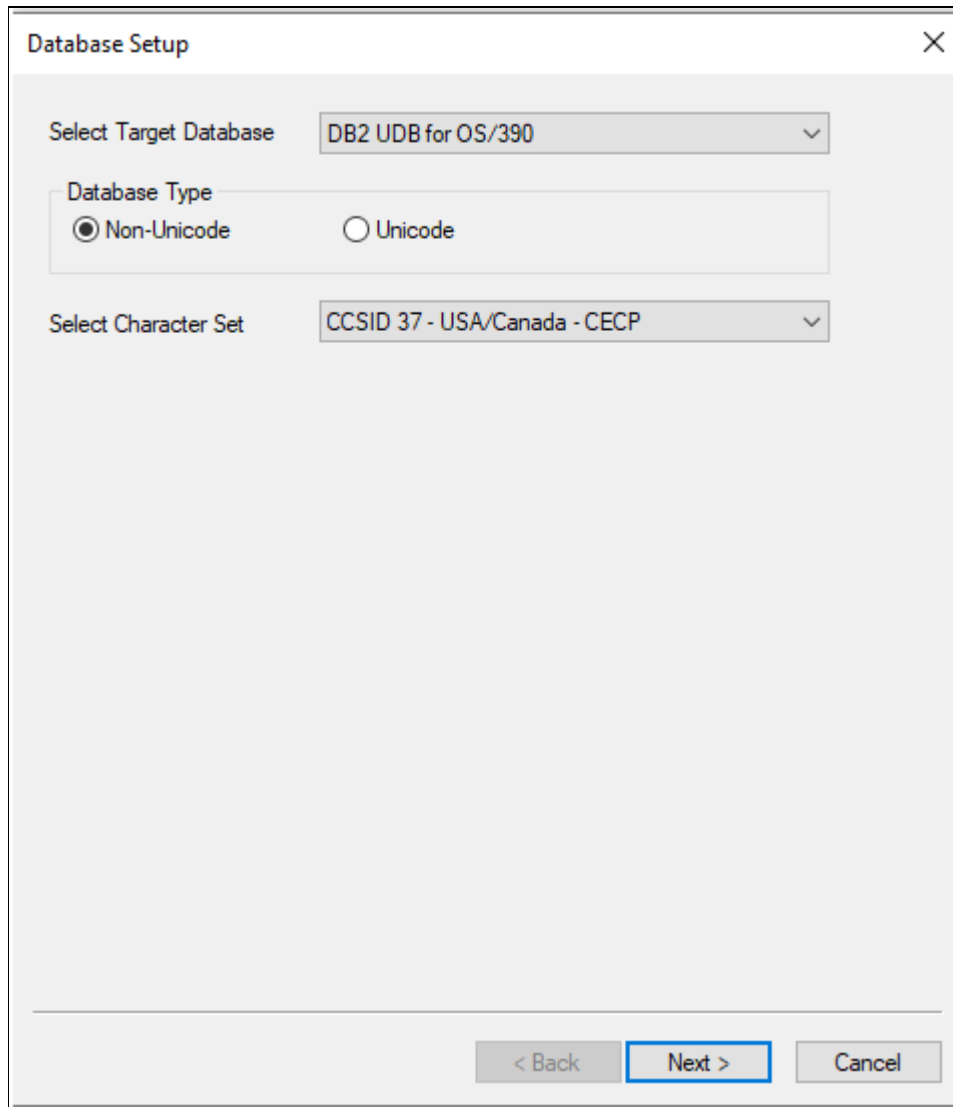
See Checking the Log Files and Troubleshooting, Running Data Mover.

Note. You must limit the Access ID to eight characters or less. See "Preparing for Installation," Choosing Owner ID Processing Option, for Access ID password requirements.

See "Preparing for Installation," Planning Database Creation.

6. Select File, Database Setup.

The Database Setup dialog box appears, as shown in this example:



Selecting target database and character set on the Database Setup dialog box

7. Select your database platform from the Select Target Database drop-down list.
8. Select your database type, Unicode or non-Unicode, and character set.

Note. The database setup does not actually modify the encoding scheme of your database. That is accomplished during creation. The database setup process only creates customized scripts based on your selection.

9. Select the Demo or System radio button, depending on which type of PeopleSoft database you are installing.

Note. If you are using the PeopleSoft Upgrade Source Image, you must create a Demo database.

10. Select the Products for which you want to create a Data Mover script from the PeopleSoft Application list box, and move the items you have selected into the Data Mover Scripts to Create list box by clicking on the Add or Add All button.

If you installed the multilanguage software, each application will be listed several times, once for each language. If you are installing languages other than English, make sure to select the appropriate language data files for each application you select in English. This will load the translated database objects.

See "Preparing for Installation," Planning Multilingual Strategy.

If you are installing an application in any language other than English, you must also select the English component of the application. For example, if you select PeopleSoft Fin/SCM - French, you must also select PeopleSoft Fin/SCM Database - US English. This ensures that you install the necessary base-language components.

11. Set the database parameters described below and then click Finish.

Database Setup - Database Parameters

Database Parameters

Database Name	HC192PRD
Symbolic ID	HC192PRD
Access ID	HCMACS01
Access Password	••••••••
Connect ID	PEOPLE
Application Server ID	PS
Application Server Password	••••••••
Web Server ID	PTWEBSERVER
Web Server Password	••••••••••
☒ Enable All Profiles	☐ Set Global Password
Global Password	
Table Owner	HCM2OWN1
Index Storage Group	PSRTX1SG
Tablespace Storage Group	PSRTD1SG
Database Storage Group	PSRTD1SG

< Back **Finish** Cancel

Specifying Database Parameters on the Database Setup dialog box

- **Database Name:** Specify the logical DB2 database name determined in the chapter "Preparing for Installation" in the task Planning Database Creation.

The database name must also be defined as an alias in DB2 Connect to establish a successful connection to your PeopleSoft database, as described in the chapter "Installing and Configuring DB2 Connect."

The database name must also match the name of the sequence object created in the section Understanding the Database Naming Convention for Universal Tablespaces.

- **Symbolic ID:** Specify the key to retrieve ACCESSID and ACCESSPSWD from PSACCESSPROFILE. For initial installation set it equal to the Database Name. The Symbolic ID cannot be longer than eight characters.
- **Access ID:** Specify the PeopleSoft Access ID defined in the chapter "Preparing for Installation" in the task Planning Database Creation.
This is also the User ID value with which you should be currently logged on to Data Mover. This value is case sensitive.
- **Access Password:** Specify the PeopleSoft Access Password defined in the chapter "Preparing for

Installation" in the task Planning Database Creation.

This is also the User password value with which you should be currently logged on to Data Mover.

- *Connect ID:* For DB2 for z/OS, specify the Connect ID that can be used for the initial connection to DB2 for z/OS. This ID is used for connecting to the database.

Note. The Connect ID must be defined as a valid logon ID in the database security management software. The Connect ID only needs to be granted SELECT access on PS.PSDBOWNER, PSACCESSPROFILE, PSOPERDEFN, and PSSTATUS. This ID should be granted no other database authorities.

- *Application Server ID:* The Application Server ID has privileges to start or shut down the Application Server domain. It is also used during the Application Server configuration. Enter one of the delivered PeopleSoft user IDs.
- *Application Server Password:* Specify a password for the Application Server ID.
- *Web Server Password:* Specify a password for the Web Server ID.

The default Web Server ID, as displayed in the example, is PTWEBSERVER. The Web Server ID, also referred to in this documentation as Web Profile User ID, is used to access the web profile information from the database through the Application Server Jolt service.

- *Enable All Profiles:* Select this check box to leave the User profiles (other than the Application Server profile and the Web Server User profiles) unchanged.

If you do not select this option, all of the User profiles in the database, with the exception of the Application Server profile and Web Server User profiles, remain disabled as delivered.

- *Set Global Password:* If you enabled all profiles, you can choose to set the same password for all of the profiles.

Note. This option is enabled when the Enable All Profiles option is selected, as shown in the example.

- *Global Password:* Enter the password to be used for all user profiles.

Note. This option is enabled when the Set Global Password option is selected, as shown in the example.

- *Table Owner:* The name of the owner ID determined in the chapter "Preparing for Installation" in the task Planning Database Creation.

This value will populate the CREATOR field in the system catalog table SYSIBM.SYSTABLES. It is this value that identifies all the tables as belonging to the logical PeopleSoft database.

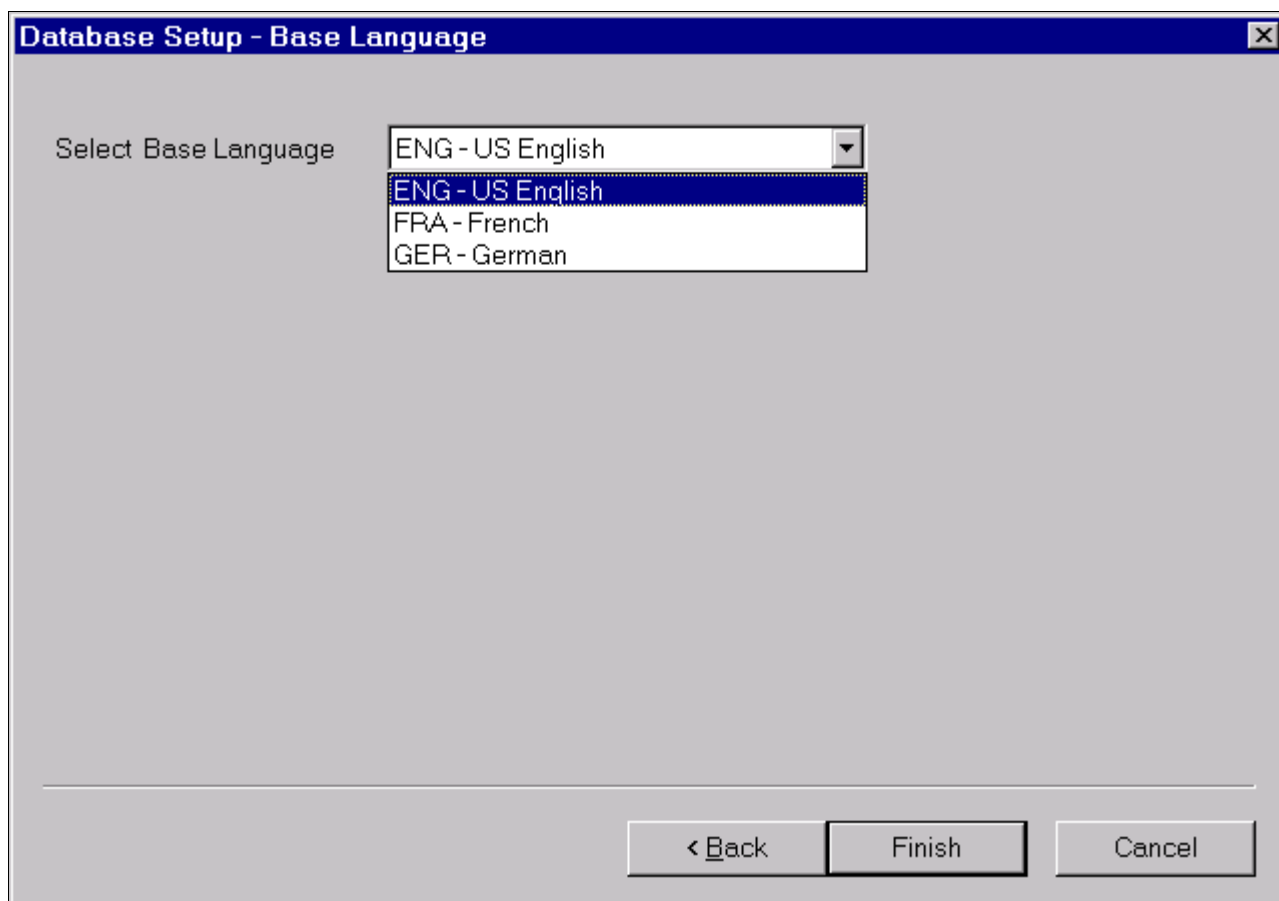
- *Index Storage Group:* Specify the storage group to be used when creating indexes.
- *Tablespace Storage Group:* Specify the storage group to be used for the universal tablespaces that will be dynamically created by PeopleTools.
- *Database Storage Group:* Specify the storage group to be used for the databases that will be dynamically created by PeopleTools.

12. Select your database's base language.

Note. This window appears only if you selected a database for a language other than English. If you see this window it is critical to select the correct base language. When you select a base language other than ENG, DBSETUP generates the Data Mover import script with the `SWAP_BASE_LANGUAGE` command to swap the base language.

See "Preparing for Installation," Planning Multilingual Strategy.

See Working with Multilingual Databases.



Selecting a base language in the Database Setup dialog box

Use the following information in making your selection:

- If you have not already done so, read the earlier section on multilingual strategy before determining whether to install multiple languages and whether to change your base language.
- If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.
- All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. During the Database Setup wizard, you need to select the database's base language that you plan to use most frequently. If your database's base language is different than the Database Setup wizard generate the `SWAP_BASE_LANGUAGE` command in the Data Mover Import script to swap the language.
- If you are creating a non-Unicode database, you must ensure that the languages you select are all

supported by the character set you used to create your database.

13. Click Finish.

Note. If the Database Setup - Base Language window does not appear, click Finish after supplying the parameters on the Database Setup - Database Parameters window.

A script <dbname>dbo.dms is created in the *PS_HOME*\scripts directory, and the script is displayed in the Data Mover input window. The log files will be written to the location you have specified for the Data Mover Log Directory in the Configuration Manager profile.

Editing the Import Script to Enable Universal Tablespace Support

The import script generated by Database Setup includes two specific statements that are required to enable PeopleTools to create and support Universal Tablespaces:

- SET ENABLE_DB2UTS;
- UPDATE PSSTATUS SET DATABASE_OPTIONS = 64;

As generated by default, these statements will not execute because they are commented using the REM (remark) command. *To enable UTS support, you must remove the REM command from the beginning of both statements before running the Data Mover import script.*

Note. Be absolutely sure that you want to enable support for universal tablespaces before uncommenting these SET commands and running the Data Mover import script. Once UTS support has been enabled for a database, it cannot be reverted; that is, do not attempt to revert it by manually updating the DATABASE_OPTIONS column of PSSTATUS. If you subsequently decide that you do not want to use universal tablespaces, you must drop the PeopleSoft application database and recreate it using the directions found in the chapter "Creating a Db2z/OS Database Using Segmented Tablespaces."

A third statement is also commented in the import script:

REM SET NO RECORD;

Leave the REM at the beginning of this statement, or delete this statement from the script. If uncommented and executed, this statement will prevent PeopleTools from executing the DDL required to create tables (records) and the import script will fail.

Here is a portion of a sample Data Mover Import script as generated by the Database Setup option. The three statements described above are shown in bold font:

```
REM - Created by Data Mover 8.58
REM - Non-Unicode Database
REM - Selected Character Set: CCSID 37 - CCSID 37 - USA/Canada - CECF
REM - Generate Latin-1 Code
/
REM - PT - US English
/
SET LOG %PS_HOME%\log\ptengs.log;
SET INPUT %PS_HOME%\data\ptengs.db;
SET EXECUTE_SQL SET CURRENT SQLID = 'HCM2OWN1';
SET DDL TABLE SPACE * INPUT STOGROUP AS PSRTD1SG;
SET DDL DATABASE * INPUT STOGROUP AS PSRTD1SG;
SET DDL INDEX * INPUT STOGROUP AS PSRTX1SG;
SET DDL UNIQUE INDEX * INPUT STOGROUP AS PSRTX1SG;
SET DDL RECORD * INPUT OWNER AS HCM2OWN1;
```

```

SET DDL INDEX * INPUT OWNER AS HCM2OWN1;
SET DDL UNIQUE INDEX * INPUT OWNER AS HCM2OWN1;
SET DDL INDEX * INPUT OWNER2 AS HCM2OWN1;
SET DDL UNIQUE INDEX * INPUT OWNER2 AS HCM2OWN1;

```

```

REM uncomment the following line to enable UTS ;
REM SET ENABLE_DB2UTS;

```

```

Retain the REM at the beginning of this statement, or delete
REM SET NO RECORD;

```

```

SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE OFF;
DELETE FROM PS.PSDBOWNER WHERE DBNAME='HC192PRD';
INSERT INTO PS.PSDBOWNER VALUES('HC192PRD','HCM2OWN1','Y');
IMPORT *;

```

```

REM - Final Database cleanup

```

```

REM -

```

```

REM - Based on your inputs to Database Setup, you will be using

```

```

REM - ConnectID's to connect to your PeopleSoft Application

```

```

REM -

```

```

/

```

```

UPDATE PSOPRDEFN SET ACCTLOCK = 1;
DELETE FROM PS.PSDBOWNER WHERE DBNAME='HC192PRD';
INSERT INTO PS.PSDBOWNER VALUES('HC192PRD','HCM2OWN1','Y');
UPDATE PSSTATUS SET OWNERID = 'HCM2OWN1';
UPDATE PSOPRDEFN SET SYMBOLICID = 'HC192PRD';
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = OPRID, ENCRYPTED = 0, ACCTLOCK =>
  WHERE OPRID NOT IN('PS','PTWEBSEVER');
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = 'PTWEBSEVER', ENCRYPTED = 0, ACCTLOCK=>
  = 0 WHERE OPRID = 'PTWEBSEVER';
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = 'PTWEBSEVER', ENCRYPTED = 0, ACCTLOCK=>
  = 0 WHERE OPRID = 'PS';
UPDATE PSACCESSPRFL SET ACCESSID = 'HCMACS01', SYMBOLICID = 'HC192PRD',=>
  ACCESSPSWD = 'HCMACS01', VERSION = 0, ENCRYPTED = 0;
UPDATE PSACCESSPROFILE SET STM_ACCESS_ID = 'HCMACS01', SYMBOLICID =>
  'HC192PRD', STM_ACCESS_PSWD = 'HCMACS01', VERSION = 0, STM_ENCRYPTION_VER=>
  = 1, ENCRYPTED = 0;
UPDATE PSOPTIONS SET LICENSE_CODE = ' ', LICENSE_GROUP = ' ';

```

```

REM uncomment the following line to enable DB2 UTS ;
REM UPDATE PSSTATUS SET DATABASE_OPTIONS = 64;

```

```

.....[truncated for brevity]

```

Task 7-7-2: Method 2 - Using Data Mover to Extract UTS DDL to a Script and Import Data

Preparing to Extract UTS DDL to a Script

This method includes the following high-level steps:

1. Create two distinct Data Mover scripts.
2. Modify the first Data Mover script to extract universal tablespace DDL from the database import file to a separate DDL script.
3. Modify the second Data Mover script to do a data-only import into tables that will be pre-created in universal tablespaces as a result of running the extracted DDL script.

Before beginning this procedure, ensure that you have completed the following:

- Granted the required authorizations to the access id as previously directed in the section Granting Additional Privileges to Owner ID.
- Created the mandatory sequence object in the Db2 subsystem by executing the `createutssequenceobject.sql` script as directed previously in the section Understanding the Database Naming Convention for Universal Tablespaces. The sequence object must exist to extract universal tablespace DDL, and the name must match both the logical database name and the Db2 Connect alias that you defined in the section Configuring Db2 Connect.

Extracting Universal Tablespace DDL to a Script

To create the universal tablespace DDL extract script using Data Mover:

1. Create a Data Mover Import script by following the steps in the section Running Database Setup to Create a UTS Data Mover Import Script.

The created script is saved in the `PS_HOME\scripts` directory as `<dbname>dbo.dms`.

2. Make two copies of the script and save them to the following files:

- `<dbname>dboEXTRACT_UTS_DDL.dms`

This section describes how to edit this script.

- `<dbname>dboEXTRACT_UTS_DataImport.dms`

The following section Creating the Data Only Import Script to Populate Tables describes how to edit this script.

3. Open the file called `<dbname>dboEXTRACT_UTS_DDL.dms` and edit it as follows:

- Delete all of the statements that appear after the `IMPORT *;` statement.
The `IMPORT *;` should be the last statement in the script.
- Remove the SQL delete and insert statements for table `PS.PSDBOWNER`.
- Add a path and file name for the `SET LOG` statement.
- Add the path and name of the database import file to the `SET INPUT` statement.
- Add a `SET OUTPUT` statement with a path and filename for the extracted DDL output script.
- Remove the `REM` from the beginning of the `SET ENABLE_DB2UTS;` statement.

See Using Data Mover to Enable Universal Tablespace Support for more details.

- Add a remark command (REM) to the SET NO RECORD; statement.
 - Add a SET EXTRACT DDL; statement immediately prior to the IMPORT *; statement.
4. Save the <dbname>dboEXTRACT_UTS_DDL.dms script.

The edited extract script should resemble the following sample. The edited lines are in bold font:

```
SET LOG C:\TEMP\ddlEXTRACT.log;
SET INPUT C:\temp\ptengs.db;
SET OUTPUT C:\TEMP\UTSddlEXTRACT.txt;
SET EXECUTE_SQL SET CURRENT SQLID = 'HCM2OWN1';
SET DDL TABLE SPACE * INPUT STOGROUP AS PSRTD1SG;
SET DDL DATABASE * INPUT STOGROUP AS PSRTD1SG;
SET DDL INDEX * INPUT STOGROUP AS PSRTX1SG;
SET DDL UNIQUE INDEX * INPUT STOGROUP AS PSRTX1SG;
SET DDL RECORD * INPUT OWNER AS HCM2OWN1;
SET DDL INDEX * INPUT OWNER AS HCM2OWN1;
SET DDL UNIQUE INDEX * INPUT OWNER AS HCM2OWN1;
SET DDL INDEX * INPUT OWNER2 AS HCM2OWN1;
SET DDL UNIQUE INDEX * INPUT OWNER2 AS HCM2OWN1;
REM uncomment the following line to enable UTS ;
SET ENABLE_DB2UTS;
REM SET NO RECORD;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET EXTRACT DDL;
IMPORT *;
```

Using the preceding example, the EXTRACT DDL statement will extract database, universal tablespace, table, and index DDL to a single script as named by the SET OUTPUT statement.

5. Run the <dbname>dboEXTRACT_UTS_DDL.dms script using Data Mover to produce a DDL script from the demo database import file.

If you would prefer to have separate scripts—one that contains database, universal tablespace and table DDL, and another that contains only the index DDL, execute the EXTRACT process twice as follows:

1. To obtain a DDL script that contains all DDL except for index DDL, add a SET NO INDEX; statement to the script and specify a path and filename for the extracted DDL to the SET OUTPUT statement.
2. To obtain a DDL script that contains only index DDL, replace the SET NO INDEX; statement with a SET NO RECORD; statement and specify a path and filename for the extracted index DDL to the SET OUTPUT statement.
3. Run the <dbname>dboEXTRACT_UTS_DDL.dms script using Data Mover to produce two DDL scripts from the demo database import file.

Editing and Executing Index DDL

Depending on the product line you are installing, it may take several hours to build the indexes. If you decide to create indexes separately, consider submitting it using DSNTEP2 in batch mode. If you decide to submit this through SPUFI, verify that the designated output data set is allocated with sufficient tracks or cylinders to hold the result of processing all the CREATE INDEX statements. You should consider creating a SPUFI output dataset with file attributes: VB,Record Length=4092,Blk size=4096, SPACE (Primary 20 cylinders, Secondary 5 cylinders).

The default for the delivered index DDL is `DEFINE NO`. This means that Db2 will defer creating the underlying VSAM dataset for an index until rows are inserted into the table. If you do not want to defer creation (`DEFINE NO`), edit the extracted index DDL by changing all occurrences of `'DEFINE NO'` to `'DEFINE YES'` or change all occurrences of `'DEFINE NO'` to `' '`.

If you want to permanently change the delivered default for index DDL to *DEFINE YES*, edit the Data Mover script `PS_HOME/scripts/DDLDB2.DMS` by removing `DEFINE NO` from the end of the index model statement. Terminate the statement with a semi-colon (;) and save the script. For example:

Original:

```
CREATE [UNIQUE] INDEX **OWNER**.[IDXNAME] ON **OWNER2**.[TBNAME] (⇒
[IDXCOLLIST]) USING STOGROUP **STOGROUP** PRIQTY **PRIQTY** SECQTY⇒
**SECQTY** [CLUSTER] BUFFERPOOL **BUFFERPL** CLOSE NO DEFINE NO;
```

New:

```
CREATE [UNIQUE] INDEX **OWNER**.[IDXNAME] ON **OWNER2**.[TBNAME] (⇒
[IDXCOLLIST]) USING STOGROUP **STOGROUP** PRIQTY **PRIQTY** SECQTY⇒
**SECQTY** [CLUSTER] BUFFERPOOL **BUFFERPL** CLOSE NO;
```

After you edit the script, you must run the `STOREDDL.DMS` script to update the index model ddl definition.

See [Updating PeopleTools System Tables](#).

Important! Do not change the name of any index. All indexes in this script are cataloged in the PeopleSoft system tables. If you change an index name, the physical index will not match the index definition stored in PeopleTools. These index discrepancies will be reported as exceptions in the `DDDAUDIT` report.

After editing as desired, execute the extracted DDL script(s) to create databases, universal tablespaces, tables and indexes using your SQL interface of choice.

After you have created the database objects, you will use a Data Mover data-only import script to populate the tables. See the next task for details on creating and running a data only import script.

Creating the Data Only Import Script to Populate Tables

To create the data-only import script, edit the file called `<dbname>dboEXTRACT_UTS_DataImport.dms` as follows:

1. Add a path and file name for the `SET LOG` statement.
2. Add the path and name of the database import file to the `SET INPUT` statement.
3. Add a `REM` at the beginning of all `SET DDL` statements or delete all of them from the script.
4. Add a `SET NO INDEX;` statement after the `SET NO RECORD;` statement.
5. Leave the `REM` at the beginning of the `SET ENABLE_DB2UTS;` statement, or delete it from the script.
This statement is not required in this context because the extracted DDL script contains universal tablespace DDL.
6. Remove the `REM` from the `UPDATE PSSTATUS SET DATABASE_OPTIONS = 64;` statement.
This statement must be executed to enable UTS run-time support for the database.
7. If table `PS.PSDBOWNER` already exists in the Db2 subsystem, add a `REM` at the beginning of the `GRANT` on table `PS.PSDBOWNER` or delete it from the script.
8. Add a path and file name for the `SET LOG` statement that appears in the `ENCRYPT PASSWORD` section.
9. Save the `<dbname>dboEXTRACT_UTS_DataImport.dms` script.

The edited extract script should resemble the following sample. The edited lines are in bold font:

```

SET LOG C:\TEMP\HC192PRDIMP_1.log;
SET INPUT C:\TEMP\ptengs.db;
SET EXECUTE_SQL SET CURRENT SQLID = 'HCM2OWN1';
REM uncomment the following line to enable UTS ;
REM SET ENABLE_DB2UTS;
SET NO RECORD;
SET NO INDEX;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
DELETE FROM PS.PSDBOWNER WHERE DBNAME='HC192PRD';
INSERT INTO PS.PSDBOWNER VALUES('HC192PRD'HCM2OWN1','Y');
IMPORT *;
REM - Final Database cleanup
REM - Based on your inputs to Database Setup, you will be using
REM - ConnectID's to connect to your PeopleSoft Application
/
UPDATE PSOPRDEFN SET ACCTLOCK = 1;
DELETE FROM PS.PSDBOWNER WHERE DBNAME='HC192PRD';
INSERT INTO PS.PSDBOWNER VALUES('HC192PRD'HCM2OWN1','Y');
UPDATE PSSTATUS SET OWNERID = 'HCM2OWN1';
UPDATE PSOPRDEFN SET SYMBOLICID = 'HC192PRD';
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = OPRID, ENCRYPTED = 0, ACCTLOCK = 0⇒
  WHERE OPRID NOT IN('PS','PTWEBSEVER');
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = 'PTWEBSEVER', ENCRYPTED = 0,⇒
  ACCTLOCK = 0 WHERE OPRID = 'PTWEBSEVER';
UPDATE PSOPRDEFN SET PTOPERPSWDV2 = 'HC192PRD', ENCRYPTED = 0, ACCTLOCK⇒
  = 0 WHERE OPRID = 'PS';
UPDATE PSACCESSPRFL SET ACCESSID = 'PSOFT1', SYMBOLICID = 'HC192PRD',⇒
  ACCESSPSWD = 'PSOFT1', VERSION = 0, ENCRYPTED = 0;
UPDATE PSACCESSPROFILE SET STM_ACCESS_ID = 'PSOFT1', SYMBOLICID ⇒
  'HC192PRD', STM_ACCESS_PSWD = 'PSOFT1', VERSION = 0, STM_ENCRYPTION_⇒
  VER = 1, ENCRYPTED = 0;
UPDATE PSOPTIONS SET LICENSE_CODE = ' ', LICENSE_GROUP = ' ';
REM uncomment the following line to enable DB2 UTS ;
UPDATE PSSTATUS SET DATABASE_OPTIONS = 64;
INSERT INTO PSTREESELECT20 (SELECTOR_NUM, TREE_NODE_NUM, RANGE_FROM_20,⇒
  RANGE_TO_20)
SELECT 0, 0, RECNAME, ' ' FROM PSRECDEFN WHERE RECTYPE IN (0, 1, 6);
UPDATE PSOPTIONS SET TEMPTBLINSTANCES = 3, TEMPINSTANCEONLINE = 3⇒
  WHERE TEMPINSTANCEBATCH = 0;
UPDATE PSAEAPPLDEFN SET TEMPTBLINSTANCES = 5 WHERE TEMPTBLINSTANCES > 5;
GRANT SELECT ON PSSTATUS TO PEOPLE;
GRANT SELECT ON PSOPRDEFN TO PEOPLE;
REM GRANT SELECT ON PS.PSDBOWNER TO PEOPLE;
GRANT SELECT ON PSACCESSPRFL TO PEOPLE;
GRANT SELECT ON PSACCESSPROFILE TO PEOPLE;
UPDATE PSOPTIONS SET PLATCOMPAT='N';
REM - ENCRYPT PASSWORD

```

```

/
SET LOG C:\TEMP\HC192PRDencrypt.log;
ENCRYPT_PASSWORD *;
DELETE FROM PSSECOPTIONS;
INSERT INTO PSSECOPTIONS (PSWD_CNTRL_ON, PSWDEXPIRESHOURS, PSWDWARNDAYS, =>
  MINPSWDLLENGTH, PSWDREQSPECIAL, PSWDREQLOWER, PSWDREQUPPER, =>
  PSWDREQDIGITS, ALLOWOPRID, ALLOWPRIEMAIL, LOGINATTEMPTS, PT_HINTDELAY, =>
  LOCKOUTDURATION, PURGE_DAYS, PASSWORD_HISTORY) VALUES ('=>
  ',180,5,8,0,0,0,0,0,0,5,0,0,0,0);
UPDATE PSSIGNONPPC SET ENABLED = 'Y' WHERE RECNAME='FUNCLIB_PWDCNTL'=>
  AND FIELDNAME = 'PWDCNTL' AND EVENTNAME = 'FieldChange' AND FUNCNAME =>
  'Password_Controls';
UPDATE PSOPRDEFN SET LASTUPDDTTM = %CurrentDateTimeIn;

```

10. Execute the data-only import script to populate the tables using Data Mover.

See Populating Tables in the PeopleSoft Database.

Task 7-8: Running Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Populating Tables in the PeopleSoft Database

Understanding Data Mover Import Scripts

Now you will run the Data Mover scripts (DMS) that you created in the preceding task to dynamically create and execute universal tablespace DDL and import the data for your PeopleSoft database. The Data Mover script creates either a system (SYS) or a demo (DMO) database.

When you initially logged onto Data Mover to create the DMS scripts, you logged in with the Access ID and password, using bootstrap mode. You need to use bootstrap mode to run the Data Mover import script, because there are not yet any PeopleSoft security tables in the database.

Note. You should already be signed on in bootstrap mode from having completed the previous task.

Verify that the same Connect ID was used in the Database Setup, and Configuration Manager panel. If you accepted all defaults, the Connect ID is people.

See *PeopleTools: Data Management*.

Warning! The Data Mover utility uses the INSERT SQL command to populate all the tables in PeopleSoft database. Notify your systems programmer and operations staff that this activity will generate more DB2 z/OS logging activity than usual.

See Also

Checking the Log Files and Troubleshooting, Running Data Mover

Task 7-8-1: Populating Tables in the PeopleSoft Database

To populate tables in the PeopleSoft database:

1. The DMS import script for your application will contain hard-coded file names for log files and data files.
Modify the DMS script if you have moved any files from the delivered directories or want to write log files to another location than that specified in the script.
2. If you have logged out of Data Mover after creating the DMS script, log back on again in Bootstrap mode; otherwise skip the next instruction.
3. Choose File, Open to open the DMS script you created earlier.
Browse the directory where the script was created: *PS_HOME\scripts*. Open the DMS script with the name *<dbname>DBO.dms*, where *<dbname>* is the name of the database you provided when creating the script.
4. One of the statements in the script grants select authority on PS.PSDBOWNER to the Connect ID.

```
GRANT SELECT ON PS.PSDBOWNER TO <Connect ID>;
```
5. If you have not granted the Access ID (the ID that you used to log on to Data Mover to execute the script) a level of authority that would permit it to execute this statement, the Data Mover script will fail and stop at the statement.
Choose one of these three options to prevent this failure:
 - Grant SELECT access on PS.PSDBOWNER to PUBLIC, and remove this GRANT statement from the script.
 - Remove this GRANT statement from the script and perform it later with an ID that is authorized to issue grants on PS.PSDBOWNER.
 - Grant authority to the Access ID to grant access on PS.PSDBOWNER to other user IDs.
6. Select File, Run to execute the script.

When you run the script, Data Mover typically performs the following actions:

- **IMPORT ***
Load data into PeopleTools and application tables.
- **ENCRYPT_PASSWORD ***
Encrypt security information for the database.

Task 7-9: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology*, "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLNLNGCA removes any orphaned related language objects that do not have a matching base language object.

Run the PTIACLNLNGCA application engine program. From the command line utility, the syntax is:

```
<PS_HOME>\bin\client\winx86\psae -CD <dbname> -CT DB2ODBC -CO <oprid> -CP=>
<password> -R <run_control> -AI PTIACLNLNGCA -FP <log_path>
```

Use the values for the database name and user ID that you entered on the startup tab of the Configuration Manager for <dbname> and <oprid> respectively. However, be aware that <password> is not the same as the connect password you entered on the Configuration Manager startup tab. Enter a value for <password> that is the password associated with the <oprid>. For <log_path>, specify the path where you want the log file for the application engine program to be generated, such as C:\temp\.

Task 7-10: Checking the Log Files and Troubleshooting

This section discusses:

- Checking the Log Files
- Running Data Mover
- Troubleshooting
- Improving Performance
- Improving Execution

Task 7-10-1: Checking the Log Files

After running each Data Mover script, examine the .LOG files to make sure that all the commands were executed successfully. The log files are located in the directory you specified in the Data Mover script.

This is the same directory you specified for the Data Mover Log Directory in the Configuration Manager profile, unless you edited this location in the DMS script.

See "Setting Up the Install Workstation," Editing the Default Profile.

Task 7-10-2: Running Data Mover

Use one of these methods to run Data Mover.

Microsoft Windows

- Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Data Mover from the Start, Programs list or the Apps screen to run a graphical user interface (GUI mode).
- Run `PS_HOME\bin\client\winx86\psdmt.exe` from the command line.

On UNIX, run `PS_HOME/bin/psdmtx` from the command line.

If you use the access ID that you specified during the database configuration to log on, you log on in "bootstrap mode." When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

If you use a valid PeopleSoft Operator ID, such as PS for Human Capital Management or VP1 for Financials/Supply Chain Management, you log on in "user mode." In this mode, no designation appears in the Data Mover status bar.

See Also

PeopleTools: Data Management

Task 7-10-3: Troubleshooting

If the DMS script has stopped midway (this can happen for a number of reasons) you need to edit the script and start again.

To edit and restart the DMS script:

1. Determine the record that was being imported (that is, which IMPORT command was running) when the script stopped, and use the following guidelines to edit and rerun the DMS scripts.

When building a DMO database or a multilingual database, adding the SET START statement can be tricky because the Data Mover script used to load the database will include more than one IMPORT statement. The key is to view the log files and determine which IMPORT section of the script Data Mover failed on.

- If the failure occurred during the first IMPORT statement, add the SET START statement before the first IMPORT *; statement.
- If the failure occurred during a subsequent IMPORT statement, comment out all statements preceding the IMPORT *; statement where the failure occurred and add the SET START statement before the IMPORT *; statement of the section in which the failure occurred.
- *This is very important:* If you see any "unique index constraint" error messages in the "Building required indexes" section, or in the "Creating Indexes" section later in this chapter, your IMPORT script failed during a subsequent IMPORT but the SET START statement was added to the first IMPORT. In this situation, you can run the Data Mover script in its originally generated form, with only one modification. In the first IMPORT section, change the statement "IMPORT *;" to "REPLACE_DATA *;". This will delete all the data in the tables, and re-import it. This process will take some time to run, and you will need to separately create each of the indexes that failed.

2. Run Data Mover as previously described.

See Running Data Mover.

The PeopleSoft Logon dialog box appears.

3. Log on using the Access ID to start Data Mover in *bootstrap mode*.

Use the Access ID you specified when you created the Data Mover scripts with the Database Setup utility.

The input window should display the DMS import script for the database. The script has the format <dbname>dbo.dms.

4. If necessary, select File, Open, and browse to the *PS_APP_HOME/scripts* directory to find the appropriate DMS script.

5. Add the following line before the offending IMPORT command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
```

<RECORD NAME> is the name of the record that failed. Make sure to review the Data Mover log file to see where the script failed and locate the last record that imported successfully. The SET START command will begin the Data Mover import at the specified record name.

<RECORD NAME> is the PeopleSoft record name as defined in PSRECDEFN, not necessarily the same as the DB2 table name. With the exception of the PeopleSoft PeopleTools tables, most PeopleSoft record names are appended with PS_ to create the DB2 table name.

Note. It is a good idea to change the name of the log file in the script before each attempt at running it. This ensures that you have a separate log file for each attempt, if you run the import more than once.

For example, if the script stops and the table is partially inserted with a message similar to this one:

```
Importing PSPNLFIELD
Rows inserted into PSPNLFIELD
```

First delete the rows from the partially inserted table (for example, record) by using the `DELETE FROM <table>` command, and then restart Data Mover at the record that failed using the `SET START` command and continue the Data Mover import. This can be done in a single pass.

Add the following lines before the offending `IMPORT *;` command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
DELETE FROM <RECORD NAME>;
```

For `<RECORD NAME>`, specify the name of the record that failed. The `SET START` statement will begin the Data Mover import at the specified `<RECORD NAME>`.

Example of the original script:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs.log;
SET INPUT epengs.db;
SET NO RECORD;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
IMPORT *;
```

Example of script after modification, with changes in bold font:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs2.log;
SET INPUT epengs.db;
SET NO RECORD;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET START PSPNLFIELD;
DELETE FROM PSPNLFIELD;
IMPORT *;
```

For the `DELETE` statement, for records with a rename without a leading `PS_`, add `PS_` to the beginning of the rename; otherwise the table will not be found. For example, `PS_<RECNAME>`.

6. Restart the script (File, Run Script).

Task 7-10-4: Improving Performance

The following tips can help you save time when running the Data Mover scripts:

- Run only a single instance of Data Mover, and do not have any other applications running during the import.
- In the PeopleSoft Configuration Manager, turn off all trace options.

Tracing during a DMS load will add considerable time to the process.

Task 7-10-5: Improving Execution

Data Mover, by default, commits at the end of each table. If you prefer, when running Data Mover, you can include a SET COMMIT command (such as SET COMMIT 5000) to force a commit after the specified number of rows have been inserted into the table. However, if you use this option, and Data Mover ends abnormally again, you must mass delete the rows contained in the current table.

If the script stops and the table is partially inserted with the message below:

```
Importing PSPNLFIELD  
Rows inserted into PSPNLFIELD  
5000, 10000, 15000
```

Bypass the record using the SET START AFTER command and complete the import. In a second pass, import the partially inserted table using this command:

```
Replace_data <record_name>;
```

Task 7-11: Creating PeopleSoft Views

This section discusses:

- Understanding PeopleSoft Views
- Creating Views in Data Mover
- Creating Views in Application Designer

Understanding PeopleSoft Views

When creating the PeopleSoft Views, you can use Data Mover or Application Designer to create the objects directly, or you may use Application Designer to generate a DDL script of SQL statements, which can then be run using another utility such as SPUFI or DSNTEP2 and/or a User ID other than the Access ID.

Task 7-11-1: Creating Views in Data Mover

To create views in Data Mover:

1. Start Data Mover in User mode using a valid PeopleSoft operator ID, for example, PS or VP1.
See Running Data Mover.
2. Select File, Open from the Data Mover menu and navigate to *PS_HOME*\scripts.
3. Select the script CREATEVW.dms.
4. Select File, Run to execute the script.
5. Exit Data Mover.

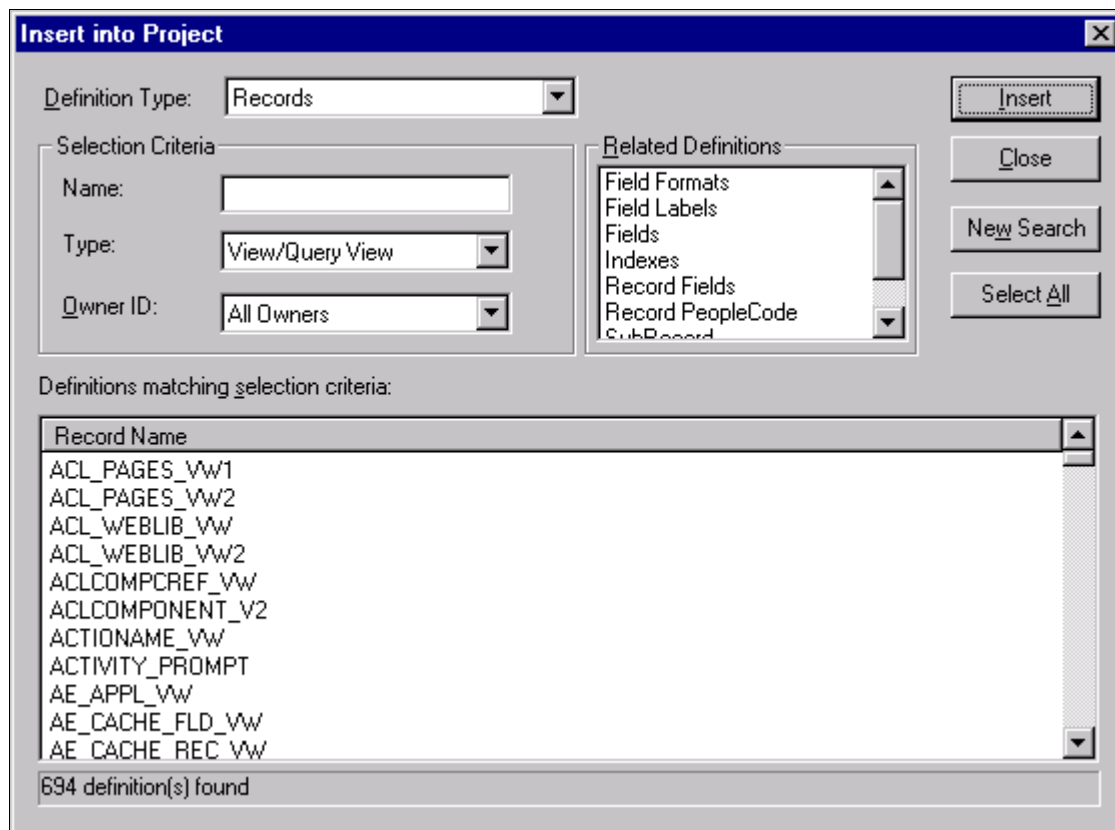
Task 7-11-2: Creating Views in Application Designer

To create views in Application Designer:

1. Start Application Designer; for example:

- Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Application Designer from the Start, Programs list or the Apps screen.
 - Run `PS_HOME\bin\client\winx86\pside.exe`.
2. Create a new project. Choose File, New, and then select Project from the New dialog.
 3. Insert all PeopleTools view records into the project:
 - a. Choose Insert, Definitions into Project. The Insert into Project dialog box appears.
 - b. Select a Definition Type of *Records*.
 - c. In the Selection Criteria control group, choose a Type of *View/Query View*; and then press ENTER to select the records.

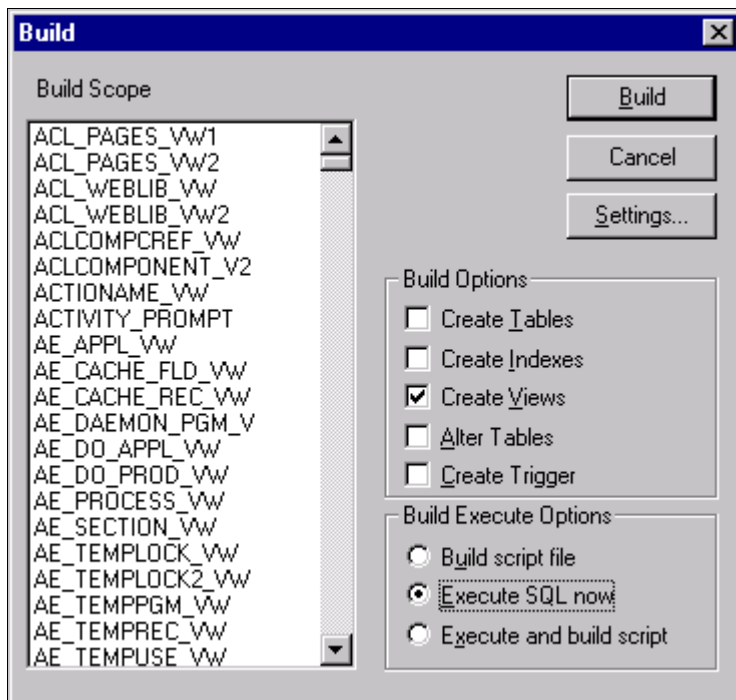
This example shows the Insert into Project dialog box with a list of results in the Record Name area.



Insert into Project dialog box

- d. Click Select All, and then click Insert to insert the View/Query View records into the project.
 - e. Click Close to close the Insert into Project dialog box.
4. Build the project.
 - a. Choose Build, Project. The Build dialog box appears.

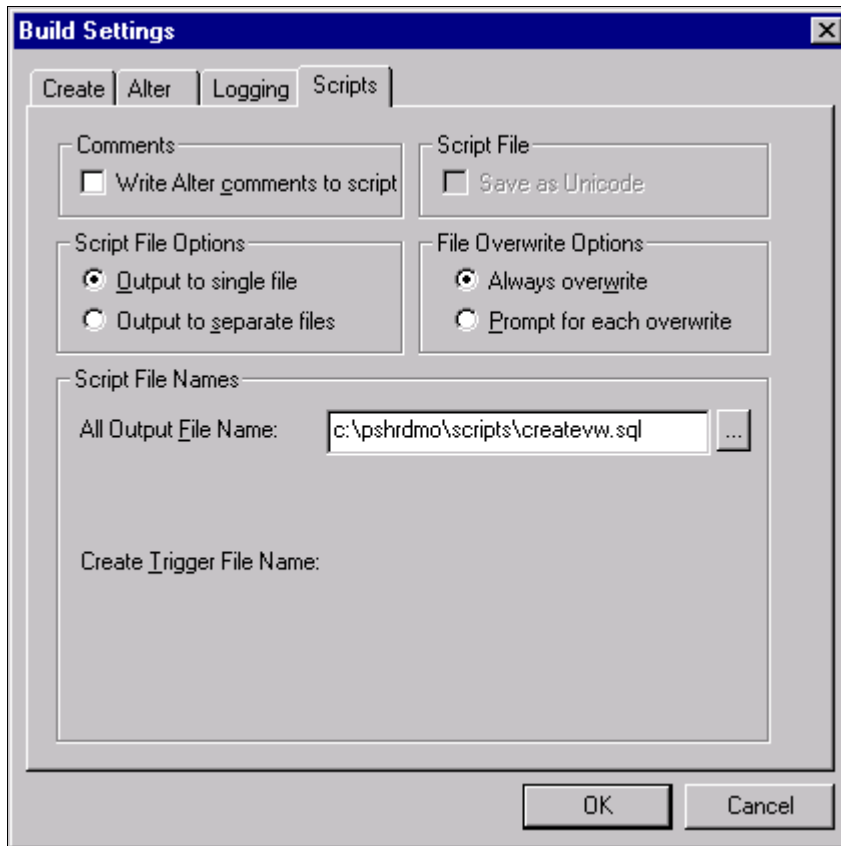
- b. In the Build Options group, select the Create Views check box. In the Build Execute Options group, select the Execute SQL now radio button to create the views directly, or the Build script file radio button to generate a DDL script of CREATE VIEW statements.



Selecting Create Views and Execute SQL now in the Build dialog box

- c. If you select Build script file, click Settings, go to the Scripts tab, and enter the output directory and filename where you want the DDL statement script written in the area All Output File Name.

In this example, the directory and filename are c:\pshrdmo\scripts\createvw.sql.



Build Settings dialog box: Scripts tab

- d. Click OK to return to the Build dialog box.
e. Click Build to build the views in the project.

Depending on the Build Execute Option you selected, Application Designer will either directly build the views on the database or generate a script file of CREATE VIEW DDL statements. If you have opted to generate the script file, execute the DDL statements either through SPUFI or DSNTEP2. Because of the time it may take the script to complete, we recommend submitting this script in batch mode using DSNTEP2. You may also need to prefix the script with the SQL command `SET CURRENT SQLID = <ownerid>`.

Note. On DB2 z/OS, when an object is dropped, all the dependent objects are automatically dropped. As a result some of the drop view statements could fail—and generate errors—if they were dependent on the view earlier dropped in the script. Please ignore these errors and restart the remaining part of the script.

Task 7-12: Building Temporary Tables

This section discusses:

- Understanding Temporary Tables

- Running SQR SETSPACE.SQR
- Correcting Invalid Database/Tablespace Combinations
- Setting the Number of Temporary Tables
- Using the Volatile Table Attribute
- Building the Temporary Tables and Their Indexes

Understanding Temporary Tables

In this task you use Application Designer to create temporary tables. PeopleSoft software has a temporary table structure where the number of instances for each base temporary table is controlled internally to PeopleSoft PeopleTools. The definition of each base temporary table is stored in the PeopleSoft PeopleTools table PSRECDEFN. The temporary table instances themselves are not defined. The table PSRECTBLSPC contains the database and tablespace values for each record defined in PSRECDEFN.

Task 7-12-1: Running SQR SETSPACE.SQR

In this procedure, you run SQR SETSPACE.SQR to update table PSRECTBLSPC with the database and tablespace values from the DB2 system catalog. Application Designer uses the database and tablespace values stored in PSRECTBLSPC to generate DDL statements to create the tables.

SETSPACE.SQR serves multiple purposes:

- It updates PSRECTBLSPC with the database/tablespace values from the DB2 system catalog table SYSIBM.SYSTABLES for the tables defined in the DB2 System Catalog.
- It reports tables in PSRECTBLSPC that are updated with a new database or tablespace name.
- It reports tables that are defined in PSRECTBLSPC, but not defined in the DB2 system catalogs, and whether the database/tablespace combination defined for the record is valid or invalid (not defined in the DB2 system catalog table SYSIBM.SYSTABLESPACE).
- It syncs up the database/tablespace combinations used in PSRECTBLSPC with the PeopleTools "master" tablespace table PSTBLSPCCAT by inserting the valid combinations in PSTBLSPCCAT if they have not already been defined.
- It reports those database/tablespace values added to the PSTBLSPCCAT table.
- It summarizes and reports database/tablespace combinations defined in PSTBLSPCCAT that are not valid. The reports are a valuable tool in determining how and where to make revisions so the temporary tables are created in the correct location, and without error.

To run SQR SETSPACE.SQR:

Submit the Job PSHLQ.PPVVV.JCLLIB(SETSPACE) to execute the SQR on the mainframe.

The SDSF logs will display the results of running the SQR and information related to the success of executing this SQR.

An output file will be written to PSHLQ.PPVVV.SQRLIST(SETSPACE) detailing the records processed and actions taken.

Note. The SQR can be run multiple times without any negative impact, but the output file will be overwritten with each execution. You may want to rename the member PSHLQ.PPYYY.SQRLIST(SETSPACE) to another name before each resubmission of the SQR.

Task 7-12-2: Correcting Invalid Database/Tablespace Combinations

Review the output in PSHLQ.PPVVV.SQRLIST(SETSPACE). Note any messages with "Table Undefined — DB/TS Invalid," but most importantly, note any Warning messages in the second Phase of the output report. These warning messages summarize the database/tablespace name combinations defined in PSRECTBLSPC that have not been defined in the DB2 system catalog tables.

There are five options for making the necessary revisions. Of these options, Option 1 is the recommended one, for several reasons. Editing can be done globally; no table data will be impacted as it would in other options; you are guaranteed that the temporary table will be built in the database and tablespace that you intend; and you may have already found it necessary to edit the script file of DDL statements to create the Temporary table for other reasons.

- *Option 1 (Recommended):* Proceed through the installation process and build a script file of the DDL statements to create the temporary tables. After the script has been generated, but before executing it, globally edit the database/tablespace name combinations using the second Phase of the output report as a guide to the "before" values, changing them to your preferred site specific values.
- *Option 2:* Update the PSRECTBLSPC table directly via the database interface of choice before building the script file of DDL statements to create the temporary tables. Use the second Phase of the output report as a guide. The SQL to correct each invalid database/tablespace combination would be scripted as follows:

```
UPDATE PSRECTBLSPC SET DBNAME = '<new dbname>',
                    DDLSPACENAME = '<new tablespacename>'
WHERE DBNAME = '<old dbname>'
AND DDLSPACENAME = '<old tablespacename>'
AND DBTYPE = (SELECT MAX(A.DBTYPE) FROM PSRECTBLSPC A
              WHERE RECNAME = A.RECNAME
              AND A.DBTYPE IN (' ', '1'))
```

- *Option 3:* Run SQR SETDBNAM to update the database value in PSRECTBLSPC with a "best guess" value based on the tablespace value defined in PSRECTBLSPC. The accuracy of this SQR is based on the following caveats:
 - The ID or Current SqlID that was used to create the tablespaces must be the same value as the owner ID of the tables comprising the logical PeopleSoft database. In other words, the CREATOR field value in SYSIBM.SYSTABLESPACE must be the same value as the CREATOR field in SYSIBM.SYSTABLES.
 - The given tablespace name and CREATOR value in SYSIBM.SYSTABLESPACE must represent a unique relationship. For a given CREATOR, if you have defined a given tablespace name in more than one database, the SQR will use the database value associated with the tablespace that contains the fewest number of tables.

If either of these requirements is not met, either a database value will not be found and PSRECTBLSPC will not be updated, or PSRECTBLSPC could be updated with a database value different from that intended.

To run the SQR SETDBNAM, follow the same procedure as running SQR SETSPACE, using the JCL Job PSHLQ.PPVVV.JCLLIB(SETDBNAM) instead.

- *Option 4:* Log into the database via Application Designer, and update the record definitions with valid database/tablespace combinations, before building the script of DDL statements to create the temporary tables. Use the first Phase of the output report as a guide. (This could be a tedious and time-consuming process and is not recommended over the previously described options.)
- *Option 5:* Create the database/tablespace combinations in DB2 so they are no longer invalid, before executing the script file of DDL statements to create the Temporary tables. Use the second Phase of the output report as a guide to the databases and tablespaces that need to be created. (This is not recommended simply because it is likely to contradict the naming standards established for your DB2 installation.)

Task 7-12-3: Setting the Number of Temporary Tables

Normally, you will leave the number of temporary tables set to the default defined in the database. You may want to change this setting for optimal performance, depending on various aspects of your implementation, including account transaction volumes, benchmark numbers for the current hardware and database platform, and your service-level requirements.

Oracle delivers a minimum of three temporary table instances in most cases. You cannot adjust the number of temporary tables unless you have installed the PeopleSoft Pure Internet Architecture. (See "Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode" or "Setting Up the PeopleSoft Pure Internet Architecture in Console Mode.") You may skip this step entirely, and come back to it after PeopleSoft Pure Internet Architecture has been installed and you have a better idea of how many instances of the temporary tables might best fit your processing requirements. Another option is to update the PeopleTools table that controls the number of temporary table instances directly. Using the Database SQL interface of choice, issue the following SQL:

```
UPDATE PSOPTIONS SET TEMPTBLINSTANCES = <#>, TEMPINSTANCEONLINE = <#>=>
WHERE TEMPINSTANCEBATCH = 0
```

The number of instances (#) for either field should not be less than 3 or greater than 9.

For non-EPM applications, it is strongly recommended that the TEMPTBLINSTANCES and TEMPINSTANCEONLINE values be the same. For EPM applications we strongly recommend that you take the delivered defaults.

Note. Again, this step can be performed at installation and/or at any time during the life of your database. The only caveat is that when any of the parameters are changed that would impact the number of temporary table instances, all temporary tables should be regenerated.

Task 7-12-4: Using the Volatile Table Attribute

Beginning with PeopleSoft PeopleTools 8.48 and later, all temporary tables are created using the volatile keyword.

Sample DB2 for z/OS volatile temporary DDL follows:

```
CREATE TABLE Q848902.PS_AEEXT_TAO (PROCESS_INSTANCE DECIMAL(10) NOT
NULL,
    AE_INT_1 SMALLINT NOT NULL,
    AE_APPLID CHAR(12) NOT NULL,
    AE_SECTION CHAR(8) NOT NULL,
    AE_STEP CHAR(8) NOT NULL) VOLATILE IN Q848902.PTAPPE;
```

The volatile attribute specifies that the DB2 optimizer should favor index access on this table whenever possible for SQL operations regardless of the presence of statistics.

For more details on the volatile table attribute, refer to the DB2 for z/OS SQL Reference and the DB2 for z/OS Administration Guide.

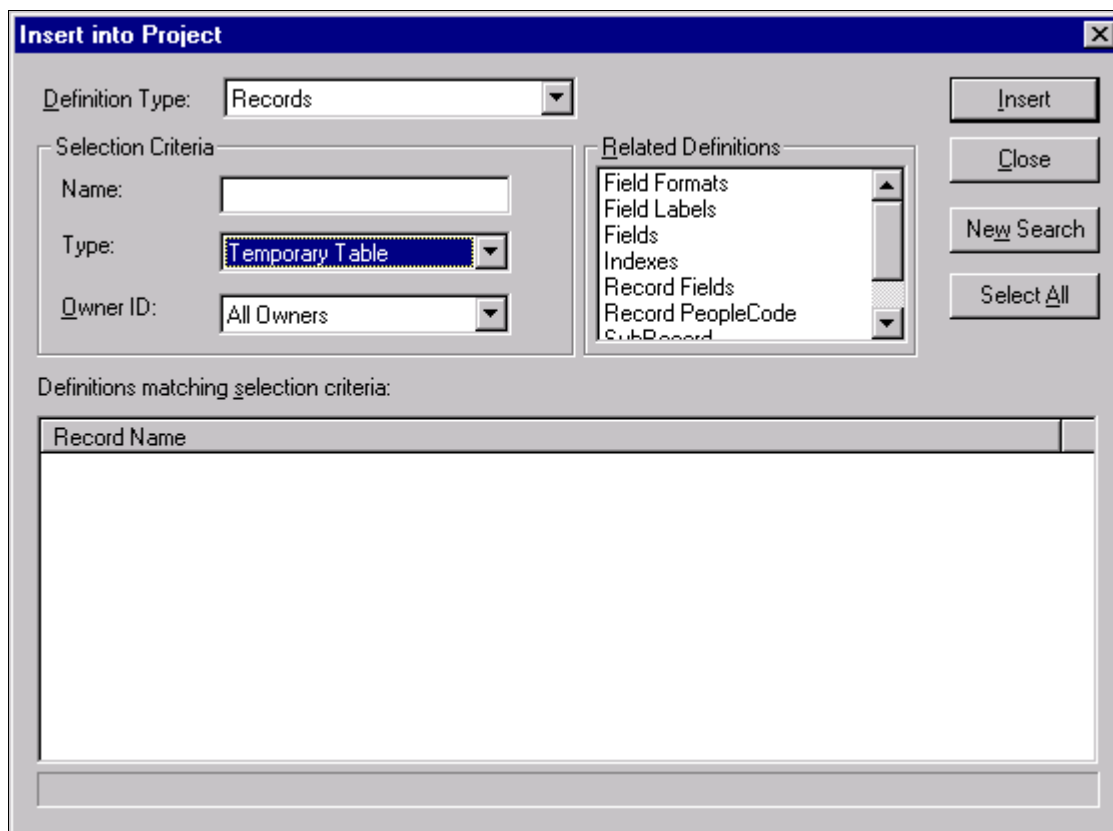
Task 7-12-5: Building the Temporary Tables and Their Indexes

Use the following procedure to build temporary tables in the database.

Note. You may use the temporary table DDL script created at the end of this task as input to the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to isolate each of the temporary tables to its own tablespace.

To build temporary tables:

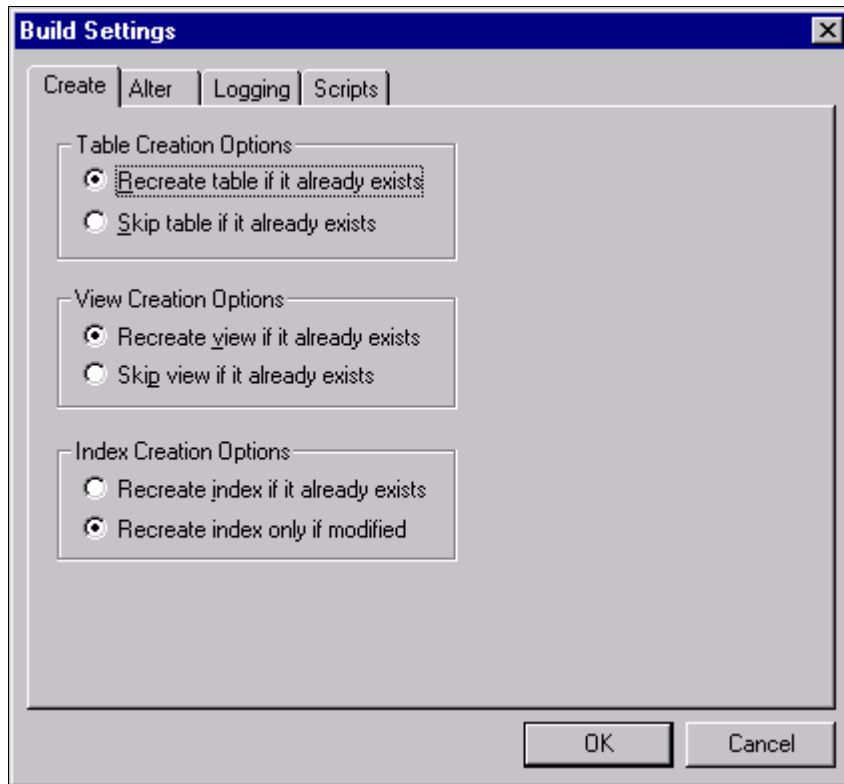
1. Open Application Designer.
2. Choose File, New. In the New dialog, select Project, and then click OK.
3. Choose Insert, Definitions into Project.
4. Set Definition Type to *Records* and Type to *Temporary Table*.



Insert into Project dialog box

5. Press ENTER, or click Insert and then click the Select All button. This selects all of the PeopleTools Records for temporary tables.
6. Click Insert to insert all of the temporary tables into the new project.
7. Click Close to close the Insert into Project dialog.
8. Before building the project, you should save it. Choose File, Save Project As and enter a project name such as *TEMPTBL*.
9. Choose Build, Project. The Build dialog appears.
10. In the Build Options group, select the Create Tables check box. The Create Index check box should be selected by default.
11. Select Build script file to direct the DDL to a file.
12. Click the Settings button. The Build Settings dialog appears.

13. On the Create tab, select Recreate table if it already exists (if it is not already selected) under Table Creation Options.

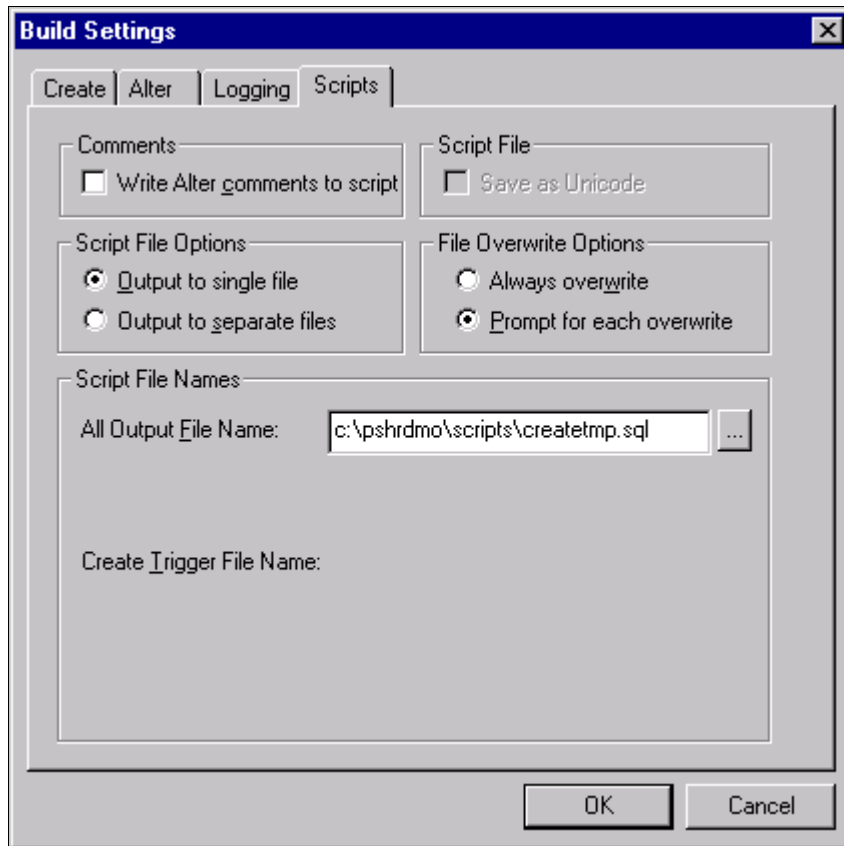


Selecting the Recreate table if it already exists in the Build Settings dialog box

14. Select the Scripts tab, and select Output to Single File under Script File Options.

15. Under Script File Names, specify the path and filename for the output file to contain the DDL to create the Temporary tables and their indexes (for example, *PS_HOME*\scripts\TEMPDDL.SQL).

The path and filename in this example is c:\pshrdmo\scripts\createtmp.sql.



Specifying the path and filename in the All Output File Name section

16. Click OK to accept the build settings.
17. Click Build to build temp tables. You may receive a warning message, which you can disregard because the temp tables do not contain any existing data.
18. After the script generation process has finished, click Close in the Build Progress dialog box to return to Application Designer.
19. Transfer the file of DDL statements just created to the mainframe server PDS HLQ.PPVVV.DDLLIB (filename).
20. If you have corrected the invalid database/tablespace combinations following Option 1 described earlier, and not updated the PSRECTBLSPC table with the database and tablespace names used in your installation, you need to edit the file, changing both the database and tablespace names from the values as would be noted in the second Phase of the output report from SQR SETSPACE, to your site-specific values.
21. When the file has been edited with the appropriate database and tablespace name values, save your changes and submit the DDL statements either through SPUFI or DSNTEP2. It is preferable to submit this in batch mode using DSNTEP2, because the task could take over an hour to complete.

Task 7-13: Creating PeopleSoft Triggers

This section discusses:

- Understanding PeopleSoft Triggers
- Creating Triggers in Data Mover
- Creating Triggers in Application Designer

Understanding PeopleSoft Triggers

When creating the PeopleSoft Triggers, you can use Data Mover or Application Designer to create the objects directly, or you can use Application Designer to generate a DDL script of SQL statements, which can then be run using another utility such as SPUFI or DSNTEP2, and with a UserID with a greater level of database authority.

Task 7-13-1: Creating Triggers in Data Mover

To create triggers in Data Mover:

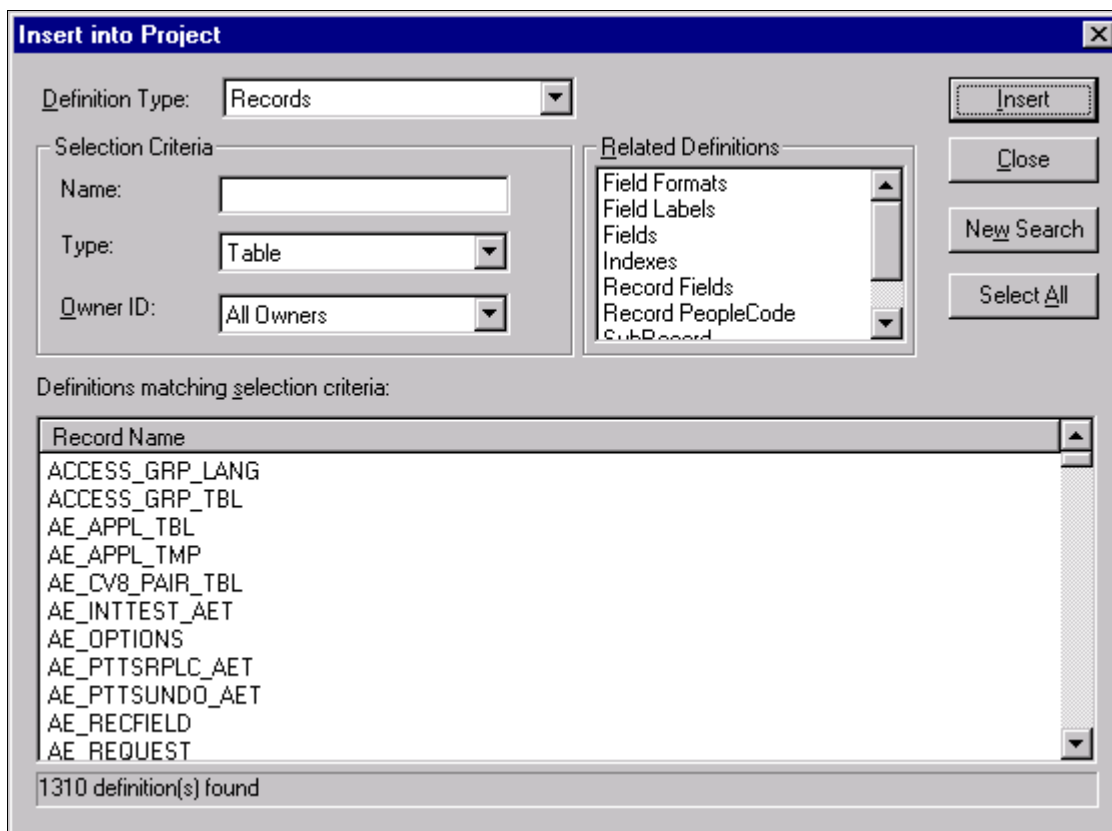
1. Start Data Mover in User mode, using a valid PeopleSoft operator ID, for example, PS or VP1.
See Running Data Mover.
2. Choose File, Open from the Data Mover menu and navigate to *PS_HOME*\scripts.
3. Select the script CREATETRGR.dms.
4. Choose File, Run to execute the script.
5. Exit Data Mover.

Task 7-13-2: Creating Triggers in Application Designer

To create triggers in Application Designer:

1. Start Application Designer, for example:
 - Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Application Designer from the Start, Programs list or the Apps screen.
 - Run *PS_HOME*\bin\client\winx86\pside.exe.
2. Create a new project. Choose File, New, and then select Project from the New dialog.
3. Insert all PeopleTools Table records into the project.
To insert the Table records:
 - a. Choose Insert, Definitions into Project. The Insert into Project dialog appears.
 - b. Select a Definition Type of *Records*.

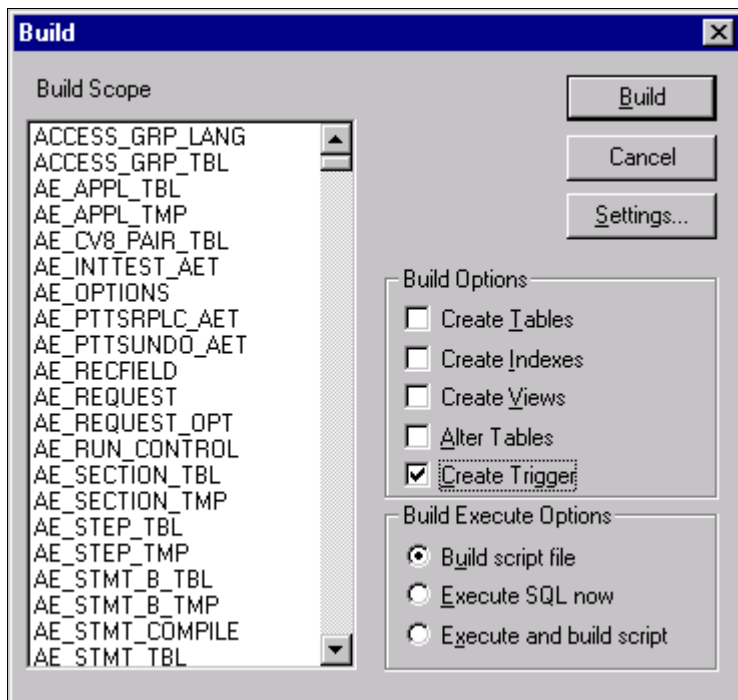
- c. In the Selection Criteria control group, choose a Type of *Table*; and then press ENTER to select the records.



Insert into Project dialog box

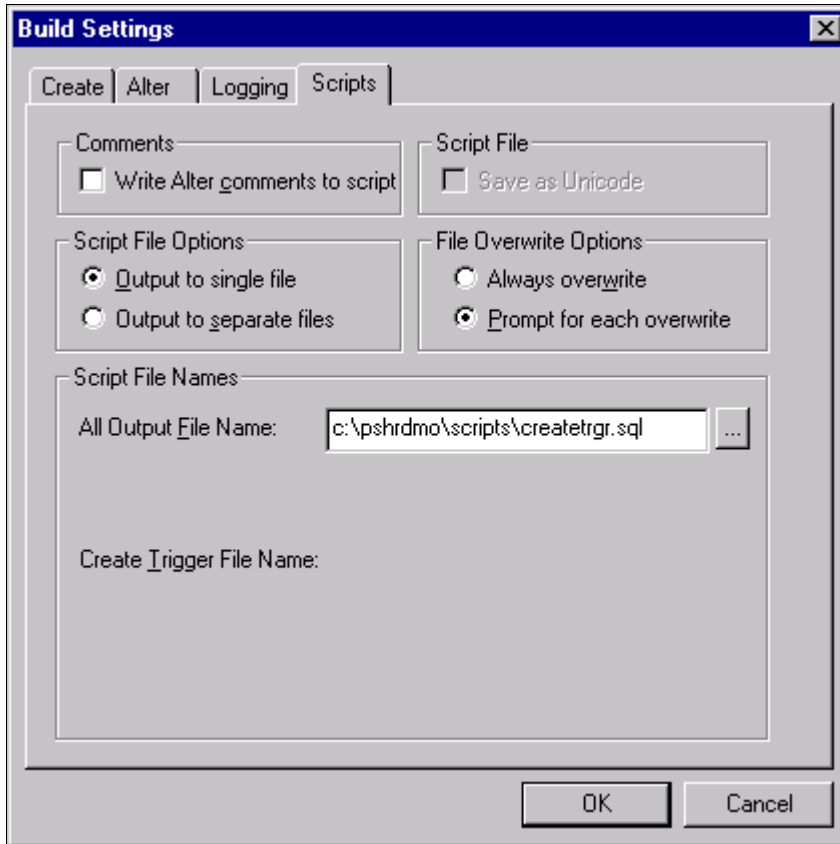
- d. Click Select All, and then click Insert to insert the Table records into the project.
 - e. Click Close to close the Insert into Project dialog.
4. Build the project.
 - a. Choose Build, Project. The Build dialog displays.

- b. In the Build Options group, select the Create Trigger check box. In the Build Execute Options group, select either the Execute SQL now radio button to create the triggers directly, or the Build script file radio button to generate a DDL script of CREATE TRIGGER statements.



Build dialog box

- c. If you have selected the Build script file radio button, click the Settings button, go to the Scripts tab, and enter the output directory and filename where you want the DDL statement script written.



Build Settings dialog box

- d. Click OK to return to the Build dialog.
5. Click Build to build the triggers associated with the tables in the project.

Depending on the Build Execute Option selected, Application Designer will either directly build the triggers on the database or generate a script file of CREATE TRIGGER DDL statements. If you have opted to generate the script file, execute the DDL statements either through SPUFI or DSNTPE2. Because of the time it may take the script to complete, we recommend submitting this script in batch mode using DSNTPE2. You may also need to prefix the script with the SQL command SET CURRENT SQLID = <ownerid>.

Task 7-14: Running Additional Data Mover Scripts

To import additional data for your specific PeopleSoft database, or to make other required changes, you may need to run additional Data Mover scripts. These script files have the extension .dms and are sometimes referred to as "DMS scripts." They are located in the *PS_HOME*\scripts or *PS_APP_HOME*\scripts directory of your file server, and need to be run from the file server by means of Data Mover.

For the details on which additional application-specific Data Mover scripts to run, consult your application-specific installation instructions.

Task 7-15: Running SQR Reports

This section discusses:

- Understanding Running SQR Reports
- Binding the dbcalls.bnd
- Running SQRs on the Client Workstation
- Creating a Shortcut to Run SQRs

Understanding Running SQR Reports

The instructions in this section describe how to run SQR reports from the client workstation. On the Microsoft Windows client, you may prefer to create a shortcut to allow you to run the reports repeatedly. You can use these instructions to run SQRs required in the upcoming task Checking the Database.

You can also choose to run SQR reports from the command line in console mode. Before running SQR from the command line on Microsoft Windows operating systems, set PS_HOME from the prompt. For example:

```
set PS_HOME=C:\psft\pt\ps_home8.58
```

See Also

PeopleTools: SQR for PeopleSoft Developers

PeopleTools: SQR Language Reference for PeopleSoft

Task 7-15-1: Binding the dbcalls.bnd

You need to bind the dbcalls.bnd before running SQR reports.

To bind dbcalls.bnd:

1. Using an ID with mainframe logon and BINDADD privileges, log on to DB2 Connect Command Line Processor:

```
db2 => CONNECT TO <database name> USER <mainframe User Id>
```

Note. Enter your current password for "mainframe User Id": <mainframe User Id password>.

2. The Windows SQR bind executable is located in the File or Report Server directory (for example, *PS_HOME*\bin\sqr\db2\BINW\dbcalls.bnd).

- Issue the following bind command for an EBCDIC installation:

```
db2 => bind <ps_home>\bin\sqr\db2\BINW\dbcalls.bnd blocking all grant=>
public=>
sqlerror continue
```

- For a Unicode installation, you must bind the windows SQR executable with encoding unicode as follows:

```
db2 -> bind <ps_home>\bin\sqr\db2\BINW\dbcalls.bnd encoding unicode=>
blocking=>
```

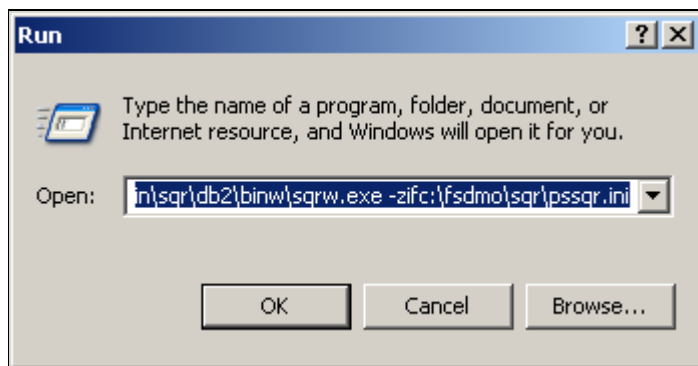
```
all grant public sqlerror continue
```

Task 7-15-2: Running SQRs on the Client Workstation

To run an SQR on the client workstation:

1. Select Start, Run, click Browse, and navigate to *PS_HOME\bin\sqr\DB2\binw*.
Select *sqrw.exe* and click Open.
2. Add any needed flags at the end of the command line.

Refer to the table that follows. For those flags that require attributes, append the attributes to the flags with no intervening spaces (for example, *-fE:\fsdmo\bin\sqr\pssqr.ini*).



Microsoft Windows Run dialog box launching SQRW

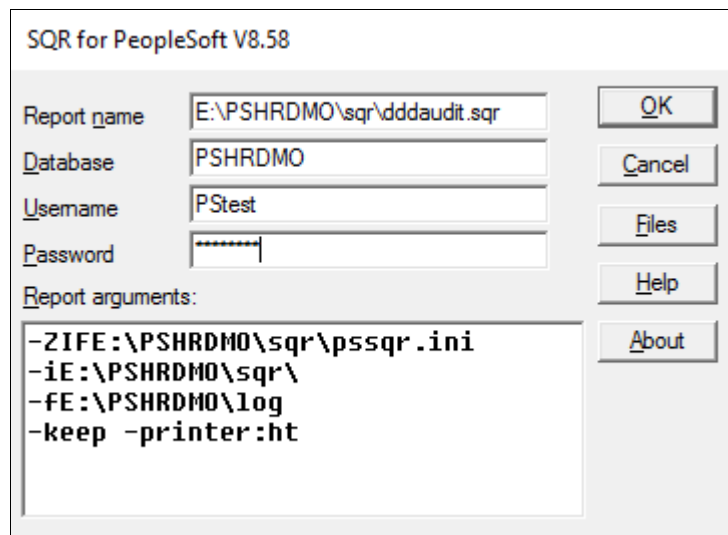
The following table summarizes the SQR report arguments used by PeopleSoft software. (For a full listing of report arguments, press the Help button to view the SQR help topic for this dialog box.)

Flag	Description
-I	Specifies the directories that SQR will search for the #INCLUDE files. (A trailing slash is required.)
-f	Specifies the directory where the report output will be sent. If you use the <i>-keep</i> flag, you must specify the directory with a trailing slash. If you use the <i>-printer</i> flag, specify a full path name with a filename for the HTML file.
-ZIF	Sets the full path and name of the SQR initialization file. The <i>-ZIF</i> flag should point to your <i>PS_HOME\sqr\pssqr.ini</i> file.
-keep	Keeps the .SPF file after the program runs. This enables you to view the report with the SQR viewer.
-printer:ht	Generates the output file in HTML format. Specify the filename, with path location, with the <i>-f</i> flag.

3. Click OK.

The SQR for PeopleSoft V8.58 dialog box appears, displaying the attributes that you entered in the Run dialog box. The fields on this dialog box are described in the next step:

Note. The report arguments in this example have been arranged for readability.



SQR for PeopleSoft dialog box with DDDAUDIT.SQR

4. Enter the following values:

- Enter the report name.
You must specify the full path.
- Enter the access ID in the Username field.
- Enter the access password in the Password field.
- Enter the database name.

5. Click OK to run the SQR report.

Task 7-15-3: Creating a Shortcut to Run SQRs

If you think you may need to run the SQR reports more than once, you may want to create a shortcut on the Windows client workstation. To save the report arguments:

1. Open Windows Explorer on the machine on which you want to run SQR.
2. Navigate to *PS_HOME\bin\sqr\DB2\binw*.
3. Right-click *sqrw.exe* and click Create Shortcut.
4. Right-click the shortcut that you just created and select Properties.
5. On the Shortcut tab, add the same *sqr* flags that you used in the previous task after *sqrw.exe* in the Target entry box.
6. Click OK.
7. To run the report, double-click the shortcut and specify the following information in the dialog box:
 - Report Name: Enter the full path and the name.
 - Database name

- Username: Enter the access ID.
 - Password: Enter the access password.
 - Report arguments: Make any necessary modifications to the saved arguments.
8. Click OK.

Task 7-16: Updating PeopleSoft System Tables

This section discusses:

- Understanding PeopleSoft System Tables
- Updating PeopleSoft System Tables

Understanding PeopleSoft System Tables

In this task, you run SQR scripts that update PeopleTools tables with information from the DB2 system catalog tables.

- *SETSPACE.SQR* was run in an earlier task, but should be re-run at this point. It updates PSRECTBLSPC with the database and tablespace information captured from the DB2 system catalog table SYSIBM.SYSTABLES, inserts valid database and tablespace combinations defined in PSRECTBLSPC that have not yet been defined in PSTBLSPCCAT, and provides an audit report of actions taken and invalid database and tablespace combinations defined in PSRECTBLSPC but not defined in the DB2 system catalog table SYSIBM.SYSTABLESPACE. You can run this SQR multiple times without negative impact.
- *SETTMPIN.SQR* inserts rows into PSRECTBLSPC to store the database and tablespace location for each temporary table instance defined in the DB2 system catalog table SYSIBM.SYSTABLES. You need to run this SQR after each time you create or refresh the temporary tables on your database. You can run this SQR multiple times without negative impact.

Note. This SQR will *not* facilitate regeneration of the temporary tables by ensuring that each instance is rebuilt in the database/tablespace location to which it was originally assigned. The purpose of the SQR is to capture the location of each temporary table instance after it has been created in the database, and sync PSRECTBLSPC with the DB2 system catalog.

Task 7-16-1: Updating PeopleSoft System Tables

To update PeopleSoft system tables initiate SQRW.exe as you did in the task Running SQR Reports and run the SETSPACE.SQR and SETTMPIN.SQR (if applicable) programs.

Task 7-17: Binding DB2 Plans

If you are not planning to run COBOL on the mainframe, this step is not necessary.

You need to bind the following DB2 Plans used by PTPSQLRT—the first one is for the Native Attach Facility for UNIX System Services, and the second one is for the Call Attach Facility. On the z/OS server, submit the following two JCL jobs:

```
HLQ.PPVVV.JCLLIB(BINDAADD)
HLQ.PPVVV.JCLLIB(BINDEADD)
```

The only acceptable message reads:

```
BIND SUCCESSFUL
```

If you receive any other message, it means you have encountered an error. Common bind errors include:

- Program PTPSQLRT failed to precompile (jobs PSCOBDA and/or PSCOBDE) and the DBRM was not generated. If this is the case, run PSCOBDA or PSCOBDE again, and carefully examine the return codes.
- If you get a "Plan Already Exists" error, do a bind/replace using BINDAREP and BINDEREP.

Task 7-18: Changing the Base Language

The information in the earlier task Planning Multilingual Strategy will help you determine whether you should change your base language, and lists the currently supported languages.

See "Preparing for Installation," Planning Multilingual Strategy.

See PeopleTools Certifications — Supported Languages, My Oracle Support (search for article name).

This task applies only if your users will be operating PeopleSoft applications *primarily* in one particular language other than English. It gives a performance boost to the language you designate as the base language, but requires more administrative overhead than leaving English as the base language. The details are spelled out in the *PeopleTools: Global Technology* product documentation.

Task 7-19: Checking the Database

Run and examine the SQR reports to verify that your database is complete.

See Running SQR Reports.

See Updating PeopleTools System Tables.

To verify that the database is complete, run the following SQR reports from the *PS_HOME\sqr* directory:

- dddaudit.sqr
- sysaudit.sqr
- swpaudit.sqr, if you plan to swap your base language

For further information about these reports, consult PeopleSoft product documentation. This documentation includes specific information on how to interpret the reports and how to fix any errors found there.

It is good practice to run and read the audit reports, which include sysaudit, dddaudit, swpaudit, and alter audit, after making changes such as applying patches, bundles, and upgrades to the database, to make sure that the tables are internally and externally in synch. It is also a good idea to schedule regular maintenance, for example weekly, in which you run and review the reports. You can find information on these audit reports in the *PeopleTools: Data Management* product documentation.

See *PeopleTools: Global Technology*, "Running the Swap Audit Report."

See Also

PeopleTools: Data Management

PeopleTools: System and Server Administration

Task 7-20: Disabling %UpdateStats

The %UpdateStats meta-SQL function allows an Application Engine program to update DB2 catalog statistics after it has populated temporary tables with transient data used for intermediate query result sets. This allows the DB2 optimizer to choose a better access path when these tables are joined to other tables.

%UpdateStats invokes the DB2 RUNSTATS utility through the IBM DSNUTILS stored procedure. If you have not installed and authorized the DSNUTILS stored procedure for use in your environment, you may wish to consider disabling the %UpdateStats function by setting DBFLAGS to 1 in your Process Scheduler configuration file. See the previous section, *Using %UpdateStats*, or search the PeopleSoft documentation for more details on using DBFLAGS to disable %UpdateStats.

See *PeopleTools: Data Management*.

Chapter 8

Creating a Database Using Segmented Tablespaces

This chapter discusses:

- Understanding Database Creation Using Segmented Tablespaces
- Planning Your Installation
- Transferring DDL Scripts to z/OS
- Creating PS.PSDBOWNER Table
- Granting Privileges on PS.PSDBOWNER
- Granting Privileges to Owner ID
- Creating DB2 Databases, Storage Groups, and Tablespaces
- Creating Tables
- Configuring DB2 Connect
- Creating Data Mover Import Scripts
- Running Data Mover Import Scripts
- Cleaning Up Orphaned Language Data
- Checking the Log Files and Troubleshooting
- Creating Indexes
- Running the DB2 RUNSTATS Utility
- Creating PeopleSoft Views
- Building Temporary Tables
- Creating PeopleSoft Triggers
- Running Additional Data Mover Scripts
- Running SQR Reports
- Updating PeopleSoft System Tables
- Binding DB2 Plans
- Changing the Base Language
- Checking the Database
- Disabling %UpdateStats

Understanding Database Creation Using Segmented Tablespaces

This section discusses:

- Choosing a Database Creation Method
- Understanding Db2 z/OS v12 Function Level 504 (FL-504)
- Understanding Database Creation

Choosing a Database Creation Method

This chapter describes the tasks required to create a PeopleSoft product database using segmented tablespaces.

If you intend to use Db2 z/OS v11.1, you must continue with this chapter. Likewise, continue with this chapter if you intend to use Db2 z/OS v12 but do not want to use universal tablespaces.

If you intend to use Db2 z/OS v12 and prefer to install your database using universal tablespaces, skip this chapter and instead follow the instructions in "Creating a Db2 z/OS Database Using Universal Tablespaces."

Understanding Db2 z/OS v12 Function Level 504 (FL-504)

Db2 z/OS v12 function level 504 (FL-504) is enabled by Db2 12 APAR PH07672. When FL-504 has been enabled, Db2 has the capability to prevent the creation of new segmented tablespaces and new tables in existing segmented tablespaces. This includes both non-partitioned and partitioned segmented tablespaces.

Once at FL-504, a Db2 DBA or systems programmer can bind any application package that executes dynamic DDL to application compatibility level 504 (APPLCOMPAT(V12R1M504)) to prevent creation of segmented tablespaces (or the creation of new tables in existing segmented tablespaces).

Methods used to execute dynamic DDL in PeopleSoft application environments include but are not limited to:

- Db2 Connect (using the so called "nullid" packages")
 - This is mandatory for PeopleTools utilities such as Application Designer and Data Mover.
- DSNTEP2
- SPUFI
- Various third-party SQL interfaces

If the Db2 packages associated with any of these applications undergoes a bind to APPLCOMPAT(V12R1M504) and subsequently issues a CREATE TABLESPACE statement, the result will automatically be a universal tablespace. If a CREATE TABLE DDL statement that references an existing segmented tablespace is issued, the statement will fail.

To successfully create new segmented tablespaces and to continue to create tables in new or existing segmented tablespaces in this scenario, you must first set the current application compatibility register to a function level prior to FL-504 as follows:

```
SET CURRENT APPLICATION COMPATIBILITY = 'V12R1M503';
```

Note that the PeopleTools 8.58 data administration components, Application Designer and Data Mover, will check for the presence of function level FL-504, and will detect if you have executed a bind of the Db2 Connect ("nullid") packages to APPLCOMPAT(V12R1M504). A SET CURRENT APPLICATION COMPATIBILITY = 'V12R1M503'; statement will be issued as necessary to successfully execute a CREATE TABLE DDL statement that references segmented tablespaces.

See Creating DB2 Databases, Storage Groups, and Tablespaces.

Before executing the xxDDL/XXDDLX scripts, add `SET CURRENT APPLICATION COMPATIBILITY = 'V12R1M503'` ; to the beginning of the script if the package associated with the tool that you intend to execute the segmented tablespace DDL has undergone a bind to APPLCOMPAT(V12R1M504).

For more details on Db2 v12 Function Level 504, see the IBM Db2 v12 documentation.

Understanding Database Creation

During a standard PeopleSoft installation you will execute the tasks described in the previous section to create two distinct types of databases.

- *System*: The System (SYS) database has no company specific data, and can be used to load your data and begin development of your production database.
- *Demo*: The Demo (DMO) database contains data for a sample company, and can be used immediately for demonstration, for testing, and as a development reference.

Note. The PeopleTools System Database (PTSYS) is not available with the current release. As an alternative, install the latest PeopleSoft Interaction Hub database.

Note. If you are using the PeopleSoft Upgrade Source Image, you must create a Demo database.

The requirements for these databases vary, so not all of this section's tasks apply to each database. The instructions will note any distinctions between creating a Demo and a System database.

- You must have installed the Database component of your PeopleSoft application installation software to your database server.
- You must have the PeopleTools Development Environment set up to create your database.

Important! Do not forget that application-specific installation steps are provided in a separate document specific to the application. For instance, if you are performing PeopleSoft CRM installation, you need both this documentation for the basic installation of PeopleSoft PeopleTools and the PeopleSoft application, and any additional instructions provided by CRM. Search in My Oracle Support for the installation documentation specific to your application.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

Planning Your Installation

This section discusses:

- Using %UpdateStats
- Using Temporary Tables

Note. Two features that impact how you install your PeopleSoft database are the %UpdateStats MetaSQL function, and the Application Designer Object Type of "Temporary Table."

Using %UpdateStats

%UpdateStats is an optional feature that lets you invoke the DB2 Utility RUNSTATS from within an Application Engine or COBOL process. Consider the following if you plan to use %UpdateStats:

- You can initiate RUNSTATS dynamically via the IBM stored procedure DSNUTILS. Before you can use %UpdateStats, the stored procedure DSNUTILS must be configured in the DB2 subsystem in which you run the PeopleSoft applications. If %UpdateStats is enabled but DSNUTILS is not in place, a processing error will result. Please refer to your IBM Systems documentation for instructions on enabling and configuring the DSNUTILS stored procedure.
- Using %UpdateStats with COBOL requires modifications to some delivered PeopleSoft code. These modifications are described in the *PeopleTools: Data Management* product documentation.
- %UpdateStats can be enabled or disabled based on the DBFLAGS Process Scheduler configuration parameter. Disabling %UpdateStats will cause the functionality to be bypassed, without causing any processing errors. Note that the default setting for DBFLAGS for UNIX and Windows Process Schedulers is ON (DBFLAGS=0). The default setting for USS is DBFLAGS=0 (Enable Second DB Connection).
- The %UpdateStats MetaSql targets a table, whereas the DB2 z/OS RUNSTATS utility processes at the tablespace level. This can present a performance issue with the default PeopleSoft database installation strategy, which combines multiple tables into a single tablespace. To alleviate this issue and assist you in installing your database to optimally utilize the %UpdateStats feature, consider using the PeopleSoft Tablespace DDL Automation Tool (PSTAAT). PSTAAT can be used to better optimize the mapping of tables among tablespaces and databases.

See Appendix: "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" for more details.

The scripts that are required for PeopleSoft products are listed in the section "Transferring DDL Scripts to z/OS".

Using Temporary Tables

Temporary tables are an object type defined in Application Designer to support Application Engine concurrent processing. For PeopleSoft installations, we refer to these objects as temporary tables, but to the DB2 z/OS database they will be defined as "permanent" SQL tables. Each temporary table defines a base table from which additional instances or copies of the base table are scripted and physically created on your DB2 z/OS PeopleSoft database. Only the definition of the base table is stored in Application Designer. The actual number of instances is governed by a global value for Online concurrent processes, and a value defined either at a Global level (for EPM) or at the Application Engine Process Level for batch processes.

See *PeopleTools: Application Engine*.

In an attempt to limit the number of potentially unused objects created on your database, we have reduced the number of temporary table instances to a minimum setting. Depending on the actual products you are installing, your processing characteristics and workloads, you may need to modify the number of temporary table instances to improve performance. This will become evident if you have a number of processes queuing to use a limited number of temporary table instances. The actual scripting and creation of the temporary tables are performed as a separate step in the installation process, so you may intervene during this process to increase the number of temporary table instances if you feel you have substantial batch processing workloads and/or a large volume of online transaction processing. Temporary tables can be regenerated at any time in the life of your database, so you don't need to determine the exact number of instances that will be right for your environment at installation time.

When the number of instances of the temporary tables within the PeopleSoft application is changed, all temporary tables should be regenerated. The same values in the PeopleTools tables that are used to determine how many temporary tables instances should be created, are also used to determine how many should be available to an Application Engine process. The expectation is that the number of instances defined within the PeopleTools tables actually exists on the database. A later task in this chapter describes how to create the temporary tables.

Lastly, since each instance of a base temporary table is not defined within the PeopleTools tables, database and tablespace information is not stored for these instances. When the DDL is generated to create the base temporary table and its instances, each instance is put in the same database and tablespace as the base temporary table. To avoid concurrency issues and obtain optimal performance, each temporary table instance should also be assigned to its own unique tablespace, particularly when the temporary table is also the object of the %UpdateStats functionality, described earlier. Use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to put the base temporary table and each of its instances in separate tablespaces.

See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" for more details.

Task 8-1: Transferring DDL Scripts to z/OS

If you have set up your batch environment on the z/OS mainframe following the instructions in the chapter "Setting Up the Batch Environment on z/OS," these files have already been transferred and you can skip this step.

The DDL script files to create the DB2 objects for the PeopleSoft database reside in the *PS_HOME*\scripts or the *PS_APP_HOME*\scripts directory.

See Defining Installation Locations in the chapter "Preparing for Installation" for information about the *PS_HOME* and *PS_APP_HOME* directories.

This task requires that you manually transfer these DDL script files to z/OS. Each of these files must be customized with site-specific values and standards before you submit them either through SPUFI or DSNTEP2.

To transfer DDL scripts:

1. Allocate a partitioned dataset named HLQ.PPVVV.DDLLIB on z/OS, where HLQ is the highest-level dataset qualifier, and PPVVV is the current release of your PeopleSoft software (such as HR920).
File attributes are: FB, LRECL=80, Dir Blks 10, SPACE (Primary 800 Tracks, Secondary 300 Tracks). For example, DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160) SPACE=(TRK,(800,300,10)).
2. Transfer the PSDDL.SQL file from the *PS_HOME*\scripts directory, as a member of the HLQ.PPVVV.DDLLIB PDS library using Microsoft File Transfer Protocol (FTP).

This script contains the DDL statements to create the PS.PSDBOWNER table.

3. Transfer the following files from the *PS_APP_HOME*\scripts directory, as a member of the HLQ.PPVVV.DDLLIB PDS library using Microsoft File Transfer Protocol (FTP).

This table lists and gives a brief description for each script, and defines the naming convention.

Files in the <i>PS_APP_HOME</i> /scripts subdirectory	Description
XXDDL.SQL †	This script contains all the DDL statements to create database, storage groups, and table spaces
XXDDL.U.SQL †	This script contains all the DDL statements to create database, storage groups, and table spaces for a UNICODE database.
TBDDL.SQL	This script contains all the CREATE TABLE statements for the product line.
TBDDL.U.SQL	This script contains all the CREATE TABLE statements for the product line for a UNICODE database.
IXDDL.SQL	This script contains all the CREATE INDEX statements for the product line.

† Substitute these product line values for XX:

- Use *CS* for PeopleSoft Campus Solutions.
- Use *CR* for PeopleSoft Customer Relationship Management.
- Use *LM* for PeopleSoft Enterprise Learning Management.
- Use *PF* for PeopleSoft Enterprise Performance Management.
- Use *EP* for PeopleSoft Financials/Supply Chain Management.
- Use *EA* for PeopleSoft Financials/Supply Chain Management Argentina.
- Use *EB* for PeopleSoft Financials/Supply Chain Management Brazil.
- Use *HC* for PeopleSoft Human Capital Management.
- Use *PA* for PeopleSoft Interaction Hub (Portal Solutions).

Task 8-2: Creating PS.PSDBOWNER Table

You can skip this step if a PS.PSDBOWNER table already exists in the same DB2 subsystem as your new database. This would be the case if you already have an existing PeopleSoft database in the target DB2 subsystem. You will have one PS.PSDBOWNER table per subsystem.

Edit and execute HLQ.PSVVV.DDLLIB(PSDDL) using SPUFI or DSNTPE2. The PS.PSDBOWNER must exist in each DB2 subsystem where PeopleSoft databases will be installed and it is the only table that Oracle provides for PeopleSoft software where an OWNERID cannot be customized. PeopleSoft PeopleTools applications select from this table to obtain the Owner ID and Database Name information during the PeopleSoft Sign-on process.

Note. For UNICODE databases, it is not necessary to use the CCSID=UNICODE option of the Create Database statement when creating the PSOWNRDB (this contains the PS.PSDBOWNER table). IBM supports the use of Unicode, EBCDIC, and ASCII tables in the same subsystem, and the ability to join data using any of these encoding schemes in DB2 for z/OS New Function Mode.

Task 8-3: Granting Privileges on PS.PSDBOWNER

Grant the ALL authority to the table owner ID used for the PeopleSoft database:

```
GRANT ALL ON TABLE PS.PSDBOWNER TO <Owner_ID> WITH GRANT OPTION;
```

Task 8-4: Granting Privileges to Owner ID

Before creating your DB2 databases, make sure the owner ID has authorization to use the following DB2 resources:

Grant use of bufferpool to the Owner ID:

```
GRANT USE OF BUFFERPOOL BP1 TO <Owner_ID>;  
GRANT USE OF BUFFERPOOL BP2 TO <Owner_ID>;  
GRANT USE OF BUFFERPOOL BP3 TO <Owner_ID>;  
GRANT USE OF BUFFERPOOL BP32K TO <Owner_ID>;
```

Task 8-5: Creating DB2 Databases, Storage Groups, and Tablespaces

This section discusses:

- Understanding DB2 Databases, Storage Groups, and Tablespaces
- Customizing the Database Name
- Working with Tablespaces

Note. See the section Understanding Db2 z/OS v12 Function Level 504 (FL-504) before attempting to create Db2 segmented tablespaces.

Understanding DB2 Databases, Storage Groups, and Tablespaces

Oracle delivers a generic script to create the DB2 for z/OS storage groups, database shells and tablespaces. Unless you are installing the System (SYS) or Demo (DMO) database using the generic defaults in the script, you need to edit various parameters to comply with the standard at the customer site. These parameters include:

- Storage group names and volumes (if you have already created stogroups, you may comment out the statements in the script to create them)
- Database names
- Tablespace names
- Bufferpool names
- Owner_ID

Note. There is a SET CURRENT SQLID = 'OWNER#ID' statement in the script. It is recommended that the Current SQLID be set to the ID that will be used to "own" all the database tables (even though no tables are being created in this step). This will either be the Secondary Authorization ID, if using Secondary Authorization ID processing, or the Primary Authorization ID, if not. (In the scripts to create the tables found in the next step, this value is referred to as OBJ#OWNER). The "CREATOR" field in the SYSIBM.SYSTABLESPACE catalog table will be the same value as the "CREATOR" field in the SYSIBM.SYSTABLES catalog table. Having these two fields being the same value will facilitate running the optional SQR SETDBNAM and creating the temporary tables, mentioned later in the chapter.

The following instructions detail where to make these edits as necessary.

- Using SPUFI, DSNTEP2, or an equivalent product, create your DB2 objects (that is, databases, storage groups, and tablespaces) using the HLQ.PPVVV.DDLIB(XXDDL/XXDDL) file.

Note. See the section Understanding Db2 z/OS v12 Function Level 504 (FL-504) to determine whether you must add a SET CURRENT APPLICATION COMPATIBILITY = 'V12R1M503'; statement to the beginning of the xxDDL/xxDDL) scripts before creating tablespaces.

- Use the XXDDL version for the non-Unicode installation, and the XXDDL) version for Unicode installation.
- Use the product line values listed in the task Transferring DDL Scripts to z/OS in HLQ.PPVVV.DDLIB(XXDDL/XXDDL).

Task 8-5-1: Customizing the Database Name

This section discusses:

- Understanding Database Name Customization
- Editing the XXDDL.SQL or XXDDL).SQL Script

Understanding Database Name Customization

You can customize the database name found in the CREATE DATABASE statements to your organization standards. However, make note of the database names you change because you will have to make corresponding changes to the DDL scripts for creating the tables.

Because of the large number of objects delivered in the database, and to facilitate performance, multiple physical databases are deployed to contain the single, logical PeopleSoft database. The objects in the physical databases are unified into one logical database by sharing the same Owner ID (the CREATOR field in SYSIBM.SYSTABLES). For consistency, and to facilitate editing, the physical database names all share a common root value of seven characters. A unique eighth character is appended to the root name, resulting in a distinct database name.

As an example, the Human Capital Management product is delivered with a "root" value of PSHRDMO for the database name. The actual physical database names include PSHRDMO, PSHRDMOB, PSHRDMOH, PSHRDMOP, PSHRDMOT, PSHRDMO1 and PSHRDMO2.

The PeopleSoft applications contain a substantial number of DB2 objects, and we do not recommend putting all these objects into a single database. Doing so will require an inordinately large EDM pool size, and will produce undesirable results in your DB2 system. Note also that the PTPRC tablespace is assigned to its own database PSxxDMOT. This tablespace contains all the tables used by Process Scheduler. Combining these tables in one of the other databases could potentially cause the lockout of other processes, such as DB2 utilities running concurrently with Process Scheduler.

Beginning with PeopleSoft PeopleTools 8.53, the tablespace PSIMAGE2 is delivered and is assigned to its own database PSXXDMOX, where XX refers to application-specific product identifiers. This tablespace contains tables with PeopleSoft Long data types.

See PeopleTools 8.53 Release Notes, My Oracle Support.

See the information on creating field definitions in the *PeopleTools: Application Designer Developer's Guide* product documentation.

Finally, note that several tablespaces specify LOCKSIZE ROW. If any tables we deliver within these tablespaces are moved, they should only be moved to a tablespace that was defined with row-level locking.

Note. Use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to customize the physical database names that constitute your logical PeopleSoft database. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool" for more details.

Editing the XXDDL.SQL or XXDDL.U.SQL Script

To edit the XXDDL.SQL (or XXDDL.U.SQL for Unicode) script, edit the CREATE STOGROUP statements to site-specific values. Storage group name defaults are PSSGTSxx and PSSGIXxx for tablespaces and index spaces, respectively, but you can change them to comply with your organization's standards. You may also comment out the CREATE STOGROUP statements if you have already established Stogroups on your DB2 subsystem, but you will still need to edit the CREATE TABLESPACE statements with your site-specific Stogroup value.

Additionally, see Understanding Db2 z/OS v12 Function Level 504 (FL-504) to determine if you must add the statement SET CURRENT APPLICATION COMPATIBILITY = 'V12R1M503'; to the beginning of the script.

Verify that your XXDDL.SQL or XXDDL.U.SQL script includes the following statements:

Note. You can also copy these statements from the PTDDL.SQL (EBCDIC) or PTDDL.U.SQL (Unicode) scripts.

- To create the PSXXDMOX database for EBCDIC databases:

```
CREATE DATABASE PSXXDMOX STOGROUP PSSGTSPT ;
COMMIT;
```

To create the PSXXDMOX database for Unicode databases:

```
CREATE DATABASE PSXXDMOX STOGROUP PSSGTSPT CCSID UNICODE;
COMMIT;
```

- To grant permissions to the PSXXDMOX database, for EBCDIC or Unicode databases:

```
GRANT DBADM ON DATABASE PSXXDMOX TO OBJOWNER;
COMMIT;
```

```
SET CURRENT SQLID='OBJOWNER';
COMMIT;
```

- To create the PSIMAGE2 tablespace, for EBCDIC or Unicode databases:

```
CREATE TABLESPACE PSIMAGE2 IN PSXXDMOX
  USING STOGROUP PSSGTSPT PRIQTY 172800 SECQTY 8640
  FREEPAGE 0 PCTFREE 10
  SEGSIZE 32 BUFFERPOOL BP32K LOCKSIZE ANY CLOSE NO ;

COMMIT;
```

We highly recommend that you use standard PeopleSoft tablespace names when installing the demonstration database to simplify the installation process.

The script contains the GRANT DBADM commands for each DB2 database you plan to create for your PeopleSoft database. This is the easiest way to grant the required privileges to the owner ID. This enables the owner ID to perform other tasks, such as starting and stopping the PeopleSoft database, and running DB2 utilities such as RUNSTATS.

Note. References to *owner ID* in this document, and in the accompanying scripts, refer to the DB2 Secondary Authorization ID if using Secondary Authorization ID processing, or to the DB2 Primary Authorization ID, if not.

The options are to grant DBADM to the Owner ID or to issue individual grants for the following:

- Grant bind capability to the Owner ID:
`GRANT BINDADD TO <Owner_ID>;`
- Grant create tablespace capabilities to the Owner ID:
`GRANT CREATETS ON DATABASE <database_name> TO <Owner_ID>;`
- Grant create table capability to the Owner ID:
`GRANT CREATETAB ON DATABASE <database_name> TO <Owner_ID>;`

Note. You may use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to customize tablespace DDL. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" for more details.

Task 8-5-2: Working with Tablespaces

This section discusses:

- Using Tablespaces
- Following the Standard Tablespace Name Formats
- Naming Tablespace Defaults
- Parsing Tablespaces

Using Tablespaces

For tablespaces in your PeopleSoft installation, Oracle provides a strategy for Demo and System databases aimed at identifying high growth and frequently updated tables. This limits the number of tables the DBA must monitor and analyze, and simplifies capacity planning and database tuning activities. In addition, with PeopleSoft Release 8 and higher, a new type of table was introduced referred to as a temporary table. A temporary table is permanently created in the database, but its usage, by Application Engine programs, is temporary. The tables are delivered empty, but because of the potential for a volatile increase and decrease in the number of rows populating the table during the execution of a process, the temporary tables are also segregated into their own tablespaces, buffer pool, and databases. This segregation seeks to facilitate administration of these tables and tablespaces separate from the tablespaces in which the core application tables reside.

For customers that elect to use the %UpdateStats functionality, use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to place each table that is the target of the %UpdateStats function in its own tablespace. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" for more details.

Note. For multilingual installs, the PTTBL, PTTLRG and PSIMAGE tablespaces may need to be increased in size.

Following the Standard Tablespace Name Formats

The standard tablespace names that Oracle delivers categorize tables as follows:

- High growth and frequently updated tables for Applications are grouped together into tablespaces named **XXLARGE**, where **XX** is a PeopleSoft application identifier. Similarly, the PeopleTools tables identified as large tables or frequently updated tables are grouped in the **PTTLRG** tablespace. Depending on customer-specific requirements and environment, it may be advisable to move those tables containing the largest amount of data from this shared tablespace into their own segmented or partitioned tablespaces. This should be done for performance and concurrency reasons.
- Tables with static or relatively minimal growth are grouped into tablespaces named **XXAPP**, where **XX** is a PeopleSoft application identifier. These tablespaces are defined with a moderate free space specification.
- Tables that are classified by record type as Temporary tables are grouped into tablespaces named **XXWORK**, where **XX** is a PeopleSoft application identifier.
- Tables with rows exceeding 4K in length are placed in the **PSIMAGE** tablespace, which is created using a 32K buffer pool.
- Tables that benefit from row-level locking exist in the following tablespaces:
 - **PTPRC** — Tables used by the Process Scheduler
 - **PTPRJWK** — Tools Project Work Table
 - **PTAUDIT** — Table used by PeopleTools Audit functionality
 - **PTAMSG** — Tables used by Application Messaging
 - **PTLOCK** — **PSLOCK** and **PSVERSION** tables are stored in this tablespace. These tables consist of multiple rows and are used for concurrency and version control respectively.
 - **PTRPTS** — Tables used by Report Repository processes
 - **PSIMGR** — Tables that benefit from row level locking that also require use of a 32K bufferpool.
- Other tablespaces exist to group tables in PeopleSoft PeopleTools by functionality (that is, **PTTREE** for tree tables, and **PTAPPE** for Application Engine tables).

Simple or partitioned tablespaces (one table per tablespace) are not supported for the initial installation, but may be implemented for demonstration and production databases using the PeopleTools Application Designer.

Naming Tablespace Defaults

The following tables lists and describes common tablespaces:

Tablespaces	Comments
PTAPP, PTTBL	Contain moderate sized PeopleTools tables with little expected growth.
PTTLRG	Contains larger PeopleTools tables that have the potential to grow large.

Tablespaces	Comments
PTAUDIT	Contains table PSAUDIT used by PeopleTools audit functionality. Row level locking is specified for this tablespace.
PSIMAGE	Contains PeopleSoft Application and PeopleSoft PeopleTools tables that contain LONG field types, which require a 32KB page size.
PSIMAGE2	Contains PeopleSoft Application and PeopleSoft PeopleTools tables that contain LONG field types, which require a 32KB page size.
PSIMGR	Contains tables requiring a 32K bufferpool size that also benefit from row level locking. Row level locking is specified for this tablespace.
PTAMSG	Tables used by Application Messaging. Row level locking is used for this tablespace.
PTAPPE	Tables used for Application Engine. Please note that other AE tables exist in PSMIMAGE because they require 32K bufferpool.
PTLOCK	Contains PSLOCK and PSVERSION. Row level locking is used for this tablespace.
PTTREE	Contains tables specific to PeopleTools trees.
PTPRC	All tables used by Process Scheduler. Row level locking is used for this tablespace.
PTPRJWK	Contains table PSPROJECTWRK. Row level locking is used for this tablespace.
PTRPTS	Contains tables associated with Report Repository functionality. Row level locking is used for this tablespace.
XXWORK	Contain PeopleSoft PeopleTools and PeopleSoft Application "temporary" tables.
XXLRG	PeopleSoft Application tablespaces containing tables identified as high growth and high update, where the xx corresponds to the two-character application identifier (FS, PC, AF, and so on).
XXAPP	PeopleSoft Application tablespaces identified as static or with the potential for relatively minimal growth, where the xx corresponds to the two-character application identifier (FS, PC, AF, and so on).

Tablespaces	Comments
XXIMAGE	Contains PeopleSoft Application tables requiring a 32K bufferpool size.

Parsing Tablespaces

In this multiple database strategy, the tablespaces are distributed to different databases based on the key application group within the product line. This parsing strategy serves as a good starting point to build a PeopleSoft database in your development environment. We recommend that you install the Demonstration database with the delivered strategy to expedite the database creation. You may consider tailoring the delivered DDL script files to implement your own strategy to build your System PeopleSoft database.

Below are some guidelines that were used in determining a parsing strategy:

- PeopleSoft PeopleTools tablespaces are created in a "root" database, with one exception ("root" being the seven-character database name without addition of the eighth character).
- Tablespace PTPRC (also a PeopleSoft PeopleTools tablespace) is placed in its own database, with an added eighth character of T, to avoid contention between Process Scheduler and any other processes that may be running.
- Tablespace PSIMAGE2 (shared between PeopleSoft Application and PeopleSoft PeopleTools tablespaces) is assigned to its own database PSXXDMOX.

Refer to the summary found in the specific *XXDDL*.SQL script, for the exact database or tablespace parsing strategy for the Product Line.

Note. You can further improve performance by remapping tables to additional tablespaces, and tablespaces to additional databases with the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT). Consult the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" to help you plan a strategy for implementing production PeopleSoft databases.

See *PeopleTools: Data Management*.

Task 8-6: Creating Tables

The CREATE TABLE statements to build the tables for the application group are in Partitioned Data Set HLQ.PPVVV.DDLLIB. To create the tables, use TBDDL for non-Unicode databases, and TBDDL for Unicode databases. If any changes were made to the names of the databases or tablespaces in the HLQ.PPVVV.DDLLIB(*XXDDL*) or HLQ.PPVVV.DDLLIB(*XXDDL*) script, you must make the same parameter changes to the file you will use to create the tables. The key values you need to modify are:

- *Owner#ID* — This value equates to the "CREATOR" field in the SYSIBM.SYSTABLES catalog table and is offered to facilitate Secondary Authorization ID processing.
- *OBJ#OWNER* — This value should equate to the CREATOR field in the SYSIBM.SYSTABLES catalog table.
- *Database names*
- *Tablespace names* — Only if you changed the default names specified in the HLQ.PPVVV.DDLLIB(*XXDDL*) or HLQ.PPVVV.DDLLIB(*XXDDL*) script.

After reviewing all your changes, submit this file, preferably through DSNTEP2, since this task will take between one and two hours.

Warning! By default DSNTEP2 allows 10 errors, failing on the 11th error. Allowing 10 errors before the script stops could leave your database in an inconsistent state. It is important that your script stop at the first error so you can assess the problem, fix it and resubmit the job. You may want to change the default for DSNTEP2 to fail on the first error or use SPUFI to submit the TBDDL.

Note. You may use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to optimize the default installation DDL scripts (XXDDL, XXDDL, TBDDL) for a production environment. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces" for more details.

Task 8-7: Configuring DB2 Connect

Because subsequent installation tasks require connectivity to the remote database, you now need to configure DB2 Connect, cataloging an alias for the PeopleSoft database. You also need to perform any additional tasks required for connectivity that you didn't already complete during preparation. For instructions on performing these tasks, see "Installing and Configuring DB2 Connect" in this documentation. For details on DB2 Connect configuration, refer to your IBM DB2 Connect documentation.

Task 8-8: Creating Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Working with Multilingual Databases
- Running Database Setup to Create Data Mover Import Scripts

Understanding Data Mover Import Scripts

The Data Mover Import scripts are used to populate the PeopleSoft database with data. You use the Database Setup feature of the PeopleSoft Data Mover utility to create the Data Mover import scripts.

You must perform this procedure for each type of database that you create (System and Demo databases). Also, if your database supports Unicode, you must decide whether to use an Unicode or EBCDIC database before carrying out this procedure.

See *PeopleTools: Global Technology*.

To complete the database creation procedure you must supply information on various authorization IDs and passwords, including Access ID, Connect ID, Symbolic ID, and User IDs. Before beginning this procedure, review the information in the section Planning Database Creation and make a note of the authorization information for your environment. For PeopleSoft PeopleTools 8.53 and later releases, the user profiles in PeopleTools demo databases are delivered disabled. During the procedure to create Data Mover import scripts you will choose whether to enable the delivered user profiles, and how to assign passwords for the profiles. In addition, you will supply several passwords that were previously provided as defaults. Be sure to note the passwords that you supply, as they will be needed for subsequent installation procedures.

See the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

See "Preparing for Installation," Planning Database Creation.

Task 8-8-1: Working with Multilingual Databases

All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. After the installation is complete, you can change the database's base language to the language that you plan to use most frequently, or leave the base language as English.

Read the section Planning Multilingual Strategy for information on installing multiple languages and changing your base language.

See "Preparing for Installation," Planning Multilingual Strategy.

If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.

If you are creating a non-Unicode database, you must ensure that the languages you select are all supported by the character set you used to create your database.

Task 8-8-2: Running Database Setup to Create Data Mover Import Scripts

To create the import scripts using Data Mover:

See *PeopleTools: Data Management*.

1. Run Configuration Manager by using one of the following methods:
 - On Microsoft Windows, access the Apps screen and navigate to PeopleTools 8.58, Configuration Manager.
 - Run `PS_HOME\bin\client\winx86\pscfg.exe`.

2. Verify in the Signon Defaults on the Startup page that the Database Type of DB2 UDB for OS/390 is selected, as shown in the example.

Configuration Manager 8.58

Client Setup Import/Export Profile

Startup Display Bus. Interlink/JDeveloper Trace Workflow Remote Call/AE

Signon Defaults

Database Type: DB2 UDB for OS/390

Application Server Name:

Server Name:

Database Name: PSHRDMO

User ID: PS

Connect ID: people

Connect Password:

Connect Password (confirm):

☐ Numeric keypad - Enter Key tabs to next field

User Can Override

☒ Database Type

☒ Database Name

☒ User ID

Cache Files

Directory: C:\PS\CACHE

Purge Cache Directories...

OK Cancel Apply

Startup tab on the Configuration Manager dialog box

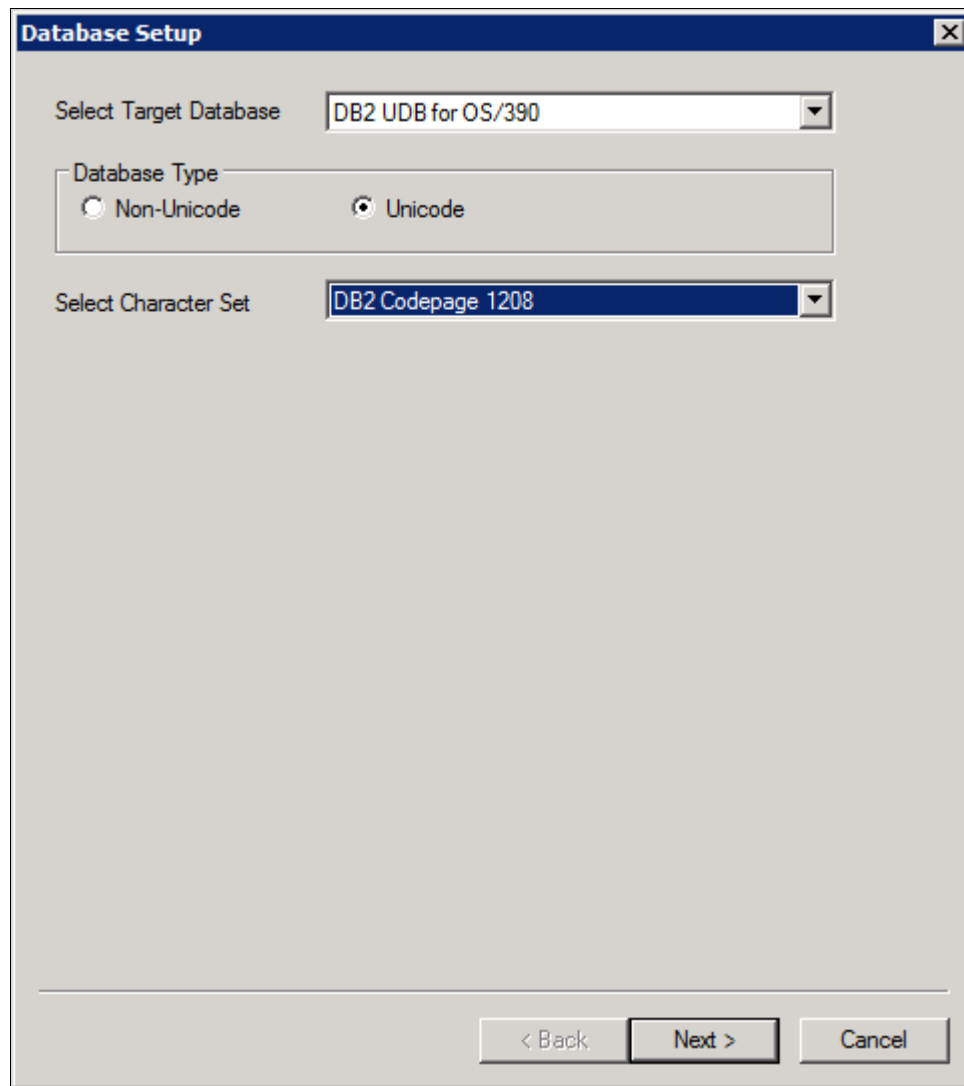
3. Verify that the connect ID is correct.
If you accepted all defaults, the connect ID is people. Enter and confirm a value for the connect ID password.
4. Run Data Mover by using one of these methods:
 - On Microsoft Windows systems, access the Apps screen or Start menu, and navigate to PeopleTools 8.58, Data Mover.
 - Run `PS_HOME\bin\client\winx86\psdmt.exe`.
5. Log on using the Access ID and password you defined in your mainframe security software application; this will start Data Mover in bootstrap mode.
See Checking the Log Files and Troubleshooting, Running Data Mover.

Note. You must limit the Access ID to eight characters or less. See "Preparing for Installation," Choosing Owner ID Processing Option, for Access ID password requirements.

See "Preparing for Installation," Planning Database Creation.

6. Select File, Database Setup.

The Database Setup dialog box appears, as shown in this example:



Selecting target database and character set on the Database Setup dialog box

7. Select your database platform from the Select Target Database drop-down list.
8. Select your database type, Unicode or non-Unicode, and character set.

Note. The database setup does not actually modify the encoding scheme of your database. That is accomplished during creation. The database setup process only creates customized scripts based on your selection.

9. Select the Demo or System radio button, depending on which type of PeopleSoft database you are installing.

Note. If you are using the PeopleSoft Upgrade Source Image, you must create a Demo database.

10. Select the Products for which you want to create a Data Mover script from the PeopleSoft Application list box, and move the items you have selected into the Data Mover Scripts to Create list box by clicking on the Add or Add All button.

If you installed the multilanguage software, each application will be listed several times, once for each language. If you are installing languages other than English, make sure to select the appropriate language data files for each application you select in English. This will load the translated database objects.

See "Preparing for Installation," Planning Multilingual Strategy.

If you are installing an application in any language other than English, you must also select the English component of the application. For example, if you select PeopleSoft Fin/SCM - French, you must also select PeopleSoft Fin/SCM Database - US English. This ensures that you install the necessary base-language components.

11. Set the database parameters described below and then click Finish.

Database Setup - Database Parameters

Database Parameters

Database Name	HC192PRD
Symbolic ID	HC192PRD
Access ID	HCMACS01
Access Password	••••••••
Connect ID	PEOPLE
Application Server ID	PS
Application Server Password	••••••••
Web Server ID	PTWEBSERVER
Web Server Password	••••••••••
☒ Enable All Profiles	☐ Set Global Password
Global Password	
Table Owner	HCM2OWN1
Index Storage Group	PSRTX1SG
Tablespace Storage Group	PSRTD1SG
Database Storage Group	PSRTD1SG

< Back **Finish** Cancel

Specifying Database Parameters on the Database Setup dialog box

- **Database Name:** Specify the logical DB2 database name determined in the chapter "Preparing for Installation" in the task Planning Database Creation.

The database name must also be defined as an alias in DB2 Connect to establish a successful connection to your PeopleSoft database, as described in the chapter "Installing and Configuring DB2 Connect."

- **Symbolic ID:** Specify the key to retrieve ACCESSID and ACCESSPSWD from PSACCESSPROFILE. For initial installation set it equal to the Database Name. The Symbolic ID cannot be longer than eight characters.
- **Access ID:** Specify the PeopleSoft Access ID defined in the chapter "Preparing for Installation" in the task Planning Database Creation. This is also the User ID value with which you should be currently logged on to Data Mover. This value is case sensitive.
- **Access Password:** Specify the PeopleSoft Access Password defined in the chapter "Preparing for Installation" in the task Planning Database Creation. This is also the User password value with which you should be currently logged on to Data Mover.

- *Connect ID:* For DB2 for z/OS, specify the Connect ID that can be used for the initial connection to DB2 for z/OS. This ID is used for connecting to the database.

Note. The Connect ID must be defined as a valid logon ID in the database security management software. The Connect ID only needs to be granted SELECT access on PS.PSDBOWNER, PSACCESSPROFILE, PSOPERDEFN, and PSSTATUS. This ID should be granted no other database authorities.

- *Application Server ID:* The Application Server ID has privileges to start or shut down the Application Server domain. It is also used during the Application Server configuration. Enter one of the delivered PeopleSoft user IDs.
- *Application Server Password:* Specify a password for the Application Server ID.
- *Web Server Password:* Specify a password for the Web Server ID.

The default Web Server ID, as displayed in the example, is PTWEBSERVER. The Web Server ID, also referred to in this documentation as Web Profile User ID, is used to access the web profile information from the database through the Application Server Jolt service.

- *Enable All Profiles:* Select this check box to leave the User profiles (other than the Application Server profile and the Web Server User profiles) unchanged.

If you do not select this option, all of the User profiles in the database, with the exception of the Application Server profile and Web Server User profiles, remain disabled as delivered.

- *Set Global Password:* If you enabled all profiles, you can choose to set the same password for all of the profiles.

Note. This option is enabled when the Enable All Profiles option is selected, as shown in the example.

- *Global Password:* Enter the password to be used for all user profiles.

Note. This option is enabled when the Set Global Password option is selected, as shown in the example.

- *Table Owner:* The name of the table owner ID determined in the chapter "Preparing for Installation" in the task Planning Database Creation.

This value will populate the CREATOR field in the system catalog table SYSIBM.SYSTABLES. It is this value that identifies all the tables as belonging to the logical PeopleSoft database.

- *Index Storage Group:* Specify the storage group where the index spaces will be created.

Later you have to edit the delivered script IXDDL.SQL with this value.

- *Tablespace Storage Group:* Specify the storage group for tablespaces.

This value must be the same as that used in the XXDDL.SQL/XXDDL.U.SQL script described earlier when the Tablespaces were created.

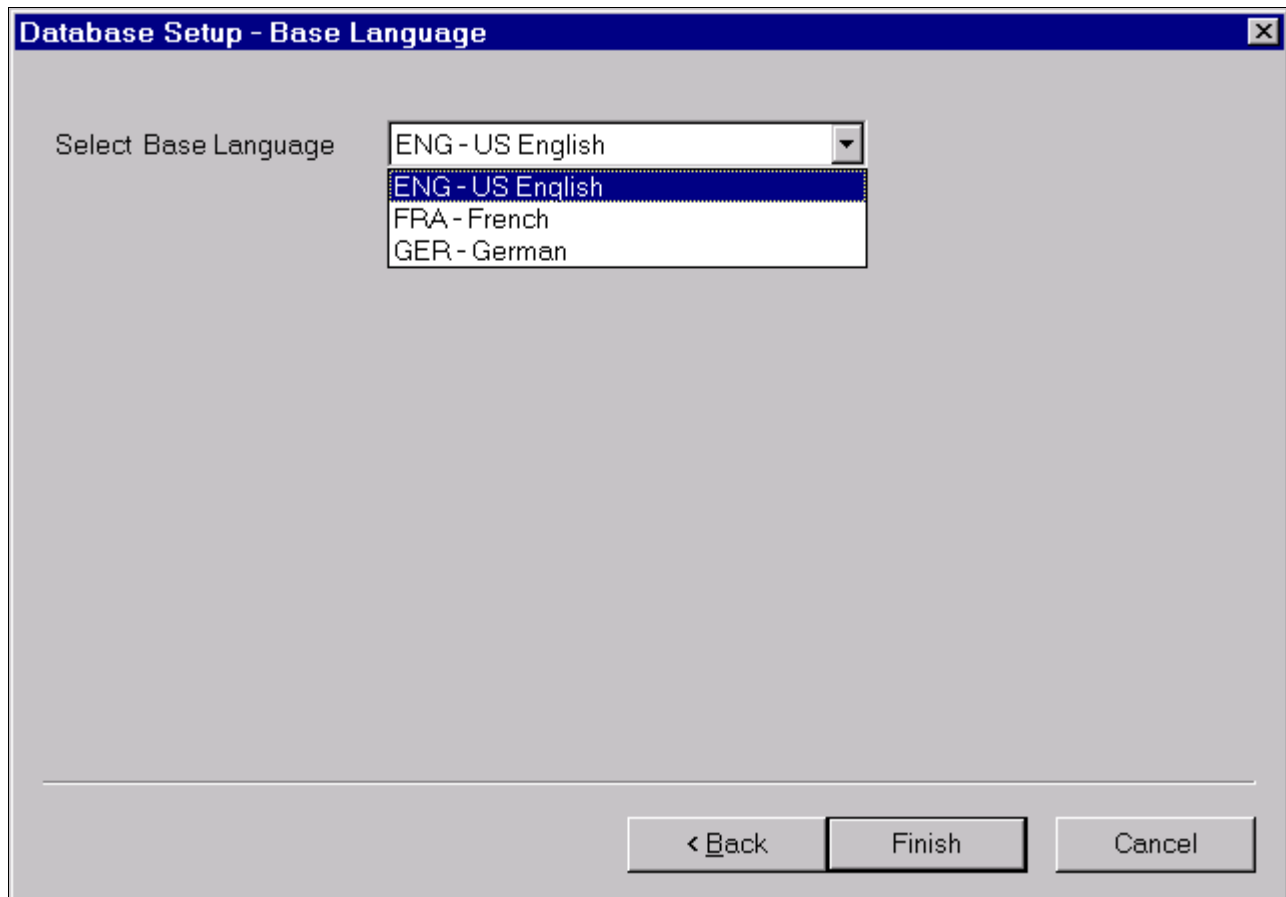
- *Database Storage Group:* Specify the database storage group.

12. Select your database's base language.

Note. This window appears only if you selected a database for a language other than English. If you see this window it is critical to select the correct base language. When you select a base language other than ENG, DBSETUP generates the Data Mover import script with the SWAP_BASE_LANGUAGE command to swap the base language.

See "Preparing for Installation," Planning Multilingual Strategy.

See Working with Multilingual Databases.



Selecting a base language in the Database Setup dialog box

Use the following information in making your selection:

- If you have not already done so, read the earlier section on multilingual strategy before determining whether to install multiple languages and whether to change your base language.
- If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.
- All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. During the Database Setup wizard, you need to select the database's base language that you plan to use most frequently. If your database's base language is different than the Database Setup wizard generate the SWAP_BASE_LANGUAGE command in the Data Mover Import script to swap the language.

13. Click Finish.

Note. If the Database Setup - Base Language window does not appear, click Finish after supplying the parameters on the Database Setup - Database Parameters window.

A script <dbname>dbo.dms is created in the *PS_HOME*\scripts directory, and the script is displayed in the Data Mover input window. The log files will be written to the location you have specified for the Data Mover Log Directory in the Configuration Manager profile.

Note. If you selected a Database Type of *System* in the Database Setup dialog box (above), you must use the Data Mover DBSPACE command to properly override the default database names in the generated Data Mover script (script <dbname>dbo.dms).

14. Check the Data Mover script for the following pairs of statements:

```
REM uncomment the following line to enable UTS ;
REM SET ENABLE_DB2UTS;
REM uncomment the following line to enable DB2 UTS ;
REM UPDATE PSSTATUS SET DATABASE_OPTIONS = 64;
```

Ensure that *neither* the SET ENABLE_DB2UTS; or the UPDATE PSSTATUS SET DATABASE_OPTIONS = 64; statements executes, either by deleting all four of these statements from the script, or by leaving the REM (remark) command at the beginning of each statement.

These statements are used only to enable universal tablespace support. They cannot be used if you intend to create the PeopleSoft application database using segmented tablespaces.

See Also

PeopleTools: Data Management

PeopleTools: Security Administration, "PeopleSoft Authorization IDs"

Task 8-9: Running Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Populating Tables in the PeopleSoft Database

Understanding Data Mover Import Scripts

Now you will run the Data Mover scripts (DMS) that you created in the preceding task to import the data for your PeopleSoft database. The Data Mover script creates either a system (SYS) or a demo (DMO) database.

When you initially logged onto Data Mover to create the DMS scripts, you logged in with the Access ID and password, using bootstrap mode. You need to use bootstrap mode to run the Data Mover import script, because there are not yet any PeopleSoft security tables in the database.

Note. You should already be signed on in bootstrap mode from having completed the previous task.

Verify that the same Connect ID was used in the Database Setup, and Configuration Manager panel. If you accepted all defaults, the Connect ID is people.

See *PeopleTools: Data Management*.

Warning! The Data Mover utility uses the INSERT SQL command to populate all the tables in PeopleSoft database. Notify your systems programmer and operations staff that this activity will generate more DB2 z/OS logging activity than usual.

See Also

Checking the Log Files and Troubleshooting, Running Data Mover

Task 8-9-1: Populating Tables in the PeopleSoft Database

To populate tables in the PeopleSoft database:

1. The DMS import script for your application will contain hard-coded file names for log files and data files.
Modify the DMS script if you have moved any files from the delivered directories or want to write log files to another location than that specified in the script.
2. If you have logged out of Data Mover after creating the DMS script, log back on again in Bootstrap mode; otherwise skip the next instruction.
3. Choose File, Open to open the DMS script you created earlier.
Browse the directory where the script was created: *PS_HOME\scripts*. Open the DMS script with the name *<dbname>DBO.dms*, where *<dbname>* is the name of the database you provided when creating the script.
4. One of the statements in the script grants select authority on PS.PSDBOWNER to the Connect ID.

```
GRANT SELECT ON PS.PSDBOWNER TO <Connect ID>;
```
5. If you have not granted the Access ID (the ID that you used to log on to Data Mover to execute the script) a level of authority that would permit it to execute this statement, the Data Mover script will fail and stop at the statement.

You can exercise three options to prevent this failure:

- Grant SELECT access on PS.PSDBOWNER to PUBLIC, and remove this GRANT statement from the script.
 - Remove this GRANT statement from the script and perform it later with an ID that is authorized to issue grants on PS.PSDBOWNER.
 - Grant authority to the Access ID to grant access on PS.PSDBOWNER to other user IDs.
6. Select File, Run to execute the script.

When you run the script, Data Mover typically performs the following actions:

- **IMPORT ***
Load data into PeopleTools and application tables.
- **ENCRYPT_PASSWORD ***
Encrypt security information for the database.

Task 8-10: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology*, "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLNLNGCA removes any orphaned related language objects that do not have a matching base language object.

Run the PTIACLNLNGCA application engine program. From the command line utility, the syntax is:

```
<PS_HOME>\bin\client\winx86\psae -CD <dbname> -CT DB2ODBC -CO <oprid> -CP=<password> -R <run_control> -AI PTIACLNLNGCA -FP <log_path>
```

Use the values for the database name and user ID that you entered on the startup tab of the Configuration Manager for <dbname> and <oprid> respectively. However, be aware that <password> is not the same as the connect password you entered on the Configuration Manager startup tab. Enter a value for <password> that is the password associated with the <oprid>. For <log_path>, specify the path where you want the log file for the application engine program to be generated, such as C:\temp\.

Task 8-11: Checking the Log Files and Troubleshooting

This section discusses:

- Checking the Log Files
- Running Data Mover
- Troubleshooting
- Improving Performance
- Improving Execution

Task 8-11-1: Checking the Log Files

After running each Data Mover script, examine the .LOG files to make sure that all the commands were executed successfully. The log files are located in the directory you specified in the Data Mover script.

This is the same directory you specified for the Data Mover Log Directory in the Configuration Manager profile, unless you edited this location in the DMS script.

See "Setting Up the Install Workstation," Editing the Default Profile.

Task 8-11-2: Running Data Mover

Use one of these methods to run Data Mover.

Microsoft Windows

- Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Data Mover from the Start, Programs list or the Apps screen to run a graphical user interface (GUI mode).
- Run `PS_HOME\bin\client\winx86\psdmt.exe` from the command line.

On UNIX, run `PS_HOME/bin/psdmtx` from the command line.

If you use the access ID that you specified during the database configuration to log on, you log on in "bootstrap mode." When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

If you use a valid PeopleSoft Operator ID, such as PS for Human Capital Management or VP1 for Financials/Supply Chain Management, you log on in "user mode." In this mode, no designation appears in the Data Mover status bar.

See Also

PeopleTools: Data Management

Task 8-11-3: Troubleshooting

If the DMS script has stopped midway (this can happen for a number of reasons) you need to edit the script and start again.

To edit and restart the DMS script:

1. Determine the record that was being imported (that is, which IMPORT command was running) when the script stopped, and use the following guidelines to edit and rerun the DMS scripts.

When building a DMO database or a multilingual database, adding the SET START statement can be tricky because the Data Mover script used to load the database will include more than one IMPORT statement. The key is to view the log files and determine which IMPORT section of the script Data Mover failed on.

- If the failure occurred during the first IMPORT statement, add the SET START statement before the first IMPORT *; statement.
- If the failure occurred during a subsequent IMPORT statement, comment out all statements preceding the IMPORT *; statement where the failure occurred and add the SET START statement before the IMPORT *; statement of the section in which the failure occurred.
- *This is very important:* If you see any "unique index constraint" error messages in the "Building required indexes" section, or in the "Creating Indexes" section later in this chapter, your IMPORT script failed during a subsequent IMPORT but the SET START statement was added to the first IMPORT. In this situation, you can run the Data Mover script in its originally generated form, with only one modification. In the first IMPORT section, change the statement "IMPORT *;" to "REPLACE_DATA *;". This will delete all the data in the tables, and re-import it. This process will take some time to run, and you will need to separately create each of the indexes that failed.

2. Run Data Mover as previously described.

See Running Data Mover.

The PeopleSoft Logon dialog box appears.

3. Log on using the Access ID to start Data Mover in *bootstrap mode*.

Use the Access ID you specified when you created the Data Mover scripts with the Database Setup utility.

The input window should display the DMS import script for the database. The script has the format <dbname>dbo.dms.

4. If necessary, select File, Open, and browse to the *PS_APP_HOME/scripts* directory to find the appropriate DMS script.
5. Add the following line before the offending IMPORT command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
```

<RECORD NAME> is the name of the record that failed. Make sure to review the Data Mover log file to see where the script failed and locate the last record that imported successfully. The SET START command will begin the Data Mover import at the specified record name.

<RECORD NAME> is the PeopleSoft record name as defined in PSRECDEFN, not necessarily the same as the DB2 table name. With the exception of the PeopleSoft PeopleTools tables, most PeopleSoft record names are appended with PS_ to create the DB2 table name.

Note. It is a good idea to change the name of the log file in the script before each attempt at running it. This ensures that you have a separate log file for each attempt, if you run the import more than once.

For example, if the script stops and the table is partially inserted with a message similar to this one:

```
Importing  PSPNLFIELD
Rows inserted into PSPNLFIELD
```

First delete the rows from the partially inserted table (for example, record) by using the DELETE FROM <table> command, and then restart Data Mover at the record that failed using the SET START command and continue the Data Mover import. This can be done in a single pass.

Add the following lines before the offending IMPORT *; command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
DELETE FROM <RECORD NAME>;
```

For <RECORD NAME>, specify the name of the record that failed. The SET START statement will begin the Data Mover import at the specified <RECORD NAME>.

Example of the original script:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs.log;
SET INPUT epengs.db;
SET NO RECORD;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
IMPORT *;
```

Example of script after modification, with changes in bold font:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs2.log;
SET INPUT epengs.db;
SET NO RECORD;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET START PSPNLFIELD;
DELETE FROM PSPNLFIELD;
IMPORT *;
```

For the DELETE statement, for records with a recname without a leading PS, add PS_ to the beginning of the recname; otherwise the table will not be found. For example, PS_<RECNAME>.

6. Restart the script (File, Run Script).

Task 8-11-4: Improving Performance

The following tips can help you save time when running the Data Mover scripts:

- Run only a single instance of Data Mover, and do not have any other applications running during the import.
- In the PeopleSoft Configuration Manager, turn off all trace options.

Tracing during a DMS load will add considerable time to the process.

Task 8-11-5: Improving Execution

Data Mover, by default, commits at the end of each table. If you prefer, when running Data Mover, you can include a SET COMMIT command (such as SET COMMIT 5000) to force a commit after the specified number of rows have been inserted into the table. However, if you use this option, and Data Mover ends abnormally again, you must mass delete the rows contained in the current table.

If the script stops and the table is partially inserted with the message below:

```
Importing PSPNLFIELD
Rows inserted into PSPNLFIELD
5000, 10000, 15000
```

Bypass the record using the SET START AFTER command and complete the import. In a second pass, import the partially inserted table using this command:

```
Replace_data <record_name>;
```

Task 8-12: Creating Indexes

All DDL statements to create the indexes for your application are located in the HLQ.PPVVV.DDLLIB(IXDDL) file. Edit the IXDDL file to make changes to the delivered DDL to customize the OWNER#ID, OBJ#OWNER, DEFINE YES, DEFINE NO, and STOGROUP values to the specific values used at your site:

Note. You may then use the IXDDL script with the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to further optimize index DDL. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool" for more details.

- **OWNER#ID:** The statement SET CURRENT SQLID may be used, but is not required. All objects in the CREATE INDEX statements are fully qualified.
- **OBJ#OWNER:** This value should equate to the CREATOR field in the SYSIBM.SYSINDEXES catalog table.
- **DEFINE YES or DEFINE NO:** The default for the delivered index DDL is DEFINE NO.

If you do not want to defer creation of the underlying VSAM index datasets until rows are inserted into tables (DEFINE NO), edit the IXDDL file in ISPF as follows:

```
change all 'DEFINE NO' to 'DEFINE YES'
```

or

```
change all 'DEFINE NO' to ' '
```

If you want to permanently change the delivered default for index DDL to *DEFINE YES*, edit the Data Mover script *PS_HOME/scripts/DDLDB2.DMS* by removing *DEFINE NO* from the end of the index model statement. Terminate the statement with a semi-colon and save the script. For example:

Original:

```
CREATE [UNIQUE] INDEX **OWNER**.[IDXNAME] ON **OWNER2**.[TBNAME] (⇒
[IDXCOLLIST]) USING STOGROUP **STOGROUP** PRIQTY **PRIQTY** SECQTY⇒
**SECQTY** [CLUSTER] BUFFERPOOL **BUFFERPL** CLOSE NO DEFINE NO;
```

New:

```
CREATE [UNIQUE] INDEX **OWNER**.[IDXNAME] ON **OWNER2**.[TBNAME] (⇒
[IDXCOLLIST]) USING STOGROUP **STOGROUP** PRIQTY **PRIQTY** SECQTY⇒
**SECQTY** [CLUSTER] BUFFERPOOL **BUFFERPL** CLOSE NO;
```

After you edit the script, you must run the STOREDDL.DMS script to update the index model ddl definition.

See Updating PeopleTools System Tables.

- **STOGROUP**

Save your changes and submit the DDL statements either through SPUFI or DSNTEP2. It is preferable to submit this in batch mode using DSNTEP2. This task can take several hours to complete, depending on the product line you are installing.

If you decide to submit this through SPUFI, verify that the designated output data set is allocated with sufficient tracks or cylinders to hold the result of processing all the CREATE INDEX statements. You should consider creating a SPUFI output dataset with file attributes: VB,Record Length =4092,Blk size=4096, SPACE (Primary 20 cylinders, Secondary 5 cylinders).

Important! Do not change the name of any index. All indexes in this script are cataloged in the PeopleSoft system tables. If you change an index name, the physical index will not match the index definition stored in PeopleTools. These index discrepancies will be reported as exceptions in the DDDAUDIT report.

Task 8-13: Running the DB2 RUNSTATS Utility

It is recommended that you run the DB2 RUNSTATS utility against the xxWORK tablespaces at this point. The tables in these tablespaces are designated as temporary tables or tables against which %UpdateStats is being performed.

Note. The PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) isolates temporary tables to individual tablespaces named as follows: TMP00001, TMP00002 and so on. Do not run RUNSTATS against any of the TMPnnnnn tablespaces at this time because this could prove detrimental to performance. The TMPnnnnn tablespaces should also be excluded from routine RUNSTATS and other database maintenance jobs. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool" for more details.

Task 8-14: Creating PeopleSoft Views

This section discusses:

- Understanding PeopleSoft Views
- Creating Views in Data Mover
- Creating Views in Application Designer

Understanding PeopleSoft Views

When creating the PeopleSoft Views, you can use Data Mover or Application Designer to create the objects directly, or you may use Application Designer to generate a DDL script of SQL statements, which can then be run using another utility such as SPUFI or DSNTEP2 and/or a User ID other than the Access ID.

Task 8-14-1: Creating Views in Data Mover

To create views in Data Mover:

1. Start Data Mover in User mode using a valid PeopleSoft operator ID, for example, PS or VP1.
See Running Data Mover.
2. Select File, Open from the Data Mover menu and navigate to *PS_HOME*\scripts.
3. Select the script CREATEVW.dms.
4. Select File, Run to execute the script.
5. Exit Data Mover.

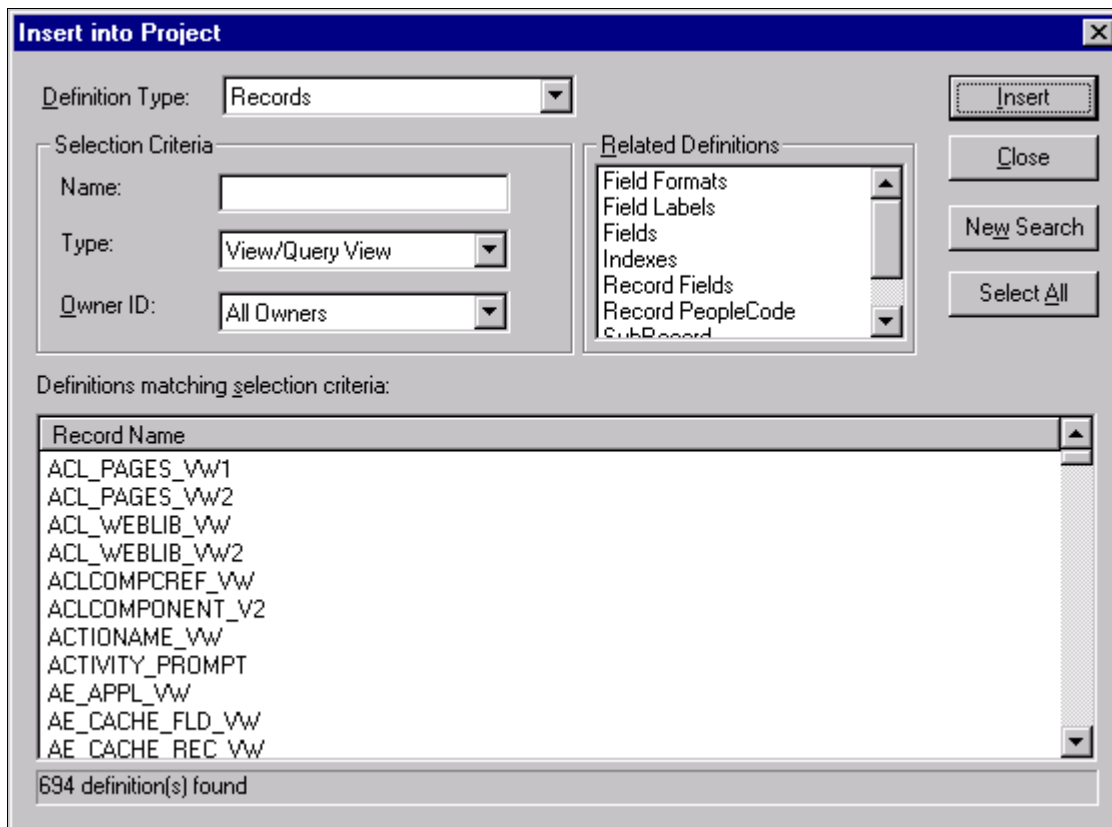
Task 8-14-2: Creating Views in Application Designer

To create views in Application Designer:

1. Start Application Designer; for example:
 - Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Application Designer from the Start, Programs list or the Apps screen.
 - Run *PS_HOME*\bin\client\winx86\pside.exe.
2. Create a new project. Choose File, New, and then select Project from the New dialog.
3. Insert all PeopleTools view records into the project:
 - a. Choose Insert, Definitions into Project. The Insert into Project dialog box appears.
 - b. Select a Definition Type of *Records*.

- c. In the Selection Criteria control group, choose a Type of *View/Query View*; and then press ENTER to select the records.

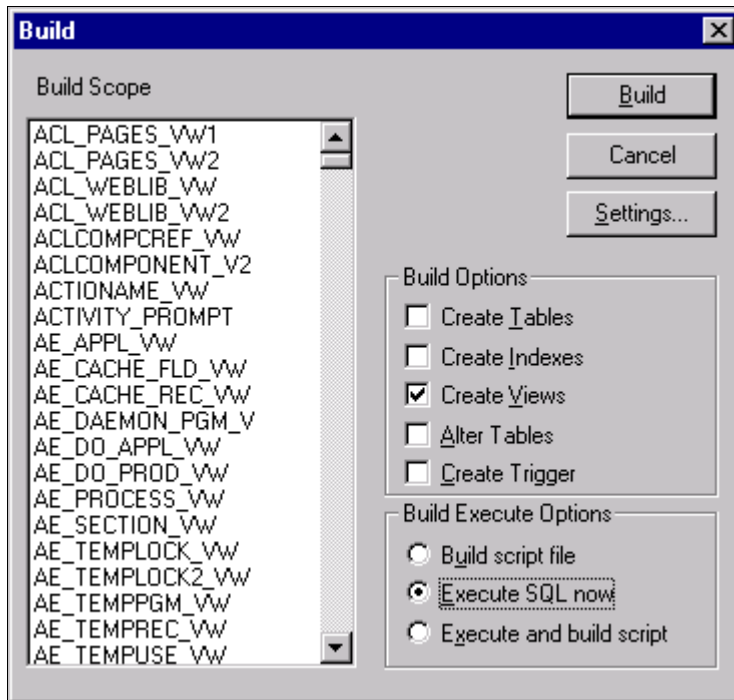
This example shows the Insert into Project dialog box with a list of results in the Record Name area.



Insert into Project dialog box

- d. Click Select All, and then click Insert to insert the View/Query View records into the project.
 - e. Click Close to close the Insert into Project dialog box.
4. Build the project.
 - a. Choose Build, Project. The Build dialog box appears.

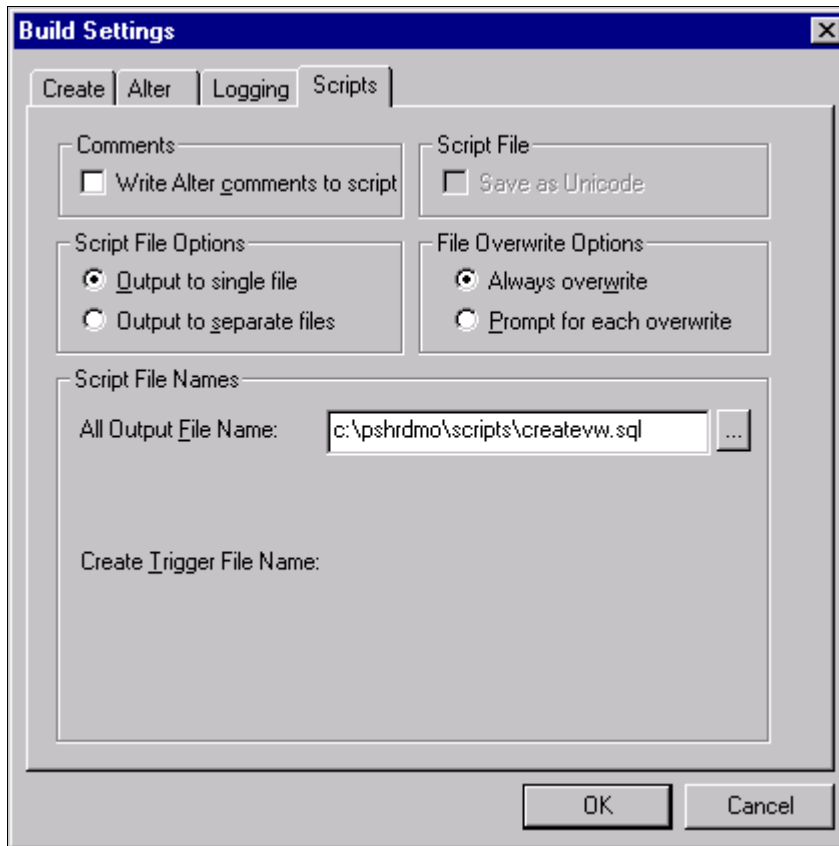
- b. In the Build Options group, select the Create Views check box. In the Build Execute Options group, select the Execute SQL now radio button to create the views directly, or the Build script file radio button to generate a DDL script of CREATE VIEW statements.



Selecting Create Views and Execute SQL now in the Build dialog box

- c. If you select Build script file, click Settings, go to the Scripts tab, and enter the output directory and filename where you want the DDL statement script written in the area All Output File Name.

In this example, the directory and filename are c:\pshrdmo\scripts\createvw.sql.



Build Settings dialog box: Scripts tab

- d. Click OK to return to the Build dialog box.
e. Click Build to build the views in the project.

Depending on the Build Execute Option you selected, Application Designer will either directly build the views on the database or generate a script file of CREATE VIEW DDL statements. If you have opted to generate the script file, execute the DDL statements either through SPUFI or DSNTEP2. Because of the time it may take the script to complete, we recommend submitting this script in batch mode using DSNTEP2. You may also need to prefix the script with the SQL command `SET CURRENT SQLID = <ownerid>`.

Note. On DB2 z/OS, when an object is dropped, all the dependent objects are automatically dropped. As a result some of the drop view statements could fail—and generate errors—if they were dependent on the view earlier dropped in the script. Please ignore these errors and restart the remaining part of the script.

Task 8-15: Building Temporary Tables

This section discusses:

- Understanding Temporary Tables

- Running SQR SETSPACE.SQR
- Correcting Invalid Database/Tablespace Combinations
- Setting the Number of Temporary Tables
- Using the Volatile Table Attribute
- Building the Temporary Tables and Their Indexes

Understanding Temporary Tables

In this task you use Application Designer to create temporary tables. PeopleSoft software has a temporary table structure where the number of instances for each base temporary table is controlled internally to PeopleSoft PeopleTools. The definition of each base temporary table is stored in the PeopleSoft PeopleTools table PSRECDEFN. The temporary table instances themselves are not defined. The table PSRECTBLSPC contains the database and tablespace values for each record defined in PSRECDEFN. The DDL generated by Application Designer to create the temporary tables uses the database and tablespace information from the base temporary table definition in PSRECTBLSPC. The delivered database and tablespace values are in synch with the *XXDDL* or *XXDDL*U script that you ran earlier to create the databases and tablespaces. If you changed the database or tablespace name values in this script for tablespaces originally named *xxWORK*, you need to either update the PSRECTBLSPC table or revise the DDL script to be generated to create the temporary tables.

Oracle recommends that you run SQR SETSPACE.SQR against your database and use the output from the SQR as a guide in making the necessary updates or revisions. How and where to make the adjustments is discussed in the later section "Correcting Invalid Database/Tablespace Combinations."

Note. If you used the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to optimize the installation DDL, run the SETSPACE.SQR to update table PSRECTBLSPC with the database and tablespace values created by PSTAAT.

Task 8-15-1: Running SQR SETSPACE.SQR

In this procedure, you run SQR SETSPACE.SQR to update table PSRECTBLSPC with the database and tablespace values from the DB2 system catalog. Application Designer uses the database and tablespace values stored in PSRECTBLSPC to generate DDL statements to create the tables.

SETSPACE.SQR serves multiple purposes:

- It updates PSRECTBLSPC with the database/tablespace values from the DB2 system catalog table SYSIBM.SYSTABLES for the tables defined in the DB2 System Catalog.
- It reports tables in PSRECTBLSPC that are updated with a new database or tablespace name.
- It reports tables that are defined in PSRECTBLSPC, but not defined in the DB2 system catalogs, and whether the database/tablespace combination defined for the record is valid or invalid (not defined in the DB2 system catalog table SYSIBM.SYSTABLESPACE).
- It syncs up the database/tablespace combinations used in PSRECTBLSPC with the PeopleTools "master" tablespace table PSTBLSPCCAT by inserting the valid combinations in PSTBLSPCCAT if they have not already been defined.
- It reports those database/tablespace values added to the PSTBLSPCCAT table.
- It summarizes and reports database/tablespace combinations defined in PSTBLSPCCAT that are not valid. The reports are a valuable tool in determining how and where to make revisions so the temporary tables are created in the correct location, and without error.

To run SQR SETSPACE.SQR:

Submit the Job PSHLQ.PPVVV.JCLLIB(SETSPACE) to execute the SQR on the mainframe.

The SDSF logs will display the results of running the SQR and information related to the success of executing this SQR.

An output file will be written to PSHLQ.PPVVV.SQRLIST(SETSPACE) detailing the records processed and actions taken.

Note. The SQR can be run multiple times without any negative impact, but the output file will be overwritten with each execution. You may want to rename the member PSHLQ.PPYYY.SQRLIST(SETSPACE) to another name before each resubmission of the SQR.

Task 8-15-2: Correcting Invalid Database/Tablespace Combinations

Review the output in PSHLQ.PPVVV.SQRLIST(SETSPACE). Note any messages with "Table Undefined — DB/TS Invalid," but most importantly, note any Warning messages in the second Phase of the output report. These warning messages summarize the database/tablespace name combinations defined in PSRECTBLSPC that have not been defined in the DB2 system catalog tables.

There are five options for making the necessary revisions. Of these options, Option 1 is the recommended one, for several reasons. Editing can be done globally; no table data will be impacted as it would in other options; you are guaranteed that the temporary table will be built in the database and tablespace that you intend; and you may have already found it necessary to edit the script file of DDL statements to create the Temporary table for other reasons.

- *Option 1 (Recommended):* Proceed through the installation process and build a script file of the DDL statements to create the temporary tables. After the script has been generated, but before executing it, globally edit the database/tablespace name combinations using the second Phase of the output report as a guide to the "before" values, changing them to your preferred site specific values.
- *Option 2:* Update the PSRECTBLSPC table directly via the database interface of choice before building the script file of DDL statements to create the temporary tables. Use the second Phase of the output report as a guide. The SQL to correct each invalid database/tablespace combination would be scripted as follows:

```
UPDATE PSRECTBLSPC SET DBNAME = '<new dbname>',
                  DDLSPACENAME = '<new tablespacename>'
WHERE DBNAME = '<old dbname>'
AND DDLSPACENAME = '<old tablespacename>'
AND DBTYPE = (SELECT MAX(A.DBTYPE) FROM PSRECTBLSPC A
              WHERE RECNAME = A.RECNAME
              AND A.DBTYPE IN (' ', '1'))
```

- *Option 3:* Run SQR SETDBNAM to update the database value in PSRECTBLSPC with a "best guess" value based on the tablespace value defined in PSRECTBLSPC. The accuracy of this SQR is based on the following caveats:
 - The ID or Current SqlID that was used to create the tablespaces must be the same value as the owner ID of the tables comprising the logical PeopleSoft database. In other words, the CREATOR field value in SYSIBM.SYSTABLESPACE must be the same value as the CREATOR field in SYSIBM.SYSTABLES.
 - The given tablespace name and CREATOR value in SYSIBM.SYSTABLESPACE must represent a unique relationship. For a given CREATOR, if you have defined a given tablespace name in more than one database, the SQR will use the database value associated with the tablespace that contains the fewest number of tables.

If either of these requirements is not met, either a database value will not be found and PSRECTBLSPC will not be updated, or PSRECTBLSPC could be updated with a database value different from that intended.

To run the SQR SETDBNAM, follow the same procedure as running SQR SETSPACE, using the JCL Job PSHLQ.PPVVV.JCLLIB(SETDBNAM) instead.

- *Option 4:* Log into the database via Application Designer, and update the record definitions with valid database/tablespace combinations, before building the script of DDL statements to create the temporary tables. Use the first Phase of the output report as a guide. (This could be a tedious and time-consuming process and is not recommended over the previously described options.)
- *Option 5:* Create the database/tablespace combinations in DB2 so they are no longer invalid, before executing the script file of DDL statements to create the Temporary tables. Use the second Phase of the output report as a guide to the databases and tablespaces that need to be created. (This is not recommended simply because it is likely to contradict the naming standards established for your DB2 installation.)

Task 8-15-3: Setting the Number of Temporary Tables

Normally, you will leave the number of temporary tables set to the default defined in the database. You may want to change this setting for optimal performance, depending on various aspects of your implementation, including account transaction volumes, benchmark numbers for the current hardware and database platform, and your service-level requirements.

Oracle delivers a minimum of three temporary table instances in most cases. You cannot adjust the number of temporary tables unless you have installed the PeopleSoft Pure Internet Architecture. (See "Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode" or "Setting Up the PeopleSoft Pure Internet Architecture in Console Mode.") You may skip this step entirely, and come back to it after PeopleSoft Pure Internet Architecture has been installed and you have a better idea of how many instances of the temporary tables might best fit your processing requirements. Another option is to update the PeopleTools table that controls the number of temporary table instances directly. Using the Database SQL interface of choice, issue the following SQL:

```
UPDATE PSOPTIONS SET TEMPTBLINSTANCES = <#>, TEMPINSTANCEONLINE = <#>=>
WHERE TEMPINSTANCEBATCH = 0
```

The number of instances (#) for either field should not be less than 3 or greater than 9.

For non-EPM applications, it is strongly recommended that the TEMPTBLINSTANCES and TEMPINSTANCEONLINE values be the same. For EPM applications we strongly recommend that you take the delivered defaults.

Note. Again, this step can be performed at installation and/or at any time during the life of your database. The only caveat is that when any of the parameters are changed that would impact the number of temporary table instances, all temporary tables should be regenerated.

Task 8-15-4: Using the Volatile Table Attribute

Beginning with PeopleSoft PeopleTools 8.48 and later, all temporary tables are created using the volatile keyword.

Sample DB2 for z/OS volatile temporary DDL follows:

```
CREATE TABLE Q848902.PS_AEEXT_TAO (PROCESS_INSTANCE DECIMAL(10) NOT
NULL,
    AE_INT_1 SMALLINT NOT NULL,
    AE_APPLID CHAR(12) NOT NULL,
    AE_SECTION CHAR(8) NOT NULL,
    AE_STEP CHAR(8) NOT NULL) VOLATILE IN Q848902.PTAPPE;
```

The volatile attribute specifies that the DB2 optimizer should favor index access on this table whenever possible for SQL operations regardless of the presence of statistics.

For more details on the volatile table attribute, refer to the DB2 for z/OS SQL Reference and the DB2 for z/OS Administration Guide.

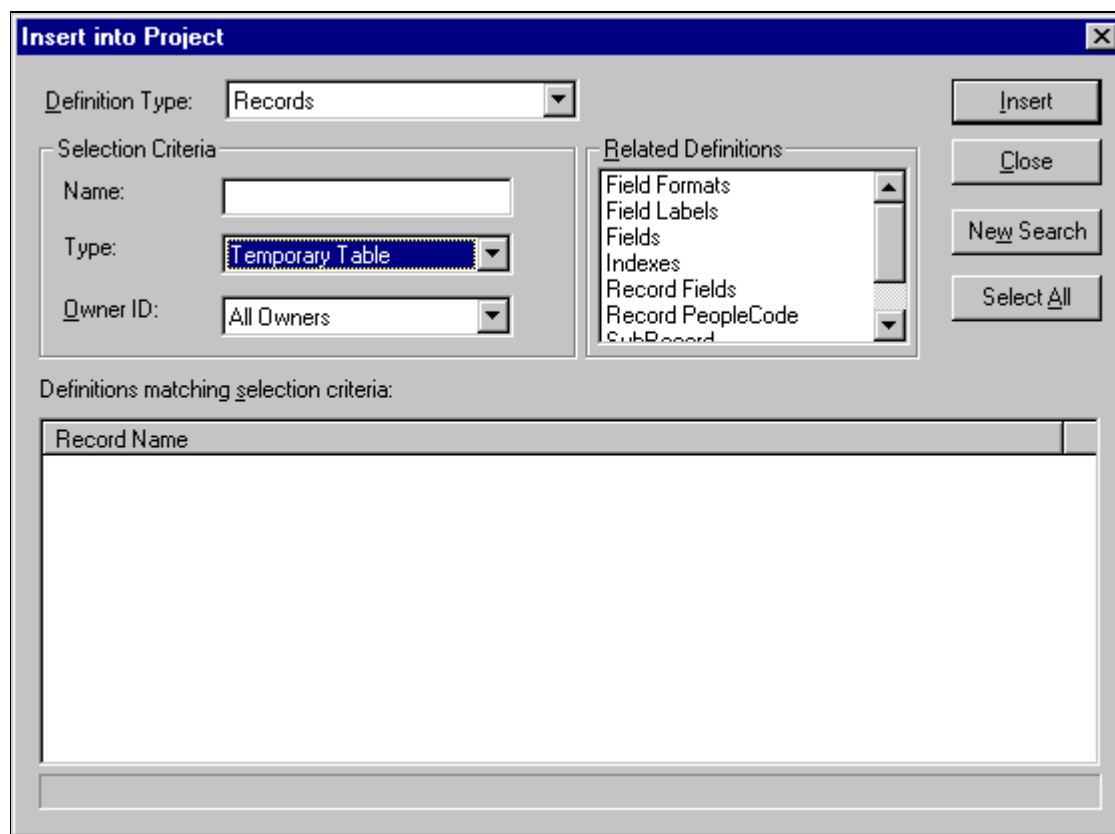
Task 8-15-5: Building the Temporary Tables and Their Indexes

Use the following procedure to build temporary tables in the database.

Note. You may use the temporary table DDL script created at the end of this task as input to the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to isolate each of the temporary tables to its own tablespace.

To build temporary tables:

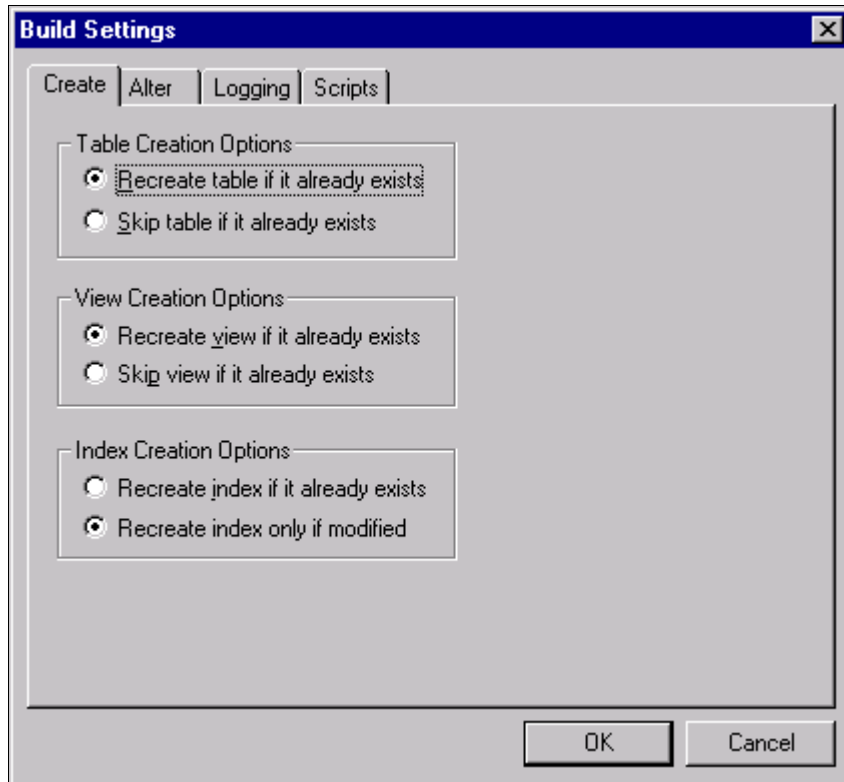
1. Open Application Designer.
2. Choose File, New. In the New dialog, select Project, and then click OK.
3. Choose Insert, Definitions into Project.
4. Set Definition Type to *Records* and Type to *Temporary Table*.



Insert into Project dialog box

5. Press ENTER, or click Insert and then click the Select All button. This selects all of the PeopleTools Records for temporary tables.
6. Click Insert to insert all of the temporary tables into the new project.
7. Click Close to close the Insert into Project dialog.

8. Before building the project, you should save it. Choose File, Save Project As and enter a project name such as *TEMPTBL*.
9. Choose Build, Project. The Build dialog appears.
10. In the Build Options group, select the Create Tables check box. The Create Index check box should be selected by default.
11. Select Build script file to direct the DDL to a file.
12. Click the Settings button. The Build Settings dialog appears.
13. On the Create tab, select Recreate table if it already exists (if it is not already selected) under Table Creation Options.

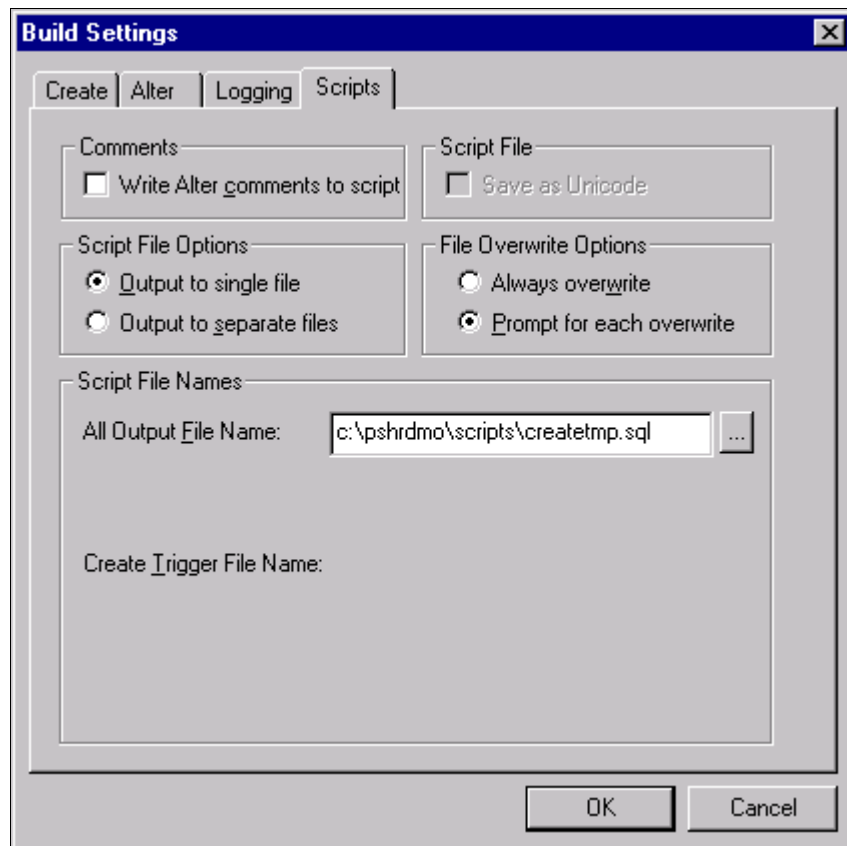


Selecting the Recreate table if it already exists in the Build Settings dialog box

14. Select the Scripts tab, and select Output to Single File under Script File Options.

15. Under Script File Names, specify the path and filename for the output file to contain the DDL to create the Temporary tables and their indexes (for example, *PS_HOME\scripts\TEMPDDL.SQL*).

The path and filename in this example is *c:\pshrdmo\scripts\createtmp.sql*.



Specifying the path and filename in the All Output File Name section

16. Click OK to accept the build settings.
17. Click Build to build temp tables. You may receive a warning message, which you can disregard because the temp tables do not contain any existing data.
18. After the script generation process has finished, click Close in the Build Progress dialog box to return to Application Designer.
19. Transfer the file of DDL statements just created to the mainframe server PDS HLQ.PPVVV.DDLLIB (filename).
20. If you have corrected the invalid database/tablespace combinations following Option 1 described earlier, and not updated the PSRECTBLSPC table with the database and tablespace names used in your installation, you need to edit the file, changing both the database and tablespace names from the values as would be noted in the second Phase of the output report from SQR SETSPACE, to your site-specific values.

Note. If you intend to use the %UpdateStats functionality, you should use the PeopleSoft Tablespace DDL Automation Assistance Tool (PSTAAT) to isolate each of the temporary tables to its own tablespace to avoid contention in any concurrently running processes. See the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool."

21. When the file has been edited with the appropriate database and tablespace name values, save your changes and submit the DDL statements either through SPUFI or DSNTEP2. It is preferable to submit this in batch mode using DSNTEP2, because the task could take over an hour to complete.

Task 8-16: Creating PeopleSoft Triggers

This section discusses:

- Understanding PeopleSoft Triggers
- Creating Triggers in Data Mover
- Creating Triggers in Application Designer

Understanding PeopleSoft Triggers

When creating the PeopleSoft Triggers, you can use Data Mover or Application Designer to create the objects directly, or you can use Application Designer to generate a DDL script of SQL statements, which can then be run using another utility such as SPUFI or DSNTEP2, and with a UserID with a greater level of database authority.

Task 8-16-1: Creating Triggers in Data Mover

To create triggers in Data Mover:

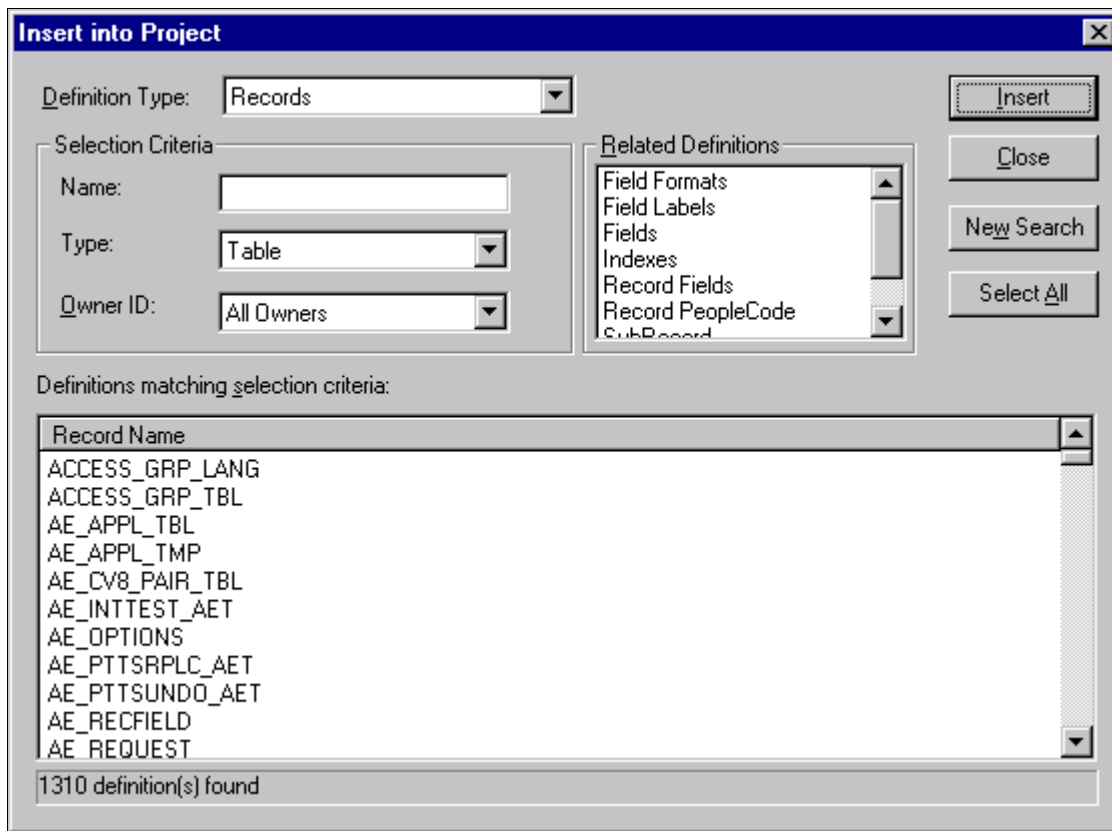
1. Start Data Mover in User mode, using a valid PeopleSoft operator ID, for example, PS or VP1.
See Running Data Mover.
2. Choose File, Open from the Data Mover menu and navigate to *PS_HOME*\scripts.
3. Select the script CREATETRGR.dms.
4. Choose File, Run to execute the script.
5. Exit Data Mover.

Task 8-16-2: Creating Triggers in Application Designer

To create triggers in Application Designer:

1. Start Application Designer, for example:
 - Depending upon your Microsoft Windows operating system, select PeopleTools 8.58, Application Designer from the Start, Programs list or the Apps screen.
 - Run *PS_HOME*\bin\client\winx86\pside.exe.
2. Create a new project. Choose File, New, and then select Project from the New dialog.
3. Insert all PeopleTools Table records into the project.
To insert the Table records:
 - a. Choose Insert, Definitions into Project. The Insert into Project dialog appears.
 - b. Select a Definition Type of *Records*.

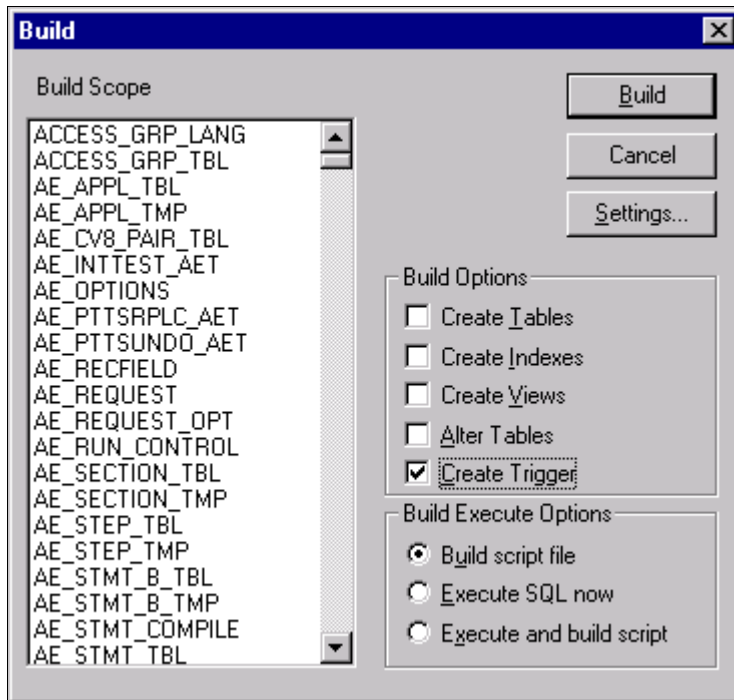
- c. In the Selection Criteria control group, choose a Type of *Table*; and then press ENTER to select the records.



Insert into Project dialog box

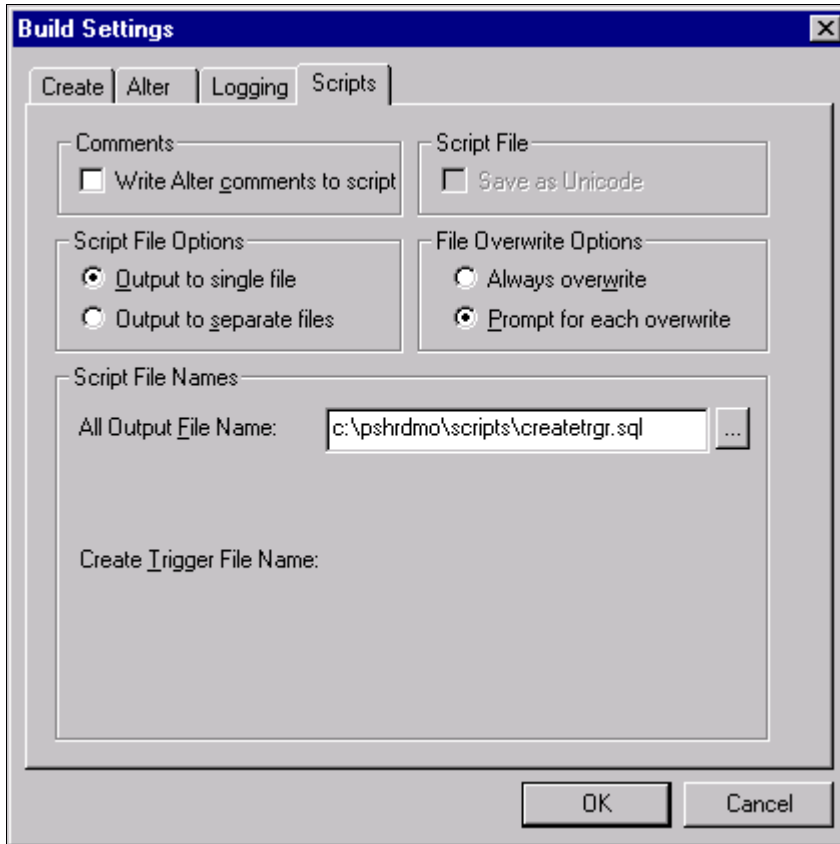
- d. Click Select All, and then click Insert to insert the Table records into the project.
 - e. Click Close to close the Insert into Project dialog.
4. Build the project.
 - a. Choose Build, Project. The Build dialog displays.

- b. In the Build Options group, select the Create Trigger check box. In the Build Execute Options group, select either the Execute SQL now radio button to create the triggers directly, or the Build script file radio button to generate a DDL script of CREATE TRIGGER statements.



Build dialog box

- c. If you have selected the Build script file radio button, click the Settings button, go to the Scripts tab, and enter the output directory and filename where you want the DDL statement script written.



Build Settings dialog box

- d. Click OK to return to the Build dialog.
5. Click Build to build the triggers associated with the tables in the project.

Depending on the Build Execute Option selected, Application Designer will either directly build the triggers on the database or generate a script file of CREATE TRIGGER DDL statements. If you have opted to generate the script file, execute the DDL statements either through SPUFI or DSNTPE2. Because of the time it may take the script to complete, we recommend submitting this script in batch mode using DSNTPE2. You may also need to prefix the script with the SQL command SET CURRENT SQLID = <ownerid>.

Task 8-17: Running Additional Data Mover Scripts

To import additional data for your specific PeopleSoft database, or to make other required changes, you may need to run additional Data Mover scripts. These script files have the extension .dms and are sometimes referred to as "DMS scripts." They are located in the *PS_HOME\scripts* or *PS_APP_HOME\scripts* directory of your file server, and need to be run from the file server by means of Data Mover.

For the details on which additional application-specific Data Mover scripts to run, consult your application-specific installation instructions.

Task 8-18: Running SQR Reports

This section discusses:

- Understanding Running SQR Reports
- Binding the dbcalls.bnd
- Running SQRs on the Client Workstation
- Creating a Shortcut to Run SQRs

Understanding Running SQR Reports

The instructions in this section describe how to run SQR reports from the client workstation. On the Microsoft Windows client, you may prefer to create a shortcut to allow you to run the reports repeatedly. You can use these instructions to run SQRs required in the upcoming task Checking the Database.

You can also choose to run SQR reports from the command line in console mode. Before running SQR from the command line on Microsoft Windows operating systems, set PS_HOME from the prompt. For example:

```
set PS_HOME=C:\psft\pt\ps_home8.58
```

See Also

PeopleTools: SQR for PeopleSoft Developers

PeopleTools: SQR Language Reference for PeopleSoft

Task 8-18-1: Binding the dbcalls.bnd

You need to bind the dbcalls.bnd before running SQR reports.

To bind dbcalls.bnd:

1. Using an ID with mainframe logon and BINDADD privileges, log on to DB2 Connect Command Line Processor:

```
db2 => CONNECT TO <database name> USER <mainframe User Id>
```

Note. Enter your current password for "mainframe User Id": <mainframe User Id password>.

2. The Windows SQR bind executable is located in the File or Report Server directory (for example, *PS_HOME*\bin\sqr\db2\BINW\dbcalls.bnd).

- Issue the following bind command for an EBCDIC installation:

```
db2 => bind <ps_home>\bin\sqr\db2\BINW\dbcalls.bnd blocking all grant=>
public=>
sqlerror continue
```

- For a Unicode installation, you must bind the windows SQR executable with encoding unicode as follows:

```
db2 -> bind <ps_home>\bin\sqr\db2\BINW\dbcalls.bnd encoding unicode=>
blocking=>
```

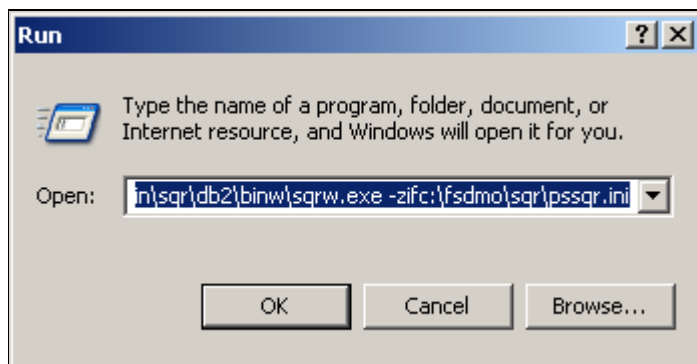
```
all grant public sqlerror continue
```

Task 8-18-2: Running SQRs on the Client Workstation

To run an SQR on the client workstation:

1. Select Start, Run, click Browse, and navigate to *PS_HOME\bin\sqr\DB2\binw*.
Select *sqrw.exe* and click Open.
2. Add any needed flags at the end of the command line.

Refer to the table that follows. For those flags that require attributes, append the attributes to the flags with no intervening spaces (for example, *-fE:\fsdmo\bin\sqr\pssqr.ini*).



Microsoft Windows Run dialog box launching SQRW

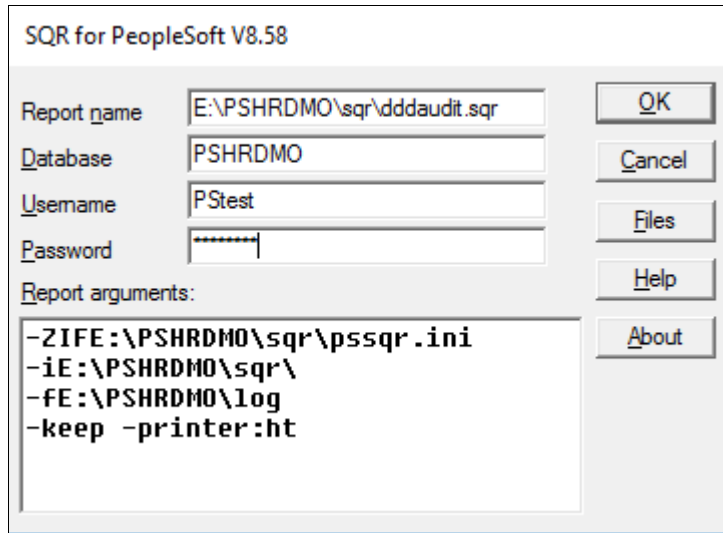
The following table summarizes the SQR report arguments used by PeopleSoft software. (For a full listing of report arguments, press the Help button to view the SQR help topic for this dialog box.)

Flag	Description
-I	Specifies the directories that SQR will search for the #INCLUDE files. (A trailing slash is required.)
-f	Specifies the directory where the report output will be sent. If you use the <i>-keep</i> flag, you must specify the directory with a trailing slash. If you use the <i>-printer</i> flag, specify a full path name with a filename for the HTML file.
-ZIF	Sets the full path and name of the SQR initialization file. The <i>-ZIF</i> flag should point to your <i>PS_HOME\sqr\pssqr.ini</i> file.
-keep	Keeps the .SPF file after the program runs. This enables you to view the report with the SQR viewer.
-printer:ht	Generates the output file in HTML format. Specify the filename, with path location, with the <i>-f</i> flag.

3. Click OK.

The SQR for PeopleSoft V8.58 dialog box appears, displaying the attributes that you entered in the Run dialog box. The fields on this dialog box are described in the next step:

Note. The report arguments in this example have been arranged for readability.



SQR for PeopleSoft dialog box with DDDAUDIT.SQR

4. Enter the following values:

- Enter the report name.
You must specify the full path.
- Enter the access ID in the Username field.
- Enter the access password in the Password field.
- Enter the database name.

5. Click OK to run the SQR report.

Task 8-18-3: Creating a Shortcut to Run SQRs

If you think you may need to run the SQR reports more than once, you may want to create a shortcut on the Windows client workstation. To save the report arguments:

1. Open Windows Explorer on the machine on which you want to run SQR.
2. Navigate to *PS_HOME\bin\sqr\DB2\binw*.
3. Right-click *sqrw.exe* and click Create Shortcut.
4. Right-click the shortcut that you just created and select Properties.
5. On the Shortcut tab, add the same *sqr* flags that you used in the previous task after *sqrw.exe* in the Target entry box.
6. Click OK.
7. To run the report, double-click the shortcut and specify the following information in the dialog box:
 - Report Name: Enter the full path and the name.
 - Database name

- Username: Enter the access ID.
 - Password: Enter the access password.
 - Report arguments: Make any necessary modifications to the saved arguments.
8. Click OK.

Task 8-19: Updating PeopleSoft System Tables

This section discusses:

- Understanding PeopleSoft System Tables
- Updating PeopleSoft System Tables

Understanding PeopleSoft System Tables

In this task, you run SQR scripts that update PeopleTools tables with information from the DB2 system catalog tables.

- *SETSPACE.SQR* was run in an earlier task, but should be re-run at this point. It updates PSRECTBLSPC with the database and tablespace information captured from the DB2 system catalog table SYSIBM.SYSTABLES, inserts valid database and tablespace combinations defined in PSRECTBLSPC that have not yet been defined in PSTBLSPCCAT, and provides an audit report of actions taken and invalid database and tablespace combinations defined in PSRECTBLSPC but not defined in the DB2 system catalog table SYSIBM.SYSTABLESPACE. You can run this SQR multiple times without negative impact.
- *SETTMPIN.SQR* inserts rows into PSRECTBLSPC to store the database and tablespace location for each temporary table instance defined in the DB2 system catalog table SYSIBM.SYSTABLES. You need to run this SQR after each time you create or refresh the temporary tables on your database. You can run this SQR multiple times without negative impact.

Note. This SQR will *not* facilitate regeneration of the temporary tables by ensuring that each instance is rebuilt in the database/tablespace location to which it was originally assigned. The purpose of the SQR is to capture the location of each temporary table instance after it has been created in the database, and sync PSRECTBLSPC with the DB2 system catalog.

Task 8-19-1: Updating PeopleSoft System Tables

To update PeopleSoft system tables initiate SQRW.exe as you did in the task Running SQR Reports and run the SETSPACE.SQR and SETTMPIN.SQR (if applicable) programs.

Task 8-20: Binding DB2 Plans

If you are not planning to run COBOL on the mainframe, this step is not necessary.

You need to bind the following DB2 Plans used by PTPSQLRT—the first one is for the Native Attach Facility for UNIX System Services, and the second one is for the Call Attach Facility. On the z/OS server, submit the following two JCL jobs:

```
HLQ.PPVVV.JCLLIB(BINDAADD)
HLQ.PPVVV.JCLLIB(BINDEADD)
```

The only acceptable message reads:

```
BIND SUCCESSFUL
```

If you receive any other message, it means you have encountered an error. Common bind errors include:

- Program PTPSQLRT failed to precompile (jobs PSCOBDA and/or PSCOBDE) and the DBRM was not generated. If this is the case, run PSCOBDA or PSCOBDE again, and carefully examine the return codes.
- If you get a "Plan Already Exists" error, do a bind/replace using BINDAREP and BINDEREP.

Task 8-21: Changing the Base Language

The information in the earlier task Planning Multilingual Strategy will help you determine whether you should change your base language, and lists the currently supported languages.

See "Preparing for Installation," Planning Multilingual Strategy.

See PeopleTools Certifications — Supported Languages, My Oracle Support (search for article name).

This task applies only if your users will be operating PeopleSoft applications *primarily* in one particular language other than English. It gives a performance boost to the language you designate as the base language, but requires more administrative overhead than leaving English as the base language. The details are spelled out in the *PeopleTools: Global Technology* product documentation.

Task 8-22: Checking the Database

Run and examine the SQR reports to verify that your database is complete.

See Running SQR Reports.

See Updating PeopleTools System Tables.

To verify that the database is complete, run the following SQR reports from the *PS_HOME\sqr* directory:

- dddaudit.sqr
- sysaudit.sqr
- swpaudit.sqr, if you plan to swap your base language

For further information about these reports, consult PeopleSoft product documentation. This documentation includes specific information on how to interpret the reports and how to fix any errors found there.

It is good practice to run and read the audit reports, which include sysaudit, dddaudit, swpaudit, and alter audit, after making changes such as applying patches, bundles, and upgrades to the database, to make sure that the tables are internally and externally in synch. It is also a good idea to schedule regular maintenance, for example weekly, in which you run and review the reports. You can find information on these audit reports in the *PeopleTools: Data Management* product documentation.

See *PeopleTools: Global Technology*, "Running the Swap Audit Report."

See Also

PeopleTools: Data Management

PeopleTools: System and Server Administration

Task 8-23: Disabling %UpdateStats

The %UpdateStats meta-SQL function allows an Application Engine program to update DB2 catalog statistics after it has populated temporary tables with transient data used for intermediate query result sets. This allows the DB2 optimizer to choose a better access path when these tables are joined to other tables. To optimally use %UpdateStats for DB2 z/OS, it is highly recommended that tables subject to this feature be placed in their own tablespace. %UpdateStats invokes the DB2 RUNSTATS utility through the IBM DSNUTILS stored procedure. Because RUNSTATS executes at the tablespace level, having multiple tables in a given tablespace can degrade the performance of an Application Engine program that invokes this utility through %UpdateStats. Consider using PSTAAT (see the appendix "Using the PeopleSoft Tablespace DDL Automation Assistance Tool") to optimize the table to tablespace mapping for Application Engine temporary tables. If you have not installed and authorized the DSNUTILS stored procedure for use in your environment, or, if you have not isolated Application Engine temporary tables to individual tablespaces, you may wish to consider disabling the %UpdateStats function by setting DBFLAGS to 1 in your Process Scheduler configuration file. See the previous section, Using %UpdateStats, or search the PeopleSoft documentation for more details on using DBFLAGS to disable %UpdateStats.

If you have not implemented the DSNUTILS stored procedure and/or followed the traditional installation path, you might consider disabling recognition of the %UpdateStats function by setting DBFLAGS to 1 in your Process Scheduler configuration file. See the previous section, "Using %UpdateStats," or search the PeopleSoft documentation for more details on using DBFLAGS to disable %UpdateStats.

See *PeopleTools: Data Management*.

Chapter 9

Deploying Mid-Tier Components

This chapter discusses:

- Understanding the Mid-Tier Deployment
- Running the DPK Setup Script for Mid-Tier Deployment
- Completing Installation Tasks

Understanding the Mid-Tier Deployment

After you complete the database creation, run the PeopleTools DPK setup script again to deploy the mid-tier components for the PeopleSoft environment. Specify the same *BASE_DIR* that you specified when you used the DPK setup script to install the software.

The default mid-tier deployment performs the following:

- Sets up a single application server domain, Process Scheduler domain, and PIA domain.
- On Microsoft Windows, sets up services for the PeopleSoft domains.

Note. On Windows, when running the setup script to deploy mid-tier components for previously-created domains, first stop and delete services for configured domains to avoid errors.

- Installs Oracle Tuxedo and Oracle WebLogic software, unless the DPK setup script installed them in previous deployment to the same *BASE_DIR*/pt location.

Task 9-1: Running the DPK Setup Script for Mid-Tier Deployment

This section discusses:

- Understanding the Mid-Tier Deployment
- Prerequisites
- Running with the Mid-Tier Option on Microsoft Windows
- Running with the Mid-Tier Option on Linux, AIX, HP-UX, or Solaris as the Root User
- Running with the Mid-Tier Option on Linux, AIX, HP-UX, or Solaris as a Non-Root User

Understanding the Mid-Tier Deployment

Use this procedure to install the PeopleSoft mid-tier components. The deployment includes the following:

- *PS_HOME* installed to the default location under the DPK base directory

- Oracle Tuxedo installed to the default location under the DPK base directory
- Oracle WebLogic installed to the default location under the DPK base directory
- Oracle Database Client installed to the default location under the DPK base directory

Note. This is an Oracle 12c Database Client. The client can be used with the Oracle Database releases that are supported for the current PeopleSoft PeopleTools release. See the Certifications for PeopleSoft PeopleTools on My Oracle Support.

- Deployed and set up PeopleSoft domains. There is a single Application Server domain, single Process Scheduler domain, and single PIA domain.
- The Microsoft Windows DPKs include Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries

Prerequisites

Before performing the mid-tier deployment, be sure that you have fulfilled the following requirements:

- You have downloaded all of the required PeopleSoft PeopleTools DPKs, and saved them in a location accessible to the Microsoft Windows, Linux, AIX, HP-UX, or Solaris host, referred to here as *DPK_INSTALL*.

See "Installing the PeopleSoft Homes," Obtaining the PeopleSoft Application and PeopleTools DPKs

Note. After the DPK setup script extracts the downloaded zip files, it will delete the original zip files in *DPK_INSTALL*. If you want to save the original zip files, make a backup copy in a different folder.

Note. If you want to have a PeopleSoft application-specific local node, for Integration Broker or Report Node, configured during the mid-tier creation, you must also download the first application DPK (normally zip file 9ofn.zip). If the application DPK is not present, the mid-tier deployment will create a PeopleTools-specific default local node.

- Remove any previous installations of the same version of Oracle Tuxedo.
- You extracted the first zip file. The extraction gives a setup folder and other files.
See "Deploying the PeopleSoft Homes."
- The user running the script *must have administrative permission* on Microsoft Windows.

Note. Restarting services for the deployed PeopleSoft environment, such as those for Oracle Tuxedo, must be performed by the same user (with administrative permission) who carried out the installation.

- You must have *root access* to deploy the PeopleSoft DPKs on Linux, AIX, HP-UX, or Solaris.
For information on non-root deployment, see the section Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.
- For deployment on Linux, AIX, HP-UX, or Solaris, there is a writable directory available for the home for the users that own the PeopleSoft environment.

If you install as a non-root user, the DPK setup script uses the home directory of the logged-in user as the default home directory for the user, and for the deployment log files. The non-root deployment includes a prompt for *PS_CFG_HOME*.

If you do the entire installation as root, the DPK setup script creates default users, and includes a prompt for the home directory for these generated default users. The default is /home. In this case, *PS_CFG_HOME* is installed as a subdirectory of the psadm2 default user's home directory.

See "Completing the Installation," Using the PeopleSoft Installation.

- There is enough space on the host for the PeopleSoft environment.
See "Prerequisites," Reviewing Hardware Requirements on Microsoft Windows.
- For deployment with the AIX or HP-UX DPK, you have installed JDK required for the operating system.
See Reviewing Software Requirements.
- You have installed database connectivity software for the database that you want to access on the machine on which you deploy the mid-tier components.
See "Completing the DPK Initialization with Customizations."

Note. When installing mid-tier components for environments on DB2 z/OS, you must use customizations to complete the installation. The delivered YAML files may not include the necessary RDBMS client information for your environment. Create a `psft_customizations.yaml` file, and include the correct client information. See the chapter "Completing the DPK Initialization with Customizations."

- For all installations on DB2 z/OS, you must catalog the database before mid-tier deployment using DPKs. To catalog the database, see the documentation for DB2 z/OS for information.
- You have the information for the database to connect to, including:
 - RDBMS platform
 - Database name, service name, host, and listening port
 - Unicode or non-Unicode database
 - For DB2 z/OS, database catalog information
- You have the information for the user IDs and passwords needed for the deployment, including the following:
 - PeopleSoft Connect ID and password
 - PeopleSoft operator ID (such as PS or VP1) and password
 - Application Server Domain Connection password (optional)
 - PTWEBSERVER web profile user password
 - Oracle WebLogic server administrator password
 - Integration Gateway administrator and password
 - Integration Gateway keystore password

When you run the DPK setup script, the prompts for some of the passwords do not explicitly specify the restrictions as they did in previous releases.

See E-DPK Password restrictions are not reflected in the DPK setup script prompts, My Oracle Support, Doc ID 2639270.1.

Task 9-1-1: Running with the Mid-Tier Option on Microsoft Windows

To deploy mid-tier components on physical or virtual Microsoft Windows hosts:

1. Open a command prompt window with Run as Administrator.
2. Change directory to the location where you extracted the first zip file, `DPK_INSTALL/setup`.
3. Run the script with the mid-tier option to set up the Application Server, PIA, and web server mid-tier components.

Note. If you see an error message similar to "The application has failed to start because its side-by-side configuration is incorrect," it indicates that your machine does not include the necessary Microsoft C++ runtime libraries. Go to the Microsoft Web site, locate the Microsoft Visual C++ redistributable package for your system, and install as directed.

- If you extracted the first zip file into the same directory where you downloaded the zip files, use this command:

```
psft-dpk-setup.bat --env_type midtier
```
 - If you extracted the first zip file into a different directory, include the option `dpk_src_dir` to specify the location of the downloaded zip files, such as `DPK_INSTALL`.

```
psft-dpk-setup.bat --dpk_src_dir DPK_INSTALL --env_type midtier
```
-

Note. Running the DPK setup script with the `--env_type midtier` option deploys all servers. If you want to deploy one of the servers (application server, Process Scheduler server, PIA, or application server and Process Scheduler server) see the command options in "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.

4. Wait while the script locates the valid PeopleSoft DPK zip files and extracts them.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by [OK] or [FAILED].

After the script completes the extraction, it deletes the original files. Make a backup copy if you want to keep them.

See "Preparing for Installation," Understanding the PeopleSoft Installation Using Deployment Packages, for the filename syntax of the DPK zip files.

Starting the PeopleSoft Environment Setup Process:

```
Validating User Arguments:                [ OK ]
Validating PeopleSoft Supported Platform:  [ OK ]
```

5. Specify whether to install the Puppet software if necessary at the next prompt.

The script verifies if Puppet software is installed in the default location specified by the DPKs. If not, answer *y* (yes) to install the Puppet software and *n* to abort the PeopleSoft environment setup process. The default action (if nothing is entered at the prompt) is to install the software.

If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in `DPK_INSTALL/setup`.

```
Verifying if Puppet Software is Installed:                [ OK ]
```

Puppet Software is not installed on the Host. If this Host is used to setup a PeopleSoft environment, Puppet Software should be Installed.

Do you want to Install Puppet Software on this Host? [Y|n]: **y**

```
Installing Puppet Software on the Host:                    [ OK ]
```

The script verifies the eYAML software.

```
Verifying if eYAML Hiera Backend is Installed:            [ OK ]
```

The script verifies if the DPKs are available in `DPK_INSTALL`, and aborts with the message [FAILED] if they

are not.

Checking if PeopleSoft DPKs are Present: [OK]

6. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory.

The base folder is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The script creates the folder if it is not present.

Note. When entering the path for the base folder, use forward slashes (/). For example, `C:/psft`. Enclose any names with special characters in double quotes. Do not use a name for the base folder that begins with a number.

The base folder is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This folder should be accessible on the Windows VM, must have write permissions and should have enough free space.

Enter the PeopleSoft Base Folder: `C:/psft`
Are you happy with your answer? [Y|n|q]:

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space.

Note. A mid-tier setup of a PeopleSoft environment requires about 25 GB of disk space.

Checking if the Base Folder has Enough Free Space: [OK]

The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

- *BASE_DIR\dpk*
The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment.
- *BASE_DIR\pt*
The script uses this directory to deploy PeopleSoft components.
- *BASE_DIR\db*
This directory is not used for a mid-tier deployment.

7. Review the status messages as the script validates the files found in *DPK_INSTALL* and extracts the DPK archives.

The script carries out validations for the mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity.

Validating the PeopleSoft DPKs in the Windows VM:
[...]
Extracting the PeopleSoft DPK Archives in the Windows VM:
[...]

8. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host or VM. It then copies the PeopleSoft Puppet modules to the standard location under the base folder (*BASE_DIR\dpk*) and updates the YAML files to reflect the type of PeopleSoft

environment setup.

Setting up Puppet on the Windows VM:

Generating eYAML Hiera Backend Encryption Keys: [OK]

Updating the Puppet Hiera YAML Files in the Windows VM: [OK]

Updating the Role in Puppet Site File for the Windows VM: [OK]

9. Specify the installation type.

Enter the PeopleSoft installation [PUM or FRESH] type [PUM]: **FRESH**

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

10. Specify the information for the database that you want to connect to.

a. Enter DB2ODBC for a DB2 for z/OS database platform.

Enter the PeopleSoft database platform [ORACLE]: **DB2ODBC**

b. Enter y (yes) if the database you are connecting to is a Unicode database, or n (no) for a non-Unicode database.

Is the PeopleSoft database unicode? [Y|n]:

c. Enter y (yes) if you want to install the files needed for multi-language support.

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

Do you want Multi Language support in PeopleSoft database? [y|N]:

d. Enter the database name.

Enter a new PeopleSoft database name. Ensure that the database name start with a letter and contains only uppercase letters and numbers and is no more than 8 characters in length [HCM92]:

e. Enter the name of the host where the database is installed, and the port number:

Use forward slashes if necessary. If the host name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "host.example.com". Do not enter an IP address.

Enter the PeopleSoft database host name:

Enter the PeopleSoft database port [1521]: **1521**

11. Enter the PeopleSoft Connect ID at the following prompt:

The default is people.

Enter the PeopleSoft database Connect ID [people]:

12. Enter a password for the PeopleSoft Connect ID, and enter again on the next line, at the following prompt.

See E-DPK Password restrictions are not reflected in the DPK setup script prompts, My Oracle Support, Doc ID 2639270.1.

Enter the PeopleSoft database Connect ID [people] password.

Ensure that the password meets the length and complexity requirements for your database platform:

Re-Enter the PeopleSoft Connect ID password:

13. Enter the PeopleSoft Operator ID (user ID) at the next prompt:

Enter the PeopleSoft database Operator ID [PS]:

14. Enter the password twice for the PeopleSoft operator ID, such as PS or VP1.

Enter a new PeopleSoft database Operator ID [PS] password.

Ensure that the password is between 1 and 32 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Operator ID password:

15. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

[Optional] Enter a new Application Server Domain connection password.

Ensure that the password is between 8 and 30 characters in length:

You may include these special characters !@#\$\$%^& :

Re-Enter the Application Server Domain connection password:

16. Enter the password for the PTWEBSEVER web profile user.

Enter a new PeopleSoft Web Profile user [PTWEBSEVER] password.

Ensure that the password is between 8 and 32 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Web Profile user password:

17. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

Enter a new WebLogic Server Admin user [system] password.

Ensure that the password is between 8 and 30 characters in length with at least one lowercase letter and one uppercase letter.

It must also contain one number or one of these special characters !@#\$\$%^& :

Re-Enter the WebLogic Server Admin user password:

Enter the Integration Gateway user ID and password at the following prompt.

The default user ID is administrator.

Enter the PeopleSoft Integration Gateway user [administrator]:

Enter the PeopleSoft Integration Gateway user [administrator] password.

Ensure the password is between 8 and 30 characters in length:

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Integration Gateway user password:

18. Enter the Integration Gateway keystore password.

You see this prompt beginning with PeopleSoft PeopleTools 8.58.04.

See the information on using the `integrationGateway.properties` file and configuring security in the Integration Broker product documentation.

See *PeopleTools: Integration Broker Administration*, "Configuring Security and General Properties."

Enter the PeopleSoft Integration Gateway Keystore password. Ensure the password is between 8 and 30 characters in length.

You may include these special characters `!@#$%^& :`

Re-Enter the PeopleSoft Integration Gateway Keystore password:

19. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

Are you happy with your answers? `[y|n]:`

20. Review the status messages as the script updates the Puppet YAML files with the user input.

Encrypting the Passwords in the User Data: `[ OK ]`

Updating the Puppet Hiera YAML Files with User Data: `[ OK ]`

21. Answer *n* (no) to indicate that you do not want to continue running the initialization script using the default configuration.

The script stops. Follow the instructions for using customizations for mid-tier connectivity to complete the mid-tier deployment.

See "Completing the DPK Initialization with Customizations."

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment.

Do you want to continue with the default initialization process? `[y|n]:` ⇒
n

You have decided not to continue with the default PeopleSoft environment setup process. Any customizations to the PeopleSoft environment should be done in the Hiera YAML file 'psft_customizations.yaml' and place it under `[c:\psft\dpk\puppet\production\data]` folder. After making the necessary customizations, run the following script to continue with the setup of PeopleSoft environment.

Start a cmd window as Administrator and run `C:\psft\psft_puppet_⇒
apply.cmd`

Exiting the PeopleSoft environment setup process.

The complete setup log is written to the file `psft_dpk_setup.log` in the same location as the DPK setup script.

Task 9-1-2: Running with the Mid-Tier Option on Linux, AIX, HP-UX, or Solaris as the Root User

If you are installing the PeopleSoft environment as a non-root user, see the following section, Running with the Mid-Tier Option on Linux, AIX, HP-UX, or Solaris as a Non-Root User.

To deploy mid-tier components on Linux, AIX, HP-UX, or Solaris hosts as the root user:

1. Open a terminal window and change directory to *DPK_INSTALL/setup*.
2. Run the script as follows:
 - If you extracted the first zip file into the same directory where you downloaded the zip files, use this command:


```
./psft-dpk-setup.sh --env_type midtier
```
 - If you extracted the first zip file into a different directory, include the option *dpk_src_dir* to specify the location of the downloaded zip files, such as *DPK_INSTALL*.


```
./psft-dpk-setup.sh --dpk_src_dir DPK_INSTALL --env_type midtier
```

Note. Running the DPK setup script with the `--env_type midtier` option deploys all servers. If you want to deploy one of the servers (application server, Process Scheduler server, PIA, or application server and Process Scheduler server) see the command options in the section Reviewing the DPK Setup Script Options.

3. Wait while the script locates the valid PeopleSoft DPK zip files and extracts them.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by [OK] or [FAILED].

After the script completes the extraction, it deletes the original files. Make a backup copy if you need to keep them.

See "Preparing for Installation," Understanding the PeopleSoft Installation Using Deployment Packages, for the filename syntax of the DPK zip files.

Starting the PeopleSoft Environment Setup Process:

```
Validating User Arguments:                [ OK ]
Validating PeopleSoft Supported Platform:  [ OK ]
```

4. Specify whether to install the Puppet software if necessary at the next prompt.

The script verifies if Puppet software is installed in the default location specified by the DPKs. If not, answer *y* (yes) to install the Puppet software and *n* to abort the PeopleSoft environment setup process. The default action (if nothing is entered at the prompt) is to install the software.

If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in *DPK_INSTALL/setup*.

```
Verifying if Puppet Software is Installed: [ OK ]
```

Puppet Software is not installed on the Host. If this Host is used to setup a PeopleSoft environment, Puppet Software should be Installed.

```
Do you want to Install Puppet Software on this Host? [Y|n]:
```

```
Installing Puppet Software on the Host: [ OK ]
```

The script verifies the eYAML software.

```
Verifying if eYAML Hiera Backend is Installed:          [ OK ]
```

The script verifies if the DPKs are available in *DPK_INSTALL*, and aborts with the message [FAILED] if they are not.

```
Checking if PeopleSoft DPKs are Present:              [ OK ]
```

5. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The directory */cs1/psft* is used in this example:

Note. When entering the path for the base directory, use forward slashes (/). For example, */cs1/psft*. If the name includes any non-alphanumeric characters such as periods, enclose the name in double quotes. Do not use a name for the base directory that begins with a number. Do not end the base directory name with a forward slash (for example, do not enter */ds1/psft/*).

The base directory is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This directory should be accessible on the Linux VM, must have write permissions and should have enough free space.

```
Enter the PeopleSoft Base Directory: /cs1/psft
Are you happy with your answer? [Y|n|q]:
```

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space.

Note. A mid-tier setup of a PeopleSoft environment takes about 25 GB of disk space.

```
Checking if the Base Directory has Enough Free Space:  [ OK ]
```

The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

- *BASE_DIR/dpk*

The script uses this directory to extract the archives from the PeopleSoft PeopleTools DPKs, and contains the Puppet YAML files for the deployment.

- *BASE_DIR/pt*

The script uses this directory to deploy PeopleSoft components.

- *BASE_DIR/db*

This directory is not used for this deployment.

6. Specify a writable directory for the user home directory at the following prompt.

You see this prompt beginning with PeopleSoft PeopleTools 8.58.04.

The PeopleSoft environment setup using DPKs creates local users on the host. These users deploy the PeopleSoft components and own the PeopleSoft runtime domains. Enter a new location to be used for creating the home directories for these local users, or specify the default home directory, */home*.

```
Enter a directory on the Linux VM that is writable [/home]: /ds1
Are you happy with your answer? [y|n|q]:
```

If the script finds that the location you enter (either a new location or the default) is not writable, it exits with

the following message.

```
The User does not have write permission to create the user's home
directory under [<user input>] on the Linux VM.
Exiting the PeopleSoft environment setup process.
```

7. Review the status messages as the script validates the files found in *DPK_INSTALL* and extracts the DPK archives.

The script carries out validations for the mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity.

```
Validating the PeopleSoft DPKs in the Linux VM:
[...]
Extracting the PeopleSoft DPK Archives in the Linux VM:
[...]
```

8. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host or VM. As part of this setup, if the eYAML files are installed, it will generate the encryption keys. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR/dpk*) and updates the YAML files to reflect the type of PeopleSoft environment setup.

```
Setting up Puppet on the Linux VM:
Generating eYAML Hiera Backend Encryption Keys:           [ OK ]
Updating the Puppet Hiera YAML Files in the Linux VM:     [ OK ]
Updating the Role in Puppet Site File for the Linux VM:    [ OK ]
```

9. Specify FRESH for the installation type.

```
Enter the PeopleSoft installation [PUM or FRESH] type [PUM]: FRESH
```

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

10. Specify the information for the database that you want to connect to.

- a. Enter DB2ODBC for a DB2 for z/OS database platform.

```
Enter the PeopleSoft database platform [ORACLE]: DB2ODBC
```

- b. Enter y (yes) if the database you are connecting to is a Unicode database, or n (no) for a non-Unicode database.

```
Is the PeopleSoft database unicode? [Y|n]:
```

- c. Enter y (yes) if you want to install the files needed for multi-language support.

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

```
Do you want Multi Language support in PeopleSoft database? [y|N]:
```

- d. Enter the database name.

Enter the PeopleSoft database name:

- e. Enter the name of the host where the database is installed, and the port number:

Use forward slashes if necessary. If the host name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "host.example.com". Do not enter an IP address.

Enter the PeopleSoft database host name:

Enter the PeopleSoft database port [1521]: **1521**

11. Enter the PeopleSoft Connect ID at the following prompt:

The default is people.

Enter a new PeopleSoft database Connect ID [people]:

12. Enter a password for the PeopleSoft Connect ID, and enter again on the next line, at the following prompt.

See E-DPK - Password restrictions are not reflected in the DPK setup script prompts, My Oracle Support, Doc ID 2639270.1

Enter a new PeopleSoft database Connect ID [people] password.

Ensure that the password meets the length and complexity requirements for your database platform:

Re-Enter the PeopleSoft Connect ID password:

13. Enter the PeopleSoft Operator ID (user ID):

Enter the PeopleSoft database Operator ID [PS]:

14. Enter the password twice for the PeopleSoft operator ID, such as PS or VP1.

Enter a new PeopleSoft database Operator ID [PS] password.

Ensure that the password is between 1 and 32 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Operator ID password:

15. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

[Optional] Enter a new Application Server Domain connection password.

Ensure the password is between 8 and 30 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the Application Server Domain connection password.

16. Enter the password twice for the PTWEBSEVER web profile user.

Enter a new PeopleSoft Web Profile user [PTWEBSEVER] password.

Ensure that the password is between 8 and 32 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Web Profile user password:

17. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.


```
Enter a new WebLogic Server Admin user [system] password.
Ensure that the password is between 8 and 30 characters in length
with at least one lowercase letter and one uppercase letter.
It must also contain one number or
one of these special characters !@#$$%^& :
Re-Enter the WebLogic Server Admin user password:
```

18. Enter the Integration Gateway user ID and password.

The default user ID is administrator.

```
Enter the PeopleSoft Integration Gateway user [administrator]:
Enter the PeopleSoft Integration Gateway user [administrator] password.
Ensure the password is between 8 and 30 characters in length.
You may include these special characters !@#$$%^& :
Re-Enter the PeopleSoft Integration Gateway user password:
```

19. Enter the Integration Gateway keystore password.

You see this prompt beginning with PeopleSoft PeopleTools 8.58.04.

See the information on using the integrationGateway.properties file and configuring security in the Integration Broker product documentation.

See *PeopleTools: Integration Broker Administration*, "Configuring Security and General Properties."

```
Enter the PeopleSoft Integration Gateway Keystore password. Ensure
the password is between 8 and 30 characters in length.
You may include these special characters !@#$$%^& :
Re-Enter the PeopleSoft Integration Gateway Keystore password:
```

20. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

```
Are you happy with your answers? [y|n]:
```

21. Review the status messages as the script updates the Puppet YAML files with the user input.

If eYAML files are installed, the passwords are encrypted and updated in the YAML file.

```
Encrypting the Passwords in the User Data:          [ OK ]
Updating the Puppet Hiera YAML Files with User Data: [ OK ]
```

22. Answer *n* (no) to indicate that you do not want to continue running the initialization script using the default configuration.

The script stops. Follow the instructions for using customizations for mid-tier connectivity to complete the mid-tier deployment.

See "Completing the DPK Initialization with Customizations."

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment.

```
Do you want to continue with the default initialization process? [y|n]: ⇒
n
```

You have decided not to continue with the default PeopleSoft environment setup process. Any customizations to the PeopleSoft environment should be done in the Hiera YAML file 'psft_customizations.yaml' and place it under [/cs1/psft/dpk/puppet/production/data] folder. After making the necessary customizations, run the following script to continue with the setup of PeopleSoft environment.

From the shell, run /cs1/psft/psft_puppet_apply.sh

Exiting the PeopleSoft environment setup process.
The PeopleSoft Environment Setup Process Ended.

23. Review the status messages as the script runs Puppet profiles to set up the PeopleSoft environment.

A message of [OK] indicates that the profile has been applied successfully while a message [FAILED] indicates that the profile application failed.

The script stops and exits the first time a profile application fails, and displays an error message. This example shows the error message after the first step failed:

Starting the Default Initialization of PeopleSoft Environment:

Setting Up System Settings: [FAILED]

The initialization of PeopleSoft environment setup failed. Check the log file [/cs1/DPK_INSTALL/setup/psft_dpk_setup.log] for the errors. After correcting the errors, run the following commands to continue with the setup of PeopleSoft environment.

From the shell, run /cs1/psft/psft_puppet_apply.sh

Exiting the PeopleSoft environment setup process.
The PeopleSoft Environment Setup Process Ended.

See "Completing the DPK Initialization with Customizations."

Upon successful completion, the DPK setup script displays the following message:

```
Starting the Default Initialization of PeopleSoft Environment:
Setting Up System Settings: [ OK ]
Deploying PeopleTools Components: [ OK ]
DSetting up PeopleSoft OS Users Environment: [ OK ]
Setting up PeopleSoft Application Server Domain: [ OK ]
Setting up PeopleSoft Process Scheduler Domain: [ OK ]
Setting up PeopleSoft PIA Domain: [ OK ]
Changing the Passwords for the Environment: [ OK ]
Configuring Pre-Boot PeopleSoft Environment: [ OK ]
Starting PeopleSoft Domains: [ OK ]
Configuring Post-Boot PeopleSoft Environment: [ OK ]
Setting up Source Details for PeopleTools Client: [ OK ]
The PeopleSoft Environment Setup Process Ended.
```

The complete setup log is written to the file psft_dpk_setup.log in the same location as the DPK setup script.

Task 9-1-3: Running with the Mid-Tier Option on Linux, AIX, HP-UX, or Solaris as a Non-Root User

If you are installing the PeopleSoft environment as a non-root user, ensure that you fulfill the prerequisites in the section Deploying as a Non-Root User on Linux, AIX, HP-UX, or Solaris.

To deploy mid-tier components on Linux, AIX, HP-UX, or Solaris hosts as a non-root user

1. Open a terminal window and change directory to *DPK_INSTALL/setup*.
2. Run the script as follows:
 - If you extracted the first zip file into the same directory where you downloaded the zip files, use this command:


```
./psft-dpk-setup.sh --env_type midtier
```
 - If you extracted the first zip file into a different directory, include the option `dpk_src_dir` to specify the location of the downloaded zip files, such as *DPK_INSTALL*.


```
./psft-dpk-setup.sh --dpk_src_dir DPK_INSTALL --env_type midtier
```

Note. Running the DPK setup script with the `--env_type midtier` option deploys all servers. If you want to deploy one of the servers (Application Server, Process Scheduler server, PIA, or application server and Process Scheduler server) see the command options in the section Reviewing the DPK Setup Script Options.

3. Answer y (yes) at the following prompt:

```
You are running DPK setup without root/administrator access.
This is fine as long as the system administrator has performed
all necessary tasks and all prerequisites have been met.
Please see the documentation to determine the prerequisite tasks
that need to be performed to successfully run DPK set up
without root/administrator privilege.
```

```
Would you like to proceed with the setup as a non-root user? [y/n]: y
```

4. Wait while the script verifies that the necessary PeopleSoft DPK zip files are available and that the Puppet software is installed.

The system displays messages indicating the steps in the setup process. The success or failure of each step is indicated by [OK] or [FAILED].

```
Validating User Arguments:                [ OK ]
Validating PeopleSoft Supported Platform:  [ OK ]

Verifying if Puppet Software is installed: [ OK ]
Verifying if eYAML Hiera Backend is Installed: [ OK ]

Checking if PeopleSoft DPKs are Present:   [ OK ]
```

5. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base directory.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The directory `/cs1/psft` is used in this example:

Note. When entering the path for the base directory, use forward slashes (/). For example, `/cs1/psft`. If the name includes any non-alphanumeric characters such as periods, enclose the name in double quotes. Do not use a name for the base directory that begins with a number. Do not end the base directory name with a forward slash (for example, do not enter `/ds1/psft/`).

The base directory is used to extract the PeopleSoft DPKs. It is also used to deploy the PeopleSoft components. This directory should be accessible on the Linux VM, must have write permissions and should have enough free space.

```
Enter the PeopleSoft Base Directory: /cs1/psft
Are you happy with your answer? [Y|n|q]:
```

The script validates if there is enough free space available under the specified base directory for the PeopleSoft environment. The PeopleSoft environment setup is aborted if there is not enough free space.

Note. A mid-tier setup of a PeopleSoft environment takes about 25 GB of disk space.

```
Checking if the Base Directory has Enough Free Space: [ OK ]
```

The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

- *BASE_DIR*/dpk
The script uses this directory to extract the archives from the PeopleSoft PeopleTools DPKs, and contains the Puppet YAML files for the deployment.
- *BASE_DIR*/pt
The script uses this directory to deploy PeopleSoft components.
- *BASE_DIR*/db
This directory is not used for this deployment.

6. Enter a writable directory with at least 10 GB available space for *PS_CFG_HOME*.

The default is *USER_HOME*/psft/pt/8.58, where *USER_HOME* is the home directory for the logged-in user. The *PS_CFG_HOME* directory holds the configuration and log files for the PeopleSoft Application Server, Process Scheduler, and PIA domains.

```
Enter a writable ps_config_home directory for PeopleSoft domains
with at least 10.0GB space [/home/psftuser/psft/pt/8.58]:
Are you happy with your answer? [Y|n|q]: y
```

7. Review the status messages as the script validates the files found in *DPK_INSTALL* and extracts the DPK archives.

The script carries out validations for the mid-tier deployment. If any of the validations fail, the PeopleSoft environment setup is aborted.

Note. The messages have been truncated for brevity.

```
Validating the PeopleSoft DPKs in the Linux VM:
[...]
Extracting the PeopleSoft DPK Archives in the Linux VM:
[...]
```

8. Review the status messages as the script sets up the Puppet file system.

The script sets up Puppet on the host or VM. As part of this setup, if the eYAML files are installed, it will generate the encryption keys. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR/dpk*) and updates the YAML files to reflect the type of PeopleSoft environment setup.

Setting up Puppet on the Linux VM:

```
Generating eYAML Hiera Backend Encryption Keys:          [ OK ]
Updating the Puppet Hiera YAML Files in the Linux VM:    [ OK ]
Updating the Role in Puppet Site File for the Linux VM:   [ OK ]
```

9. Specify FRESH for the installation type.

```
Enter the PeopleSoft installation [PUM or FRESH] type [PUM]: FRESH
```

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

10. Specify the information for the database that you want to connect to.

a. Enter DB2ODBC for a DB2 for z/OS database platform.

```
Enter the PeopleSoft database platform [ORACLE]: DB2ODBC
```

b. Enter y (yes) if the database you are connecting to is a Unicode database, or n (no) for a non-Unicode database.

```
Is the PeopleSoft database unicode? [Y|n]:
```

c. Enter y (yes) if you want to install the files needed for multi-language support.

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL*.

```
Do you want Multi Language support in PeopleSoft database? [y|N]:
```

d. Enter the database name.

```
Enter the PeopleSoft database name:
```

e. Enter the name of the host where the database is installed, and the port number:

Use forward slashes if necessary. If the host name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "host.example.com". Do not enter an IP address.

```
Enter the PeopleSoft database host name:
```

```
Enter the PeopleSoft database port [1521]: 1521
```

11. Enter the PeopleSoft Connect ID at the following prompt:

The default is people.

```
Enter a new PeopleSoft database Connect ID [people]:
```

12. Enter a password for the PeopleSoft Connect ID, and enter again on the next line, at the following prompt.

See E-DPK Password restrictions are not reflected in the DPK setup script prompts, My Oracle Support, Doc ID 2639270.1.

```
Enter a new PeopleSoft database Connect ID [people] password.
```

Ensure that the password meets the length and complexity requirements for your database platform :
 Re-Enter the PeopleSoft database Connect ID password:

13. Enter the PeopleSoft Operator ID (user ID):

Enter the PeopleSoft database Operator ID [PS]:

14. Enter the password twice for the PeopleSoft operator ID, such as PS or VP1.

Enter the PeopleSoft database Operator ID [PS] password.
 Ensure that the password is between 1 and 32 characters in length.
 You may include these special characters !@#\$\$%^& :
 Re-Enter the PeopleSoft database Operator ID password:

15. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

[Optional] Enter a new Application Server Domain connection password.
 Ensure that the password is between 8 and 30 characters in length:
 You may include these special characters !@#\$\$%^& :
 Re-Enter the Application Server Domain connection password.

16. Enter the password twice for the PTWEBSEVER web profile user.

Enter the PeopleSoft Web Profile user [PTWEBSEVER] password.
 Ensure that the password is between 8 and 32 characters in length:
 You may include these special characters !@#\$\$%^& :
 Re-Enter the PeopleSoft Web Profile user password:

17. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

Enter a new WebLogic Server Admin user [system] password.
 Ensure that the password is between 8 and 30 characters in length with at least one lowercase letter and one uppercase letter.
 It must also contain one number or one of these special characters !@#\$\$%^& :
 Re-Enter the WebLogic Server Admin user password:

18. Enter the Integration Gateway user ID and password.

The default user ID is administrator.

Enter the PeopleSoft Integration Gateway user [administrator]:
 Enter the PeopleSoft Integration Gateway user [administrator] password.
 Ensure that the password is between 8 and 30 characters in length:
 You may include these special characters !@#\$\$%^& :
 Re-Enter the PeopleSoft Integration Gateway user password:

19. Enter the Integration Gateway keystore password.

You see this prompt beginning with PeopleSoft PeopleTools 8.58.04.

See the information on using the integrationGateway.properties file and configuring security in the Integration

Broker product documentation.

See *PeopleTools: Integration Broker Administration*, "Configuring Security and General Properties."

Enter the PeopleSoft Integration Gateway Keystore password. Ensure the password is between 8 and 30 characters in length.

You may include these special characters !@#\$\$%^& :

Re-Enter the PeopleSoft Integration Gateway Keystore password:

20. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

Are you happy with your answers? [y|n]:

21. Review the status messages as the script updates the Puppet YAML files with the user input.

If eYAML files are installed, the passwords are encrypted and updated in the YAML file.

Encrypting the Passwords in the User Data: [OK]

Updating the Puppet Hiera YAML Files with User Data: [OK]

22. Answer *n* (no) to indicate that you do not want to continue running the initialization script using the default configuration.

The script stops. Follow the instructions for using customizations for mid-tier connectivity to complete the mid-tier deployment.

See "Completing the DPK Initialization with Customizations."

The bootstrap script is ready to deploy and configure the PeopleSoft environment using the default configuration defined in the Puppet Hiera YAML files. You can proceed by answering 'y' at the following prompt. And, if you want to customize the environment by overriding the default configuration, you can answer 'n'. If you answer 'n', you should follow the instructions in the PeopleSoft Installation Guide for creating the customization Hiera YAML file and running the Puppet 'apply' command directly to continue with the setup of the PeopleSoft environment.

Do you want to continue with the default initialization process? [y|n]: ⇒
n

You have decided not to continue with the default PeopleSoft environment setup process. Any customizations to the PeopleSoft environment should⇒
be

done in the Hiera YAML file 'psft_customizations.yaml' and place it⇒
under

[/cs1/psft/dpk/puppet/production/data] folder. After making the necessary customizations, run the following script to continue with the setup of PeopleSoft environment.

From the shell, run /cs1/psft/psft_puppet_apply.sh

Exiting the PeopleSoft environment setup process.

The PeopleSoft Environment Setup Process Ended.

23. Review the status messages as the script runs Puppet profiles to set up the PeopleSoft environment.

A message of [OK] indicates that the profile has been applied successfully while a message [FAILED]

indicates that the profile application failed.

The script stops and exits the first time a profile application fails, and displays an error message. This example shows the error message after the first step failed:

```
Starting the Default Initialization of PeopleSoft Environment:
```

```
Setting Up System Settings: [FAILED]
```

The initialization of PeopleSoft environment setup failed. Check the log file [/cs1/DPK_INSTALL/setup/psft_dpk_setup.log] for the errors. After correcting the errors, run the following script to continue with the setup of PeopleSoft environment.

```
From the shell, run /cs1/psft/psft_puppet_apply.sh
```

```
Exiting the PeopleSoft environment setup process.
The PeopleSoft Environment Setup Process Ended.
```

See "Completing the DPK Initialization with Customizations."

Upon successful completion, the DPK setup script displays the following message:

```
Starting the Default Initialization of PeopleSoft Environment:
Setting Up System Settings: [ OK ]
Deploying PeopleTools Components: [ OK ]
DSetting up PeopleSoft OS Users Environment: [ OK ]
Setting up PeopleSoft Application Server Domain: [ OK ]
Setting up PeopleSoft Process Scheduler Domain: [ OK ]
Setting up PeopleSoft PIA Domain: [ OK ]
Changing the Passwords for the Environment: [ OK ]
Configuring Pre-Boot PeopleSoft Environment: [ OK ]
Starting PeopleSoft Domains: [ OK ]
Configuring Post-Boot PeopleSoft Environment: [ OK ]
Setting up Source Details for PeopleTools Client: [ OK ]
The PeopleSoft Environment Setup Process Ended.
```

The setup.log is written to the file <USER_HOME>/psft_dpk_work/psft_dpk_setup_<PID>.log, where <USER_HOME> is the home directory for the user running the script, and <PID> is a process ID

Task 9-2: Completing Installation Tasks

After completing the installation process, be sure to go to the chapter "Completing the Installation." This chapter includes information on accessing the PeopleSoft environment, as well as post-installation steps.

It is important that you perform the tasks in the section Completing Post-Installation Steps that apply to your environment.

Chapter 10

Completing the Installation

This chapter discusses:

- Completing Post-Installation Steps
- Using the PeopleSoft Installation

Task 10-1: Completing Post-Installation Steps

This section discusses:

- Using Fluid User Interface
- Updating the Installation Table
- Setting Options for Multilingual Databases
- Updating PeopleTools Options
- Updating Time Zone Information
- Updating Database Information
- Building a New Encryption Key and Re-encrypting Passwords

Task 10-1-1: Using Fluid User Interface

When you sign in to your PeopleSoft application, you may see the PeopleSoft Fluid User Interface by default. To access the menu items, as seen in the classic user interface, from the PeopleSoft Fluid User Interface:

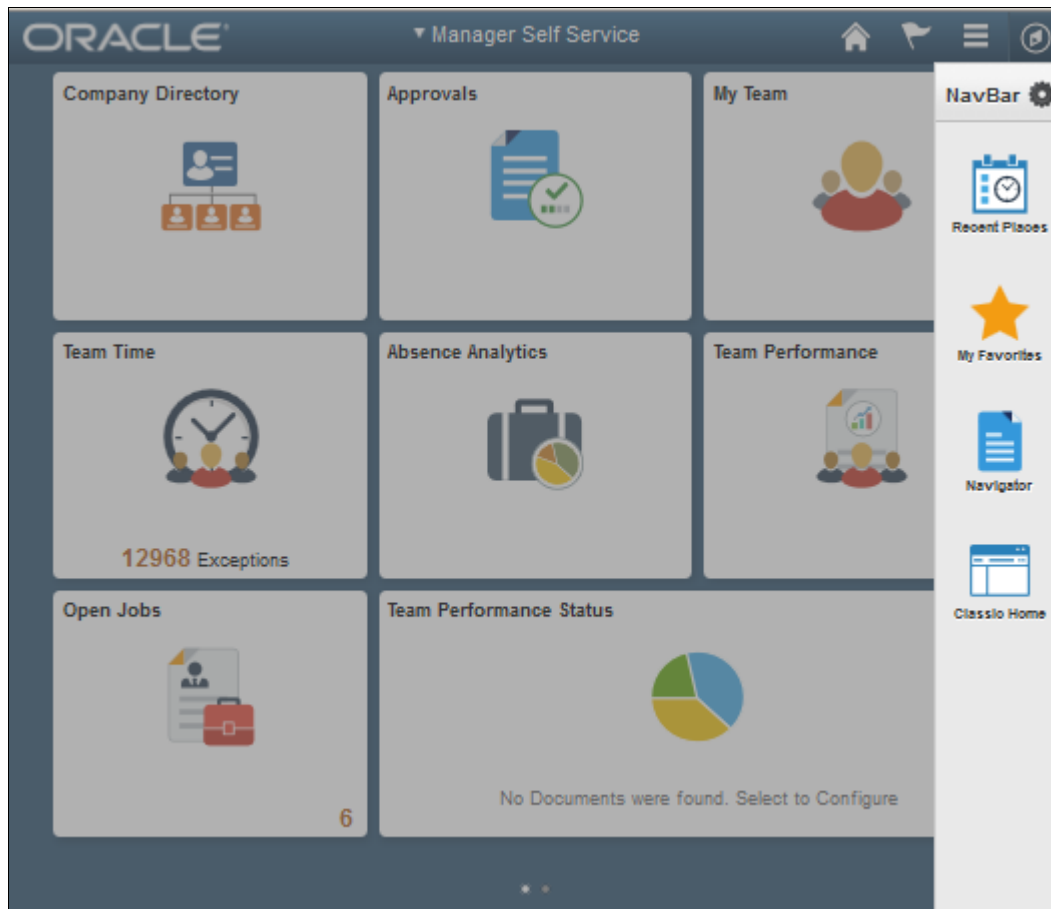
1. On the PeopleSoft Fluid User Interface, shown in this example, select (press) the NavBar button at the top right (diamond inside a circle).



PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

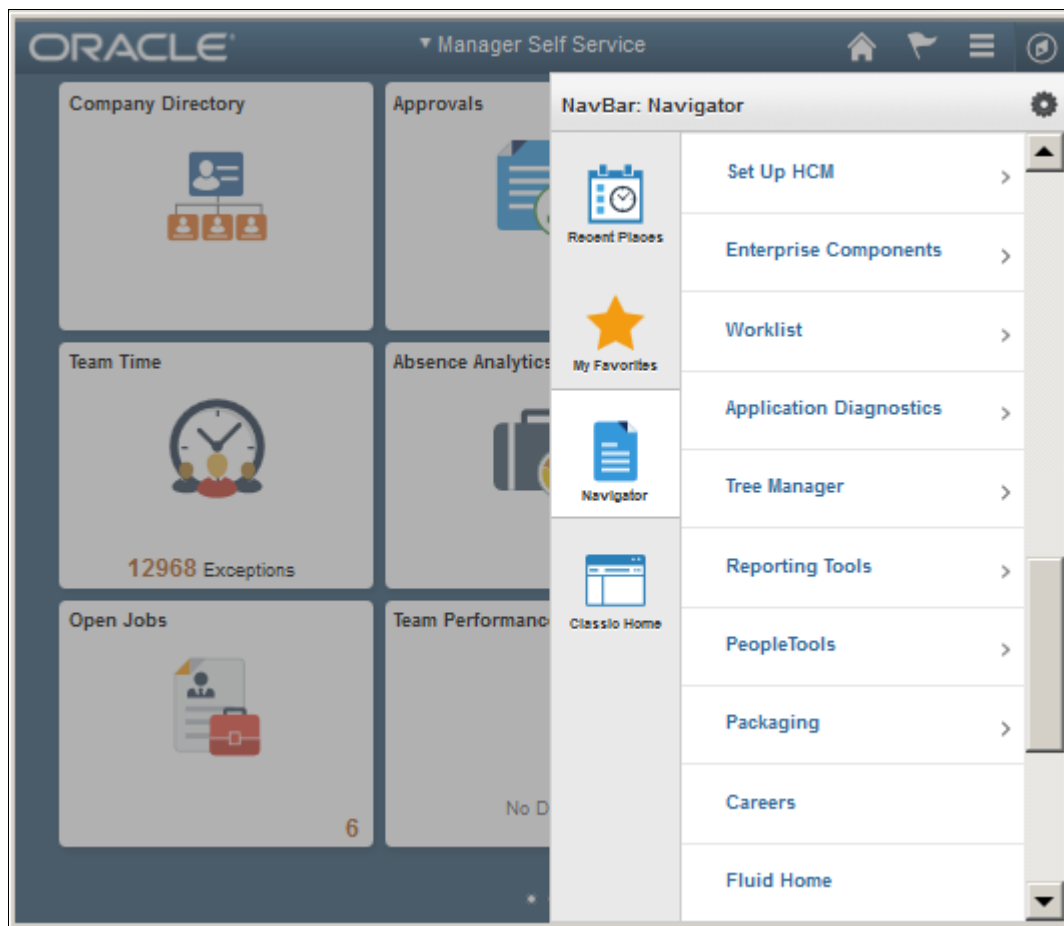
2. Select (press) Navigator.



NavBar side page

The menu structure appears.

3. Navigate to the desired item, such as Set Up HCM or PeopleTools.



Navigator side page with PeopleSoft menu items

See Also

PeopleTools: Applications User's Guide, "Working With Fluid Homepages"

PeopleTools: Fluid User Interface Developer's Guide

Task 10-1-2: Updating the Installation Table

After you complete the installation process, creating the database, installing the Application Server, and installing the PeopleSoft Pure Internet Architecture, you must complete this additional step. This post-installation step ensures that only the products you are entitled to use are active in the installation. The location of the installation table in the PeopleSoft system varies depending upon the PeopleSoft application that you installed.

Note. For information on the products you are entitled to use, contact your Oracle Support representative.

1. Sign on to the PeopleSoft system in a browser.
2. Select Set Up *Application_name* (where *Application_name* is the PeopleSoft application you installed), Install, Installation Table.
3. Select the Products tab.

4. Clear the check boxes for the products that you are not entitled to use.

Task 10-1-3: Setting Options for Multilingual Databases

Setting the Data Field Length Checking Option

The value to specify data field length checking must be set correctly in order for PeopleSoft applications to perform correctly in a browser. Use one of these methods to set the data field length checking option:

- Select PeopleTools > Utilities > Administration > PeopleTools Options, and select the Data Field Length Checking option from the drop-down list.

Verify that the option is set to Others, the default setting.

Note. The MBCS option is not supported for DB2 z/OS.

- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

Verify that the option is set to N, the default setting.

Note. The option M, for MBCS, is not supported for DB2 z/OS.

See *PeopleTools: Global Technology*, "Setting Data Field Length Checking."

See *PeopleTools: Global Technology*, "Selecting Character Sets."

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODE_ENABLED parameter in the PSSTATUS table is set correctly. For example:

- For non-Unicode databases, including those using the Shift-JIS character set for Japanese, set UNICODE_ENABLED=0.
- For Unicode databases, set UNICODE_ENABLED=1.

See the information on converting to Unicode in the *PeopleTools: Global Technology* product documentation.

Task 10-1-4: Updating PeopleTools Options

You can set the following options on the PeopleTools Options page:

- Multi-Currency — Select this check box if you plan to use currency conversion.

See *PeopleTools: Global Technology*, "Using System-Wide Multicurrency Settings."

- Base Time Zone — Enter a value for the base time zone for your PeopleTools database.

See *PeopleTools: Global Technology*, "Setting the Base Time Zone."

- Sort Order Option — If you specified a non-binary sort order for your database, choose the Sort Order Option that most closely approximates your database sort order.

See *PeopleTools: Global Technology*, "Setting the Sort Order."

Task 10-1-5: Updating Time Zone Information

Additional steps may be required to configure your time zone after you complete the installation.

See *PeopleTools: Global Technology*, "Maintaining Time Zones."

Task 10-1-6: Updating Database Information

The database information updated in this procedure is used by the PeopleSoft software update tools to identify your PeopleSoft database when searching for updates. These steps should be followed for all additional databases that you create to enable the accurate identification of your databases.

1. Sign on to your PeopleSoft database.
2. Navigate to PeopleTools, Utilities, Administration, PeopleTools Options.
3. Specify long and short names for your environment. For example:
 - Environment Long Name — Customer HR Demo Database
 - Environment Short Name — HR Demo DB
4. Select a system type from the drop-down list. For example, Demo Database.
5. Save your changes.

Task 10-1-7: Building a New Encryption Key and Re-encrypting Passwords

The PeopleTools installation includes a default encryption key (psvault), which is used to encrypt the passwords that you enter during the installation. For security reasons, create a new key after you complete the installation and use the new key to re-encrypt passwords included in your PeopleSoft environment files.

1. Use the PSCipher utility to build a new key.

See *PeopleTools: Security Administration*, "Generating a Unique Encryption Key."

For example, run the following command from `<PIA_HOME>/webserv/<DOMAIN_NAME>/piabin`:

Microsoft Windows

```
pscipher.bat -buildkey
```

```
Your environment has been set.
```

```
A new key of version {V2.2} is generated successfully
```

UNIX

```
./PSCipher.sh -buildkey
```

```
Your environment has been set.
```

```
A new key of version {V2.2} is generated successfully
```

2. Use the new key from step 1 to re-encrypt passwords that you supply as plain text.

See *PeopleTools: Security Administration*, "Using the PSCipher Utility."

3. Replace the existing encrypted values for the passwords in web server files with the newly created encrypted passwords.

Ensure that the password values begin with {V2.2}, which indicates the AES implementation. This table lists web server files and passwords to check.

See *PeopleTools: Security Administration*, "Understanding the Advanced Encryption Standard (AES) Implementation."

Location	File	Examples of Password Text
<PIA_HOME>\webserv\ <DOMAIN_NAME>\ applications\peoplesoft\PSIGW.war\ WEB-INF	integrationGateway.properties	- ig.isc.NODE_NAME.password={V2.2}XXXXXX - ig.isc.NODE_NAME.DomainConnectionPwd={V2.2}XXXXXX - Others as needed. There are several sections including passwords. Be sure to update all that apply to your environment.
<PIA_HOME>\webserv\ <DOMAIN_NAME>\ applications\peoplesoft\PSIGW.war\ WEB-INF	gatewayUserProfile.xml	<password>{V2.2}XXXXXX</password>
<PIA_HOME>\webserv\ <DOMAIN_NAME>\ applications\peoplesoft\PORTAL.war\ WEB-INF\psftdocs\<SITE_NAME>	configuration.properties	- KeyStorePwd={V2.2}XXXXXX - DomainConnectionPwd={V2.2}XXXXXX - WebUserId={V2.2}XXXXXX - WebPassword={V2.2}XXXXXX

4. After building the new key, copy psvault from the web server location to the application server location.

Copy from <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\properties.

Copy to <PS_HOME>\secvault.

Task 10-2: Using the PeopleSoft Installation

This section discusses:

- Accessing the PeopleSoft Environment
- Reviewing the Deployment File System

Task 10-2-1: Accessing the PeopleSoft Environment

To sign in to the deployed PeopleSoft environment in a browser (that is, use the PeopleSoft Pure Internet Architecture, or PIA), use a URL with this format:

http://<host_name>:<http_port>/<PIA_site_name>/signon.html

For example, for a deployment with the default port, 8000, and default PIA site name, ps, the URL would be <http://server1.example.com:8000/ps/signon.html>.

See the PeopleSoft Hosted Online Help, <http://www.peoplesoftonlinehelp.com>, for information on working with the components in a PeopleSoft installation.

Task 10-2-2: Reviewing the Deployment File System

The PeopleSoft installation deployed by the PeopleSoft DPKs sets up an environment comprised of several directories. This table lists the directories with the location, contents of the directory, and the owner.

Directory	Description	Default Location	Access
PS_HOME	<i>PS_HOME</i> is a secure location for the PeopleTools binary installation files.	<code><BASE_DIR>/pt/ps_home</code> <code><ptools_patch_ver></code> The descriptor <code><ptools_patch_ver></code> is the PeopleSoft PeopleTools full release, for example 8.58.01.	This directory can only be written to by the PeopleSoft administrator, psadm1 (Linux, AIX, HP-UX, or Solaris).

Directory	Description	Default Location	Access
PS_CFG_HOME	The <i>PS_CFG_HOME</i> location holds the configuration and log files for the PeopleSoft Application Server and Process Scheduler server domains.	- On Linux, AIX, HP-UX, or Solaris, when deploying as the root user, <i><USER_HOME>/psadm2/psft/pt/<ptools_major_ver></i>. You supply the location for the <i>USER_HOME</i> when you run the DPK setup script. The default value is /home. - On Linux, AIX, HP-UX, or Solaris, when deploying as a non-root user, <i><prompted_ps_cfg_home>/psft/pt/<ptools_major_ver></i>. You supply the location for <i>prompted_ps_cfg_home</i> when you run the DPK setup script. - On Microsoft Windows, <i>C:\%USERPROFILE%\psft\pt\<ptools_major_ver></i>. For example, if the <i>USERPROFILE</i> environment variable is <i>C:\Users\username</i>, the location is <i>C:\Users\username\psft\pt\8.58</i>. The descriptor <i><ptools_major_ver></i> is the PeopleSoft PeopleTools major release without patch numbers; for example, 8.58.	This directory is owned by psadm2 (Linux, AIX, HP-UX, Solaris).

Directory	Description	Default Location	Access
Web server (PIA) installation	The web server (PIA) configuration files are located in <i>PS_CFG_HOME</i> /webserv.	- On Linux, AIX, HP-UX, or Solaris, when deploying as the root user, <i><USER_HOME>/psadm2/psft/pt/<ptools_major_ver>/webserv</i> You supply the location for the <i>USER_HOME</i> when you run the DPK setup script. The default value is /home. - On Linux, AIX, HP-UX, or Solaris, when deploying as a non-root user, <i><prompted_ps_cfg_home>/psft/pt/<ptools_major_ver>/webserv</i> You supply the location for <i>prompted_ps_cfg_home</i> when you run the DPK setup script. - On Microsoft Windows, <i>C:\%USERPROFILE%\psft\pt\<ptools_major_ver>\webserv</i> For example, if the <i>USERPROFILE</i> environment variable is <i>C:\Users\username</i>, the location is <i>C:\Users\username\psft\pt\8.58\webserv</i>. The descriptor <i><ptools_major_ver></i> is the PeopleSoft PeopleTools major release without patch numbers; for example, 8.58.	This directory is owned by psadm2 (Linux, AIX, HP-UX, Solaris).
PS_APP_HOME	The <i>PS_APP_HOME</i> location holds the PeopleSoft application installation files.	<i>BASE_DIR/pt/<Product>_app_home</i> The descriptor <i><Product></i> is an abbreviation for the PeopleSoft application, such as hcm for PeopleSoft Human Capital Management	This directory can only be written to by psadm3 (Linux, AIX, HP-UX, or Solaris).

Directory	Description	Default Location	Access
ORACLE_HOME (Oracle RDBMS software)	This directory includes the Oracle RDBMS database server and client connectivity software, including the SQL*Plus program. The Oracle RDBMS client installation is the 64-bit client used by PeopleSoft PeopleTools to connect from the PeopleSoft Application Server and Process Scheduler domains to the PeopleTools Database. Note. The default listener port is 1521.	<i>BASE_DIR</i> /db/oracle-server	This directory is owned by user oracle2 (Linux, AIX, HP-UX, or Solaris).
Oracle WebLogic	This directory includes the installation files for the Oracle WebLogic web server. Note. The configuration files for the PIA domain are located in <i>PS_CFG_HOME</i>/websevr.	<i>BASE_DIR</i> /pt/bea/wlserver	This directory is owned by psadm1 (Linux, AIX, HP-UX, or Solaris).
Oracle Tuxedo	This directory includes the installation files for Oracle Tuxedo.	<i>BASE_DIR</i> /pt/bea/tuxedo	This directory is owned by psadm1 (Linux, AIX, HP-UX, or Solaris).

See Also

PeopleTools: System and Server Administration, "Securing PS_HOME and PS_CFG_HOME"

Chapter 11

Deploying the PeopleTools Client DPK

This chapter discusses:

- Deploying the PeopleTools Client DPK

Task 11-1: Deploying the PeopleTools Client DPK

This section discusses:

- Understanding the Standalone Mode Deployment
- Preparing for the PeopleTools Client DPK Deployment
- Deploying in Standalone Mode

Task 11-1-1: Understanding the Standalone Mode Deployment

Use the standalone mode (SA mode) deployment for the PeopleTools Client DPK when deploying the DPK alone, without first deploying the PeopleSoft application or PeopleSoft PeopleTools DPKs. Use this method, for example, when carrying out a PeopleTools-only upgrade, or to install Change Assistant or one of the other utilities.

Install the PeopleTools Client DPK on a Microsoft Windows host that is certified for PeopleTools client installation.

Use SA mode deployment for the following tasks:

- PeopleTools Upgrade

The deployment process installs a PeopleTools client *PS_HOME* that includes the directories needed for a PeopleSoft PeopleTools-only upgrade, such as data, projects, and scripts directories.

- PeopleTools Patch

The deployment process installs a PeopleTools client *PS_HOME* that includes the directories needed for a PeopleSoft PeopleTools patch application, such as the PTP directory.

See "Learning About the PeopleSoft Deployment Process," Reviewing the PeopleTools Patch DPKs.

- PeopleTools Client

The deployment process installs a PeopleTools client *PS_HOME*. Choose the deployment type "None of the above" for this deployment.

- Change Assistant installation

You can install Change Assistant as part of the PeopleTools Client deployment, or as a separate installation. The deployment process installs, but does not configure Change Assistant. To use Change Assistant for a PeopleSoft PeopleTools-only upgrade or to apply a PeopleSoft PeopleTools patch, you must configure Change Assistant manually. See the PeopleTools upgrade or patch documentation for information.

If there is an existing Change Assistant installation, the deployment process removes or upgrades it to the current release, and saves a configuration file with the existing setup.

- Change Impact Analyzer

You can install Change Impact Analyzer as part of the PeopleTools Client deployment, or as a separate installation.

- PeopleSoft Test Framework (PTF) installation

You can install PeopleSoft Test Framework as part of the PeopleTools Client deployment, or as a separate installation.

- PeopleSoft Test Framework (PTF) configuration

If you choose to configure PTF, the deployment process prompts you for setup parameters. You can configure PTF either at the same time that you install it or later. For example, you may choose to configure PTF separately if you install and configure it first, and then later the middle-tier components in your environment change. In this case, you do not need to install, but you can use the deployment process to reconfigure PTF.

- Configuration Manager

If you accept the option to configure the PeopleTools client, the information that you supply is used to configure Configuration Manager.

- The PeopleTools Client deployment installs Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries.

In addition to the Standalone Mode deployment described in this section, it is possible to deploy the PeopleTools Client in Update Manager mode, if you installed using the PUM installation type.

See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.59)*.

Task 11-1-2: Preparing for the PeopleTools Client DPK Deployment

To obtain and extract the PeopleTools Client DPK:

1. Go to the download location for the PeopleSoft PeopleTools DPKs, and download only the last zip file to a location known as *DPK_INSTALL* on a Microsoft Windows computer.
The last zip file, for example *Filename_4of4.zip*, is the PeopleSoft PeopleTools client DPK.
See Obtaining the PeopleSoft PeopleTools Patch DPKs, for the filename syntax of the DPK zip files.
2. Extract the downloaded zip file, which yields another zip file.
3. Extract the resulting zip file to a local or shared directory; for example C:\tools-client.

Task 11-1-3: Deploying in Standalone Mode

This section assumes that the user running the script has administrative permission.

To deploy the PeopleTools Client DPK in SA mode:

1. Verify that the Microsoft Windows folders options are set to show known file extensions.

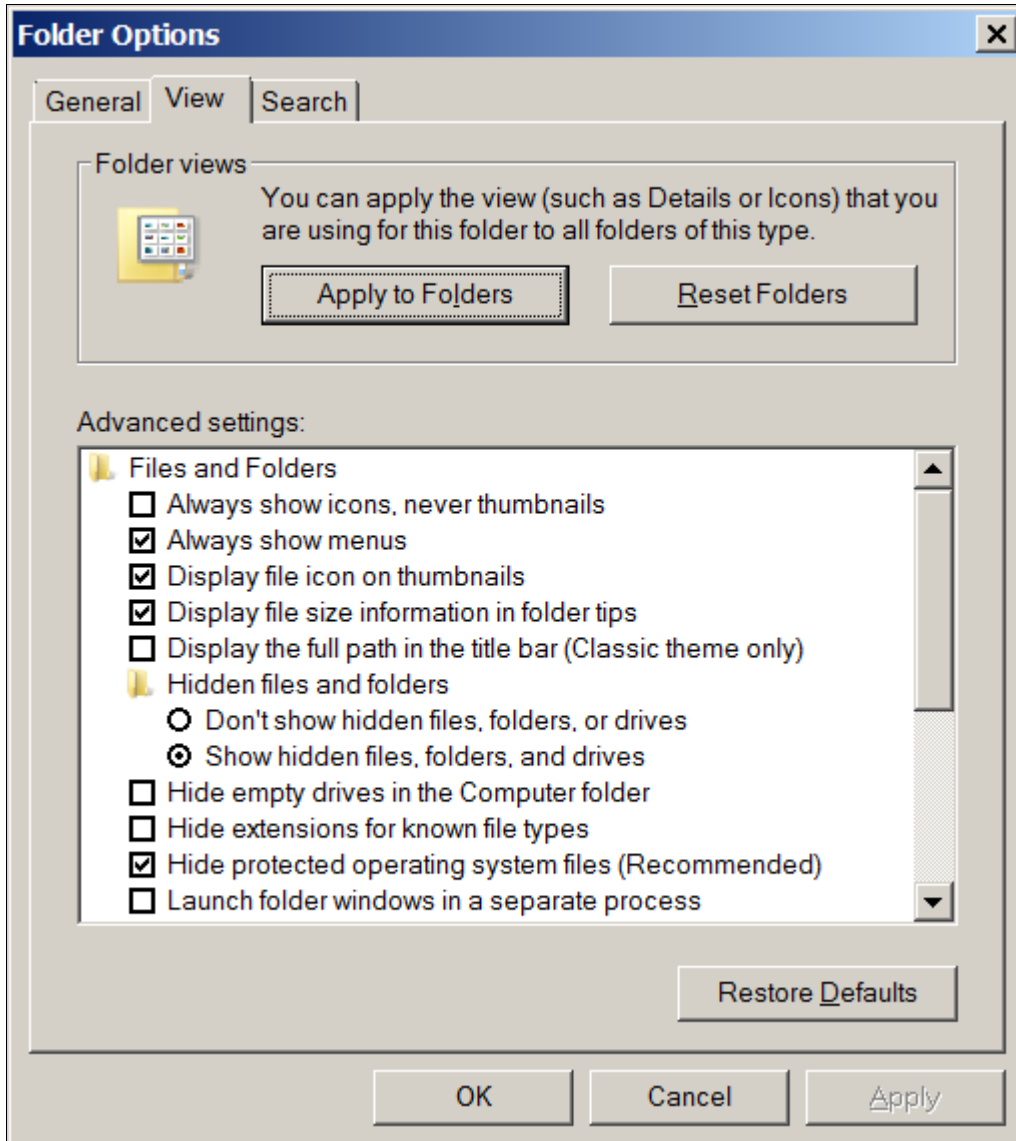
Hidden file extensions may interfere with the script. To show file extensions, for example:

- a. Open Windows Explorer and select Tools, Folder Options.

Note. Depending upon the Microsoft Windows operating system, you may use a different method to set the folder options.

- b. On the Folder Options dialog box, select the View tab.

- c. Verify that the check box for Hide extensions for known file types is not selected, as shown in this example:



Folder Options dialog box: View tab

- d. Click OK to close the box.
2. Open a command prompt, running as administrator, and change directory to the C:\tools_client folder. The tools_client folder includes various sub-folders, and the following files:

- SetupPTClient.bat

The interactive script that installs the PeopleSoft PeopleTools components such as Application Designer, Change Assistant, Change Impact Analyzer, and PeopleSoft Test Framework.

- readme.txt

3. Run the setup script with the following command:

```
SetupPTClient.bat -t
```

Note. If you see an error message similar to "The application has failed to start because its side-by-side configuration is incorrect," it indicates that your machine does not include the necessary Microsoft C++ runtime libraries. Go to the Microsoft Web site, locate the Microsoft Visual C++ redistributable package for your system, and install as directed.

- The setup script deploys to drive C by default. To deploy to a different drive, you can use the option `-d <drive>`:

```
SetupPTClient.bat -t -d E
```

This option installs all specified software (Change Assistant, Change Impact Analyzer, PeopleSoft Test Framework), installation and temporary directories, and log files to the specified drive, E:\ in this example. The drive can be any valid local or mapped shared drive.

- To enable logging, include the option `-l` in the command:

```
SetupPTClient.bat -t -l
```

4. Answer *y* (yes) at the following prompt to deploy the PeopleTools Client.

If you are running the script after having deployed the PeopleTools Client previously, and you want to install Change Assistant, Change Impact Analyzer, or PeopleSoft Test Framework without deploying the PeopleTools Client again, answer *n* (no), and continue with step 9.

```
***** SetupPTClient started at 11:42:38.91 *****
set logger to true
Do you want to deploy PeopleTools client? [Y/N]: y
```

5. Specify the RDBMS type for the PeopleTools Client that you want to deploy.

In this example, the RDBMS is option 3, DB2 for z/OS.

```
Please Select the Database Platform:
```

1. Oracle
2. Microsoft SQL Server
3. DB2 for zOS

```
Enter your choice [1-3] : 3
```

6. Specify the installation directory, referred to as PSHOME, for the PeopleTools Client, or press ENTER to accept the default directory, C:\PT<release_number>_Client_<database_type>, for example C:\PT8.58.02_Client_DB2.

```
Please specify the PSHOME for the PeopleTools Client
[C:\PT8.58.02_Client_DB2]:
```

7. Specify whether you want to supply configuration details at the following prompt.

```
Do you want to configure PeopleTools client? [Y/N]:
```

If you answer *n* (no), you do not want to configure the PeopleTools client, continue with step 9.

If you answer *y* (yes), specify the information for your environment at the following prompts:

```
Database Name: HCM92
Server Name: example.com
UserId: VP1
Connect ID: people
Connect Password:
Retype Connect Password:
```

Note. When you enter the password, the script does not echo the password or any masking characters as you type.

- Specify the database name and database server to connect to.
- The connect ID a valid database-level ID that the PeopleSoft system uses to make the initial connection to the database.
- For User ID, specify a PeopleSoft user ID, such as VP1 or PS, that has permission to access the database from the PeopleTools client, Application Designer, and so on.

8. Select the type of deployment at the following prompt:

See the definitions in Understanding the Standalone Mode Deployment.

Please make your selection for the Tools Client deployment:

1. People Tools Full Upgrade
2. People Tools Patch
3. None of the above

Enter your choice [1-3]:

9. Specify whether you want to install Change Assistant at the following prompt:

Do you want to install Change Assistant? [Y/N]:

If you answer y (yes), specify the installation directory, or accept the default, C:\Program Files\PeopleSoft\Change Assistant:

Please specify the directory to install Change Assistant
[C:\Program Files\PeopleSoft\Change Assistant]:

10. Specify whether you want to install Change Impact Analyzer at the following prompt:

Do you want to install Change Impact Analyzer? [Y/N]:

If you answer y (yes), specify the installation directory for Change Impact Analyzer, or accept the default, C:\Program Files\PeopleSoft\Change Impact Analyzer:

Please specify the directory to install Change Impact Analyzer
[C:\Program Files\PeopleSoft\Change Impact Analyzer]:

11. Specify whether you want to install PeopleSoft Test Framework at the following prompt:

Do you want to install PeopleSoft Test Framework? [Y/N]:

If you answer y (yes), specify the installation directory for PeopleSoft Test Framework, or accept the default, C:\Program Files\PeopleSoft\PeopleSoft Test Framework:

Please specify the directory to install PeopleSoft Test Framework
[C:\Program Files\PeopleSoft\PeopleSoft Test Framework]:

12. Specify whether you want to configure the PeopleSoft Test Framework at the following prompt:

Do you want to configure PeopleSoft Test Framework? [Y/N]:

If you answer y (yes), specify the information for your environment. For information on these parameters, see the PeopleTools Test Framework product documentation.

See *PeopleTools: Test Framework*, "Installing a PTF Client."

Database Name: **HCM92**

Server:Port: **example.com:443**

```
Node ID: node_name
User ID: VP1
Proxy [Y/N]: y
Proxy Server: proxyserver.com
Proxy Port: 5000
Proxy User: username
Proxy Password: *****
Retype Proxy Password: *****
```

13. Review the setup steps.

The messages you see depend upon your choices.

```
Starting Tools Client Deployment!
Deploying PeopleTools 8.58.02 Client in C:\PT8.58.02_Client_DB2
Configuring PeopleTools 8.58.02 Client
Deployment of PeopleTools Client Complete.
Tools Client Deployment Ended.
***** SetupPTClient ended at 11:35:08.91 *****
Please review C:\PeopleSoft\PTClientDeploy.log for additional⇒
information.
```

14. To review the log file for the setup process, go to %USERPROFILE%\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log.

For example, if the USERPROFILE environment variable is C:\Users\username, the log file location is C:\Users\username\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log.

Note. If you used the `-d <drive>` option to deploy to a drive other than drive C:\, the log file is found in `<drive>:\Users\<username>\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log` and creates the directory if it does not exist.

The PTClientDeploy.log file includes a record of each of the steps in the PeopleTools Client deployment process. If any of the steps fail, a detailed error or warning message will be written to the same log file.

Part II

Discretionary Installation

The second part of the installation guide includes optional tasks, tasks that are only required by certain environments, and those that you may decide to defer until after the initial installation.

Chapter 12A

Installing and Compiling COBOL on Windows

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing to Install Visual COBOL on a New System
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Visual COBOL on Microsoft Windows
- Using the Micro Focus Visual COBOL Compiler on Microsoft Windows

Understanding COBOL

This chapter describes how to compile and link PeopleSoft COBOL batch programs, if necessary.

COBOL is not needed for PeopleSoft PeopleTools because the Process Scheduler is written in C++. In addition, COBOL is not required for PeopleSoft applications that contain no COBOL programs. See My Oracle Support for the details on whether your application requires COBOL.

The chapter includes instructions for the Micro Focus Visual COBOL compiler.

Warning! If your database server is DB2 for z/OS and your CCSID is not 37, you must read the CCSID discussion under Defining DB2 for z/OS Subsystem Configuration in the chapter "Preparing for Installation."

For information on %BINARYSORT, see the product documentation on sorting in *PeopleTools: Global Technology*.

For information on PeopleTools options and PSOPTIONS, see the product documentation on PeopleTools utilities in *PeopleTools: System and Server Administration*.

See Also

"Preparing for Installation," Installing Supporting Applications

PeopleSoft PeopleTools 8.58 Home Page, Installation and Upgrade, Micro Focus Visual COBOL, My Oracle Support, Doc ID 2602329.2

Using Visual COBOL with PeopleSoft, My Oracle Support, Doc ID 2523494.1.

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1.

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler, My Oracle Support, Doc ID 1211907.1.

PeopleTools Certifications - Suggested Fixes COBOL, My Oracle Support, (search for the article name and select the current release)

PeopleTools: Global Technology, "Understanding COBOL in a Unicode Environment"

PeopleTools: Global Technology, "Understanding Running COBOL in a z/OS Unicode Environment"

Prerequisites

Before you attempt to run COBOL from the command line you should do the following:

- Make sure the variable PS_SERVER_CFG points to a valid pspcrs.cfg file.
- Make sure %PS_HOME%\bin\server\winx86 is in your path. It should appear before %PS_HOME%\bin\client\winx86 if that also appears in the path.
- Before compiling COBOL, you must obtain and install Perl on the machine used to compile COBOL. Perl is used to perform conversions on COBOL source files. Make sure the Perl installation location is included in the system's PATH environment variable. Contact the Perl vendor for installation and reference documentation.

Task 12A-1: Preparing to Install Visual COBOL on a New System

If you try to install Micro Focus Visual COBOL products on a new (bare metal) Microsoft Windows system after you have installed the PeopleSoft image, the installer may fail with the following error:

"Error: Service Micro focus Directory server (mf_CCITCP2) failed to start. verify that you have sufficient privileges to start system services."

The issue occurs when the Visual COBOL program does not find the necessary Microsoft Visual Studio C++ Redistributable libraries.

The following steps assume that you have completed the installation of your PeopleSoft environment as described in this installation guide. The PeopleSoft installation process installs the x64 version of the Microsoft Visual C++ Redistributable for Visual Studio 2017.

1. Open the Windows Registry Editor.

For example, select Run from the Microsoft Windows Start menu and enter *regedit* in the Run dialog box.

2. Locate and rename the Registry entry
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\DevDiv\vc\Servicing\14.0 to
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\DevDiv\vc\Servicing\14.0.temp
3. Install your Micro Focus Visual COBOL product, following the instructions in this chapter.
4. Check the registry entry from step 2.

If necessary, rename the Registry entry
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\DevDiv\vc\Servicing\14.0.temp to
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\DevDiv\vc\Servicing\14.0

Task 12A-2: Preparing COBOL for a PeopleTools-only Upgrade

This section discusses:

- Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade

Task 12A-2-1: Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade

When performing a PeopleTools-only upgrade, if you have COBOL modules, recompile all PeopleSoft PeopleTools and PeopleSoft application COBOL programs, as explained in a later section.

See *Recompiling COBOL on Microsoft Windows*.

Ensure that the following COBOL runtime files in your *CBLBINX* directories match those of your Micro Focus Visual COBOL installation. The files are located in the *COBROOT\bin64* folder, where *COBROOT* refers to the Visual COBOL installation folder.

- *adis.dll*
- *cbldwinm.dll*
- *cblintm.dll*
- *cblprnt.dll*
- *cblrtsm.dll*
- *cblviom.dll*
- *csqsupp.dll*
- *fs.dll*
- *fsmgr.dll*
- *mffh.dll*
- *mfsqlsmf.dll*
- *odbcw64.dll*
- *oesqlebc.dll*
- *shell.dll*
- *cblxecm.exe*
- *cblxecwm.exe*
- *fs.exe*
- *fsclose.exe*
- *fsservice.exe*
- *mfsort.exe*
- *rebuild.exe*
- *run.exe*
- *runm.exe*
- *runw.exe*
- *runmw.exe*

You can also refer to this list if you need to copy the run-time system files manually.

See the information on the Run-time System Files to Ship in the Micro Focus Visual COBOL documentation.

Task 12A-3: Installing Micro Focus Visual COBOL on Microsoft Windows

This section discusses:

- Understanding Micro Focus Visual COBOL for Microsoft Windows
- Obtaining Micro Focus Visual COBOL Files from Oracle Software Delivery Cloud
- Managing Licenses for Micro Focus Visual COBOL for Microsoft Windows
- Installing Micro Focus Visual COBOL for Microsoft Windows

Understanding Micro Focus Visual COBOL for Microsoft Windows

Micro Focus® Visual COBOL® is a suite of products for developing, compiling, and debugging COBOL. You can select a product to integrate with your choice of integrated development environment (IDE).

Review the Visual COBOL documentation for an overview of the Micro Focus Visual COBOL products.

See Visual COBOL Brochure, https://www.microfocus.com/media/brochure/visual_cobol_brochure.pdf.

Micro Focus Visual COBOL 4.0 Patch Update 4.0 is the supported version for the current PeopleSoft PeopleTools release. You must install the base version of Visual COBOL 4.0 products for Microsoft Windows before installing Patch Update 4.0.

PeopleSoft PeopleTools supports the following Visual COBOL products for Microsoft Windows.

Use these guidelines in selecting a Visual COBOL product:

- Visual COBOL Build Tools for Windows.
 - Compiler and runtime
 - Install on systems to both compile and run COBOL programs.
 - Command-line tool.
 - Use this command-line tool for environments that do not require advanced editing and debugging functionality.
 - Visual COBOL Build Tools for Windows has a separate installer, but the documentation is included with that for Visual COBOL for Visual Studio 2017 or 2015.
- Visual COBOL for Visual Studio 2015
 - Compiler, runtime, and IDE integration
 - Install on systems to both compile and run COBOL programs.
 - Use Visual Studio 2015 for editing and debugging.
 - You are responsible for obtaining and installing Visual Studio 2015 separately.
- Visual COBOL for Visual Studio 2017
 - Compiler, runtime, and IDE integration
 - Install on systems to both compile and run COBOL programs.
 - Use Visual Studio 2017 for editing and debugging.

- You are responsible for obtaining and installing Visual Studio 2017 separately.
- Visual COBOL for Eclipse on Windows
 - Compiler, runtime, and IDE integration
 - Install on systems to both compile and run COBOL programs.
 - Use Eclipse for editing and debugging.
 - Micro Focus Eclipse is included as part of the installation.
- COBOL Server for Windows
 - Runtime only
 - Install on systems where you want to run compiled COBOL programs only.
 - The version of COBOL Server for Windows must be the same as or higher than that of the Visual COBOL program that you use to compile.
 - COBOL Server for Windows works with programs compiled with Visual COBOL products. You cannot use it as the runtime for programs that were compiled with Micro Focus Net Express.
 - COBOL Server for Windows cannot coexist with Visual COBOL for Visual Studio 2015, Visual COBOL for Visual Studio 2017, or Visual COBOL for Eclipse on Windows.

See Using Micro Focus Visual COBOL with PeopleSoft, My Oracle Support, Doc ID 2523494.1, <https://support.oracle.com/epmos/faces/DocumentDisplay?id=2523494.1>.

See Micro Focus Visual COBOL, <https://www.microfocus.com/products/visual-cobol/>.

See Micro Focus Visual COBOL Documentation web site, <https://www.microfocus.com/es-es/documentation/visual-cobol/>.

Task 12A-3-1: Obtaining Micro Focus Visual COBOL Files from Oracle Software Delivery Cloud

The Micro Focus Visual COBOL installation files are available on Oracle Software Delivery Cloud. At this point you may have already downloaded the necessary files. This section includes additional information on finding and using the files for Micro Focus Visual COBOL if necessary.

1. Log in to Oracle Software Delivery Cloud at <https://edelivery.oracle.com>.
2. Enter Micro Focus in the type-ahead search field, and select the download package for Micro Focus Visual COBOL.
3. Click Add to cart.
4. Select the link Checkout.
5. Click Continue.
6. Select the products that you want to download if necessary.

Note that you need both the base version and the patch update.

7. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
8. Click one of the filenames to download an individual zip file, or click Download to obtain all of the files listed.

Download both the base installation files and the patches.

The files include software and documentation. Save the zip files to a temporary directory on your local system. The directory where you save the zip files for both versions is referred to in this documentation as

VC_INSTALL. You must extract (unzip) each file on the platform for which it is intended. For example, if you download the zip file for Microsoft Windows, you must unzip it on Microsoft Windows to avoid problems.

Task 12A-3-2: Managing Licenses for Micro Focus Visual COBOL for Microsoft Windows

Oracle is the exclusive reseller of the Micro Focus Visual COBOL compiler for use with PeopleSoft applications. When a Micro Focus compiler is licensed from Oracle, licenses are provided for both the compiler and unlimited run-time. Request the permanent license files by sending an email to licensecodes_ww@oracle.com. Specify the Micro Focus product that you are licensing, and include your Company Name, Customer ID, and CSI number (if available).

You install the license in the Micro Focus License Administration tool. The Visual COBOL installation for the compiler or runtime software puts the Micro Focus License Administration tool in this location: C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT\cesadmintool.

After obtaining your license file from Oracle, see the Managing Licenses information in the Micro Focus documentation for the license installation options.

You can use a 30-day trial license from Oracle to evaluate the Visual COBOL compiler products, including the embedded runtime functionality. The trial license is active for 30 days from the first use. At the end of the 30-day period, you cannot use the products to compile or run COBOL programs. The trial licenses are available in the same Oracle Software Delivery Cloud download package as the Micro Focus Visual COBOL software.

Download the trial license file for your Visual COBOL product, as mentioned in the readme.txt included with the trial licenses. After you complete the installation of the Visual COBOL product, start the Micro Focus License Administration utility, and install the trial license. See the Micro Focus documentation on Managing Licenses for your Micro Focus product and release.

Task 12A-3-3: Installing Micro Focus Visual COBOL for Microsoft Windows

After downloading your Visual COBOL files from Oracle Software Delivery Cloud, locate the installation instructions in the Micro Focus documentation. Review the prerequisites, licensing information, and installation instructions.

1. Locate the documentation for the product you want to install from the Micro Focus web site.

See Visual COBOL 4.0 Patch Update 4 Documentation web site,
<https://www.microfocus.com/documentation/visual-cobol/visualcobol40pu4/>.

2. Review and fulfill the system requirements in the Micro Focus online documentation for the Visual COBOL product that you install.

- Prerequisites for Using Visual COBOL Build Tools for Windows in Micro Focus Visual COBOL 4.0 Visual Studio 2015 documentation

See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-1E501959-6331-4CE3-814C-7A2FCA4736DD.html>.

- Prerequisites for Using Visual COBOL Build Tools for Windows in Micro Focus Visual COBOL 4.0 Visual Studio 2017 documentation.

See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2017/GUID-1E501959-6331-4CE3-814C-7A2FCA4736DD.html>.

- Micro Focus Visual COBOL 4.0 for Visual Studio 2015, System Requirements,

See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-1F000B89-90DA-4E93-B29E-BF9BED28C063.html>.

- Micro Focus Visual COBOL 4.0 for Visual Studio 2017, System Requirements
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2017/GUID-1F000B89-90DA-4E93-B29E-BF9BED28C063.html>.
- Micro Focus Visual COBOL 4.0 for Eclipse (Windows), System Requirements
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/EclWin/GUID-28F91105-1188-40B7-AF41-CD5303CAA544.html>.
- For COBOL Server for Windows, see Micro Focus Visual COBOL 4.0 for Visual Studio 2015, System Requirements.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-1F000B89-90DA-4E93-B29E-BF9BED28C063.html>.

3. Install Visual COBOL.

- Installing Visual COBOL Build Tools for Windows
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-34DFF119-58A8-4C98-938F-2B72FCE0FE31.html>.
- Micro Focus Visual COBOL 4.0 for Visual Studio 2015, Installation
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-FACEF60F-BAE3-446C-B2B4-4379A5DF6D9F.html>.
- Micro Focus Visual COBOL 4.0 for Visual Studio 2017, Installation
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2017/GUID-FACEF60F-BAE3-446C-B2B4-4379A5DF6D9F.html>.
- Installing Micro Focus Visual COBOL 4.0 for Eclipse (Windows)
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/EclWin/GUID-6C2E928A-DE6C-4DBC-8F05-7816D71FAD9F.html>.
- COBOL Server Installation Options.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/VS2015/GUID-5342CB02-2439-446D-B304-7AA001B04382.html>.

Task 12A-4: Using the Micro Focus Visual COBOL Compiler on Microsoft Windows

This section discusses:

- Understanding Visual COBOL Compilation
- Compiling Visual COBOL on Microsoft Windows with PS_HOME and PS_APP_HOME
- Compiling Visual COBOL on Microsoft Windows with PS_HOME, PS_APP_HOME, and PS_CUST_HOME Setup
- Recompiling Visual COBOL on Microsoft Windows
- Setting Up the COBOL Server for Windows Runtime
- Defining the GNT and INT Files
- Distributing Visual COBOL Binaries

Understanding Visual COBOL Compilation

This section assumes that you are carrying out the compile process from your file server. (The COBOL compiler itself does not need to be on the file server, as long as the user can write to the file server and can link to the src and bin directories.) The recommended approach for the PeopleSoft installation is to use CBLBLD.BAT to compile all your COBOL source files at once. Another alternative is CBLMAKE.BAT, which you can use to compile selected COBOL files.

The way that you set up your installation environment determines how you compile COBOL. This section includes different procedures for the different installation environments, as follows:

- Installations with *PS_HOME* and *PS_APP_HOME*

The PeopleSoft Application software is installed to a *PS_APP_HOME* location that is outside of the PeopleSoft PeopleTools installation location, *PS_HOME*. If the *PS_APP_HOME* environment variable is defined and is different from *PS_HOME*, the COBOL build scripts behave differently under certain build options. Follow the instructions in these sections:

- Compiling COBOL on Microsoft Windows with *PS_HOME* and *PS_APP_HOME*
- Defining the GNT and INT Files
- Installations with *PS_HOME*, *PS_APP_HOME*, and *PS_CUST_HOME*

You have the option to place customized COBOL baseline sources into a location referenced by the environment variable *PS_CUST_HOME*.

The *PS_CUST_HOME* directory structure must replicate that of *PS_HOME* or *PS_APP_HOME*; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location.

For example, if the original location for the COBOL source files is *PS_APP_HOME*/src/cbl, place the customized files in *PS_CUST_HOME*/src/cbl.

If your environment includes customized files in a *PS_CUST_HOME* directory, as well as in *PS_HOME* and *PS_APP_HOME*, follow the instructions in these sections:

- Compiling COBOL on Microsoft Windows with *PS_HOME*, *PS_APP_HOME*, and *PS_CUST_HOME*
- Defining the GNT and INT Files

For those systems on which you only need to run COBOL, but do not need to compile it, you can install and configure the runtime product.

See Setting Up the COBOL Server for Windows Runtime.

Task 12A-4-1: Compiling Visual COBOL on Microsoft Windows with *PS_HOME* and *PS_APP_HOME*

This section discusses:

- Compiling with CBLBLD.BAT with *PS_HOME* and *PS_APP_HOME*
- Compiling with CBLMAKE.BAT with *PS_HOME* and *PS_APP_HOME*

This section assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

Compiling with CBLBLD.BAT with *PS_HOME* and *PS_APP_HOME*

The usage for running CBLBLD.BAT is:

```
cblbld <compile drive> <compile directory> [BUILD_option] [BUILD_home]
```

Substitute the appropriate values as follows:

- <compile drive>
Enter the drive letter for the drive containing the directory where the compile takes place.
- <compile directory>
Enter the directory where the compile takes place. Be sure to include a space between <compile drive> and <compile directory>.
- BUILD_option
The allowed values are nothing (blank), ASCII, EBCDIC, or Unicode.
BUILD_option refers to the encoding scheme of your PeopleSoft installation. This parameter is optional.
- BUILD_home
The allowed values are nothing (blank), PS_HOME or PS_APP_HOME.

Note. The values PS_HOME and PS_APP_HOME are case-insensitive.

BUILD_home refers to the directory from which the COBOL source files will be compiled.

This parameter is optional.

- If the option is PS_HOME, the COBOL source files placed under %PS_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled, and then copied to the target directory.
- If the option is PS_APP_HOME, the COBOL source files placed under %PS_APP_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled, and then copied to the target directory.
- If the option is blank, the COBOL source files under %PS_HOME%\src\cbl and COBOL source files under %PS_APP_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled one after another, and then copied to the target directory.

To compile COBOL sources on Microsoft Windows:

1. In a command prompt, set the environment variables described in this table:

Environment Variable	Purpose
PS_HOME	PeopleSoft PeopleTools home directory—that is, the drive letter and high-level directory where you installed PeopleSoft PeopleTools.
COBROOT	Drive letter and root directory of the COBOL compiler.
PS_APP_HOME	PeopleSoft Application home directory—that is, the drive letter and high-level directory where you installed the PeopleSoft Application software.

For example:

```
set PS_HOME=C:\PTcompile
set COBROOT="C:\Program Files\VisualCobol40"
set PS_APP_HOME=C:\HRcompile
```

2. Change directory to PS_HOME\setup:

```
cd %PS_HOME%\setup
```

3. Run CBLBLD.BAT, using one of these methods:

- To compile all the COBOL source files under your PeopleSoft application, that is, all PeopleSoft PeopleTools source files and all PeopleSoft Application source files, run this command:

```
cblbld <compile drive> <compile directory>
```

For example:

```
cblbld c: \temp\PTcompile
```

- To compile only PeopleSoft PeopleTools COBOL source files, run this command:

```
cblbld <compile drive> <compile directory> PS_HOME
```

For example:

```
cblbld c: \temp\PTcompile PS_HOME
```

- To compile only PeopleSoft Application COBOL source files, run this command:

```
cblbld <compile drive> <compile directory> PS_APP_HOME
```

For example:

```
cblbld c: \temp\HRcompile PS_APP_HOME
```

PeopleSoft PeopleTools COBOL compiled executables will be placed under the `<PS_HOME>\CBLBIN<X>` directory. PeopleSoft Application COBOL compiled executables will be placed under the `<PS_APP_HOME>\CBLBIN<X>` directory. CBLBIN<X> will be one of the following:

- CBLBINA if you are using ANSI encoding scheme
- CBLBINU if you are using Unicode encoding scheme
- CBLBINE if you are using EBCDIC encoding scheme

Note. If you chose the Unicode option while installing PeopleSoft software, the file UNICODE.CFG was created in the `PS_HOME/setup` directory. UNICODE.CFG automatically triggers the batch file CBL2UNI.BAT when you run CBLBLD.BAT. Another batch file, CBLRTCPY.BAT, copies DLL files that are needed for COBOL to run from the compiler directory identified by the `%COBROOT%` setting into the appropriate CBLBIN directory (CBLBINA or CBLBINU) when you run CBLBLD. These files can reside anywhere as long as they are in the path. You can run either of these BAT files independently from the command line (they reside in `PS_HOME\setup`). For CBLRTCPY.BAT you need to specify a target directory.

Compiling with CBLMAKE.BAT with PS_HOME and PS_APP_HOME

CBLBLD.BAT compiles all your COBOL source files at once, which can take a lot of time. CBLMAKE.BAT, in contrast, lets you employ one or more parameters to compile a specific COBOL source file or a selected group of COBOL source files. The procedure is slightly different depending upon whether the file that you want to compile is a PeopleSoft Application or PeopleSoft PeopleTools COBOL file. Both procedures are covered in this section.

The following table describes the various options for CBLMAKE.BAT.

Option	Purpose
Cblmake	Compiles all source

Option	Purpose
Cblmake all	Compiles all source
Cblmake EBCDIC	Compiles all source files for DB2 for z/OS
Cblmake PT*	Compiles all source files that start with PT
Cblmake PT* ALL	Compiles all source files that start with PT
Cblmake PT* INT	Generates INT files for all source files that start with PT
Cblmake PT* GNT	Generates GNT files for all source files that start with PT
Cblmake PT* EXE	Generates EXE files for all source files that start with PT
Cblmake PTPDBTST INT	Generates PTPDBTST.INT file
Cblmake PTPDBTST INT LIST	Generates PTPDBTST.INT and source listing file
Cblmake PTPDBTST GNT	Generates PTPDBTST.GNT file
Cblmake PTPDBTST EXE	Generates PTPDBTST.EXE file

To compile a PeopleSoft Application COBOL file with CBLMAKE.BAT:

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

See Compiling with CBLBLD.BAT with a PS_APP_HOME Setup.

3. Verify that the environment variable PS_compile_apps is set, as follows:

```
set PS_compile_apps=Y
```

Important! This variable setting is required for individual file compilation with CBLMAKE.BAT.

4. Make sure the compile directory, *<compile directory>*, exists, and that you have write permission to it. This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME\setup* directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_APP_HOME* directory to the compile directory:

```
cblsrc <source directory> <compile directory>
```

Here *<source directory>* is the drive and directory where the source resides (it should be the same as *PS_APP_HOME*), and *<compile directory>* is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_APP_HOME* and copy all the necessary files to the location where the compile process will take place, *c:\temp\HRcompile* in this example:

```
cblsrc %PS_APP_HOME% c:\temp\HRcompile
```

Note. The compile in the next step will generate a GNT file unless the exception file, CBLINT.XX already exists (the XX represents the Product ID). CBLINT.XX contains the list of files that need to be compiled to the INT file. Make sure the intended CBLINT.XX is located under *<compile directory>* before executing CBLMAKE.

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

For example, to compile a file named GPPDPRUN, run this command:

```
cblmake GPPDPRUN
```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate *<PS_APP_HOME>\CBLBIN<X>* directory (CBLBINA for ANSI, CBLBINU for Unicode, or CBLBINE for EBCDIC).

These examples use the ANSI encoding:

```
copy *.exe %PS_APP_HOME%\cblbina
copy *.gnt %PS_APP_HOME%\cblbina
copy *.int %PS_APP_HOME%\cblbina
```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (*.EXE and *.DLL) are present in the *<PS_APP_HOME>\CBLBIN<X>* directory.

If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

```
cblrtcpy %PS_APP_HOME%\cblbina
```

See Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade for the list of files.

The procedure to compile a PeopleSoft PeopleTools COBOL file with CBLMAKE.BAT is similar, but the environment variable PS_compile_apps must *not* be set.

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

See Compiling with CBLBLD.BAT with a PS_HOME and PS_APP_HOME.

3. Verify that the environment variable PS_compile_apps is *not* set, as follows:

```
set PS_compile_apps=
```

Important! Unsetting this environment variable is required for individual file compilation with CBLMAKE.BAT for PeopleSoft PeopleTools files.

4. Make sure the compile directory, *<compile directory>*, exists, and that you have write permission to it.
This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME\setup* directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_HOME* directory to the

compile directory:

```
cblsrc <source directory>    <compile directory>
```

where *<source directory>* is the drive and directory where the source resides (it should be the same as *PS_HOME*), and *<compile directory>* is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_HOME* and copy all the necessary files to the location where the compile process will take place, *c:\temp\PTcompile* in this example:

```
cblsrc %PS_HOME% c:\temp\PTcompile
```

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

For example, to compile a file named PTPDBTST, run this command:

```
cblmake PTPDBTST
```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate *<PS_HOME>\CBLBIN<X>* directory (CBLBINA for ANSI, CBLBINU for Unicode, or CBLBINE for EBCDIC).

These examples use the ANSI encoding:

```
copy *.exe %PS_HOME%\cblbina
copy *.gnt %PS_HOME%\cblbina
copy *.int %PS_HOME%\cblbina
```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (*.EXE and *.DLL) are present in the *<PS_HOME>\CBLBIN<X>* directory.

If they are not present, then you will have to run *%PS_HOME%\setup\cblrtcpy.bat* as follows:

```
cblrtcpy %PS_HOME%\cblbina
```

See Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade for the list of files.

Note. If you plan to use *cblmake.bat* to compile a single (or a set) of PeopleSoft PeopleTools or PeopleSoft Application COBOL program at the same time, it would be a good idea to use two different command prompts and two different compile directories—one for PeopleSoft PeopleTools COBOL programs and the other for the PeopleSoft Application COBOL programs. This avoids setting and unsetting the *PS_compile_apps* environment variable.

Task 12A-4-2: Compiling Visual COBOL on Microsoft Windows with PS_HOME, PS_APP_HOME, and PS_CUST_HOME Setup

This section discusses:

- Compiling with CBLBLD.BAT with PS_HOME, PS_APP_HOME, and PS_CUST_HOME
- Compiling with CBLMAKE.BAT with PS_HOME, PS_APP_HOME, and PS_CUST_HOME

This section assumes that you have set up a *PS_CUST_HOME* environment variable for customized COBOL source files.

Compiling with CBLBLD.BAT with PS_HOME, PS_APP_HOME, and PS_CUST_HOME

The usage for running CBLBLD.BAT is:

```
cblbld <compile drive> <compile directory> [BUILD_option] [BUILD_home]
```

Substitute the appropriate values as follows:

- <compile drive>
Enter the drive letter for the drive containing the directory where the compile takes place.
- <compile directory>
Enter the directory where the compile takes place. Be sure to include a space between <compile drive> and <compile directory>.
- BUILD_option
The allowed values are nothing (blank), ASCII, EBCDIC, or Unicode.
BUILD_option refers to the encoding scheme of your PeopleSoft installation. This parameter is optional.
- BUILD_home
The allowed values are nothing (blank), PS_HOME, PS_APP_HOME, or PS_CUST_HOME.

Note. The values PS_HOME, PS_APP_HOME, and PS_CUST_HOME are case-insensitive.

BUILD_home refers to the directory from which the COBOL source files will be compiled.

This parameter is optional.

- If the option is PS_HOME, the COBOL source files placed under %PS_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled, and then copied to the target directory.
- If the option is PS_APP_HOME, the COBOL source files placed under %PS_APP_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled, and then copied to the target directory.
- If the option is PS_CUST_HOME, the COBOL source files placed under %PS_CUST_HOME%\src\cbl will be copied to <compile drive>\<compile directory>, compiled, and then copied to the target directory.

To compile COBOL sources on Microsoft Windows:

1. In a command prompt, set the environment variables described in this table:

Environment Variable	Purpose
PS_HOME	PeopleSoft PeopleTools home directory—that is, the drive letter and high-level directory where you installed PeopleSoft PeopleTools.
PS_APP_HOME	PeopleSoft Application home directory—that is, the drive letter and high-level directory where you installed the PeopleSoft Application software.
PS_CUST_HOME	PeopleSoft Application customized home directory—that is, the drive letter and high-level directory containing your customized PeopleSoft COBOL programs.
COBROOT	Drive letter and root directory of the COBOL compiler.

For example:

```
set PS_HOME=C:\PTcompile
set COBROOT="C:\Program Files\Micro Focus\VisualCobol40"
set PS_CUST_HOME=C:\CUSTcompile
set PS_APP_HOME=C:\HRcompile
```

2. Change directory to *PS_HOME*\setup:

```
cd %PS_HOME%\setup
```

3. Run CBLBLD.BAT, using one of these methods:

- To compile all the COBOL source files under your PeopleSoft application, that is, all PeopleSoft PeopleTools source files, all PeopleSoft Application source files, and all customized PeopleSoft source files, run this command:

```
cblbld <compile drive> <compile directory>
```

For example:

```
cblbld c: \temp\PTcompile
```

- To compile only PeopleSoft PeopleTools and PeopleSoft Application COBOL source files, run this command:

```
cblbld <compile drive> <compile directory> PS_HOME
```

For example:

```
cblbld c: \temp\PTcompile PS_HOME
```

- To compile only customized PeopleSoft Application or PeopleSoft PeopleTools COBOL source files, run this command:

```
cblbld <compile drive> <compile directory> PS_CUST_HOME
```

For example:

```
cblbld c: \temp\CUSTcompile PS_CUST_HOME
```

Delivered (that is, non-customized) PeopleSoft PeopleTools and PeopleSoft Application COBOL compiled executables will be placed under the `<PS_HOME>\CBLBIN<X>` directory. Customized PeopleSoft Application or PeopleSoft PeopleTools COBOL compiled executables will be placed under the `<PS_CUST_HOME>\CBLBIN<X>` directory. CBLBIN<X> will be one of the following:

- CBLBINA if you are using ANSI encoding scheme
- CBLBINU if you are using Unicode encoding scheme
- CBLBINE if you are using EBCDIC encoding scheme

Compiling with CBLMAKE.BAT with PS_HOME, PS_APP_HOME, and PS_CUST_HOME

CBLBLD.BAT compiles all your COBOL source files at once, which can take a lot of time. CBLMAKE.BAT, in contrast, lets you employ one or more parameters to compile a specific COBOL source file or a selected group of COBOL files. The procedure is slightly different depending upon whether the file that you want to compile is a PeopleSoft Application, PeopleSoft PeopleTools, or customized COBOL source file. Both procedures are covered in this section.

Note. The options for CBLMAKE.BAT are defined in a table in the previous section Compiling with CBLMAKE.BAT with a `PS_APP_HOME` Setup.

To compile a customized COBOL file with CBLMAKE.BAT:

1. Open a command prompt window.
2. Verify that the `PS_HOME`, `COBROOT`, `PS_APP_HOME`, and `PS_CUST_HOME` environment variables are set, as previously defined.

See Compiling with CBLBLD.BAT with a `PS_CUST_HOME` Setup.

3. Verify that the environment variable `PS_compile_cust` is set, as follows:

```
set PS_compile_cust=Y
```

Important! This variable setting is required for individual file compilation with CBLMAKE.BAT.

4. Ensure that the compile directory, `<compile directory>`, exists, and that you have write permission to it. This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the `PS_HOME\setup` directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the `PS_CUST_HOME` directory to the compile directory:

```
cblsrc <source directory> <compile directory>
```

Here `<source directory>` is the drive and directory where the source resides (it should be the same as `PS_CUST_HOME`), and `<compile directory>` is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source files from `PS_CUST_HOME` and copy all the necessary files to the location where the compile process will take place, `c:\temp\CUSTcompile` in this example:

```
cblsrc %PS_CUST_HOME% c:\temp\CUSTcompile
```

Note. The compile in the next step will generate a GNT file unless the exception file, CBLINT.*XX* already exists (the *XX* represents the Product ID). CBLINT.*XX* contains the list of files that need to be compiled to the INT file. Make sure the intended CBLINT.*XX* is located under *<compile directory>* before executing CBLMAKE.

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

For example, to compile a file named GPPDPRUN, run this command:

```
cblmake GPPDPRUN
```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate *<PS_CUST_HOME>\CBLBIN<X>* directory (CBLBINA for ANSI, CBLBINU for Unicode, or CBLBINE for EBCDIC).

These examples use the ANSI encoding:

```
copy *.exe %PS_CUST_HOME%\cblbina
copy *.gnt %PS_CUST_HOME%\cblbina
copy *.int %PS_CUST_HOME%\cblbina
```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (*.EXE and *.DLL) are present in the *<PS_CUST_HOME>\CBLBIN<X>* directory.

If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

```
cblrtcpy %PS_CUST_HOME%\cblbina
```

See Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade for the list of files.

The procedure to compile a PeopleSoft PeopleTools COBOL file with CBLMAKE.BAT is similar, but the environment variable PS_compile_cust must *not* be set.

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

See Compiling with CBLBLD.BAT with a PS_HOME and PS_APP_HOME.

3. Verify that the environment variable PS_compile_cust is *not* set, as follows:

```
set PS_compile_cust=
```

Important! Unsetting this environment variable is required for individual file compilation with CBLMAKE.BAT for PeopleSoft PeopleTools files.

4. Make sure the compile directory, *<compile directory>*, exists, and that you have write permission to it.
This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME\setup* directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_HOME* directory to the compile directory:

```
cblsrc <source directory>    <compile directory>
```

Here <source directory> is the drive and directory where the source resides (it should be the same as *PS_HOME*), and <compile directory> is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_HOME* and copy all the necessary files to the location where the compile process will take place, *c:\temp\PTcompile* in this example:

```
cblsrc %PS_HOME% c:\temp\PTcompile
```

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

For example, to compile a file named PTPDBTST, run this command:

```
cblmake PTPDBTST
```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate <*PS_HOME*>\CBLBIN<*X*> directory (CBLBINA for ANSI, CBLBINU for Unicode, or CBLBINE for EBCDIC).

These examples use the ANSI encoding:

```
copy *.exe %PS_HOME%\cblbina
copy *.gnt %PS_HOME%\cblbina
copy *.int %PS_HOME%\cblbina
```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (*.EXE and *.DLL) are present in the <*PS_HOME*>\CBLBIN<*X*> directory.

If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

```
cblrtcpy %PS_HOME%\cblbina
```

See Preparing Micro Focus Visual COBOL for a PeopleTools-only Upgrade for the list of files.

Note. If you plan to use cblmake.bat to compile a single (or a set) of PeopleSoft PeopleTools or PeopleSoft Application COBOL program at the same time, it would be a good idea to use two different command prompts and two different compile directories—one for PeopleSoft PeopleTools COBOL programs and the other for the PeopleSoft Application COBOL programs. This avoids setting and unsetting the PS_compile_cust environment variable.

Task 12A-4-3: Recompiling Visual COBOL on Microsoft Windows

You always need to compile at installation, so you will only need to recompile COBOL in the following situations:

- You are installing PeopleSoft software for the first time.
- The supported COBOL compiler changes.
- You change the version of your RDBMS.
- You change the version of your operating system.
- You apply a PeopleSoft PeopleTools upgrade, patch, or fix.

You can recompile selected COBOL files by using CBLMAKE.BAT, or recompile all your COBOL source files by using CBLBLD.BAT.

Note. If you want to recompile all your COBOL, you can follow the appropriate procedure for compiling COBOL, as described earlier.

See Compiling COBOL on Microsoft Windows with PS_HOME and PS_APP_HOME, or Compiling COBOL on Microsoft Windows with PS_HOME, PS_APP_HOME, and PS_CUST_HOME.

Task 12A-4-4: Setting Up the COBOL Server for Windows Runtime

This section discusses:

- Understanding the COBOL Server for Windows Runtime
- Managing the COBOL Server for Windows Runtime License
- Setting Up the COBOL Server for Windows Runtime

Understanding the COBOL Server for Windows Runtime

For systems that will only run PeopleSoft application COBOL programs, where no compiling is needed, you can install the Visual COBOL runtime program only, COBOL Server for Windows. Typically, PeopleSoft application COBOL programs are run on PeopleSoft Application Server systems and PeopleSoft Process Scheduler systems.

Do not install the runtime program on the same system as the Visual COBOL development and integration program. The Visual COBOL development programs include a runtime program. On systems where you compiled the programs you do not need to install a separate runtime program. Be sure to obtain separate installation files and separate license files for COBOL Server for Windows.

Managing the COBOL Server for Windows Runtime License

The installation for the COBOL Server for Windows runtime software puts the Micro Focus License Administration tool in this location:

C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT\cesadmintool

After obtaining your license file from Oracle, see the Managing Licenses information in the Micro Focus documentation to install it for the COBOL Server for Windows.

Setting Up the COBOL Server for Windows Runtime

To set up the COBOL Server for Windows runtime:

1. Install Visual COBOL Build Tools for Windows, Visual COBOL for Visual Studio 2015, Visual COBOL for Visual Studio 2017, or Visual COBOL for Eclipse for Windows on the development system.
2. On the Visual COBOL development system, compile the PeopleSoft application COBOL files.

When CBLBLD.bat is run as part of the compilation process, it invokes CBLRTCPY.bat to copy the COBOL runtime .dll and .exe files, from the %COBROOT%\bin directory to PS_HOME\CBLBINX directory on the development system.

CBLBINX is CBLBINA, CBLBINE or CBLBINU, based on the compilation mode of ASCII, EBCDIC or Unicode respectively.

3. On the runtime system, install the runtime program, COBOL Server for Windows.
4. On the runtime system, install the license for COBOL Server for Windows.
5. Copy PS_HOME\CBLBINX from the development system to the runtime system.

See Distributing Visual COBOL Binaries.

6. On the runtime system, set the COBROOT environment variable to reference the installation location for COBOL Server for Windows; for example:

```
set COBROOT="C:\Program Files\CobolServer40"
```

7. On the runtime system, run CBLRTCPY.bat to copy the COBOL runtime .dll and .exe files, from the %COBROOT%\bin directory to the CBLBINX directories under *PS_HOME*, *PS_APP_HOME*, and (if necessary) *PS_CUST_HOME* (all locations on the runtime system).

Run the following commands and specify the location of the files that you copied in step 5.

```
PS_HOME\setup\cblrtcpy.bat PS_HOME\CBLBINX
PS_HOME\setup\cblrtcpy.bat PS_APP_HOME\CBLBINX
PS_HOME\setup\cblrtcpy.bat PS_CUST_HOME\CBLBINX
```

8. Start running the COBOL programs.

Task 12A-4-5: Defining the GNT and INT Files

By default, the compile generates a GNT file unless the exception file, CBLINT.XX already exists. CBLINT.XX contains the list of files that need to be compiled to the INT file.

Note. The INT exception file is sometimes needed to overcome Micro Focus execution error with GNT files.

For example, the exception file, CBLINT.PT, where *PT* represents PeopleTools, would contain the following information:

```
Call cblcrint <file name without file extension>
```

or:

```
Call cblcprint PTPDBTST
```

Task 12A-4-6: Distributing Visual COBOL Binaries

After you have compiled your COBOL, you must transfer it to the needed locations. The required action depends upon how you set up *PS_HOME*, *PS_APP_HOME*, and *PS_CUST_HOME*.

- Installations with *PS_HOME* and *PS_APP_HOME*

If you do not have a *PS_CUST_HOME* location with customized files:

1. Copy the contents of <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.
2. Copy the contents of <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.

- Installations with *PS_HOME*, *PS_APP_HOME*, and *PS_CUST_HOME*

If you have customized files in *PS_CUST_HOME*:

1. Copy the contents of <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.
2. Copy the contents of <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.

3. Copy the contents of <PS_CUST_HOME>\CBLBIN<X> (CBLBINA or CBLBINU) directory into <PS_CUST_HOME>\CBLBIN<X> (CBLBINA or CBLBINU) on your batch and application server machines.

Chapter 12B

Installing and Compiling COBOL on UNIX

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Visual COBOL on UNIX
- Using Micro Focus Visual COBOL Compiler on UNIX
- Installing IBM COBOL on IBM AIX
- Using the IBM COBOL Compiler on IBM AIX

Understanding COBOL

This chapter describes how to compile and link PeopleSoft COBOL batch programs, if necessary.

COBOL is not needed for PeopleSoft PeopleTools because the Process Scheduler is written in C++. In addition, COBOL is not required for PeopleSoft applications that contain no COBOL programs. See My Oracle Support for the details on whether your application requires COBOL.

The chapter includes instructions for Micro Focus Visual COBOL compiler and the IBM COBOL compiler for IBM AIX, sometimes referred to here as "IBM COBOL".

Warning! If your database server is DB2 for z/OS and your CCSID is not 37, you must read the CCSID discussion under Defining DB2 for z/OS Subsystem Configuration in the chapter "Preparing for Installation."

For information on %BINARYSORT, see the product documentation on sorting in *PeopleTools: Global Technology*.

For information on PeopleTools options and PSOPTIONS, see the product documentation on PeopleTools utilities in *PeopleTools: System and Server Administration*.

See Also

"Preparing for Installation," Installing Supporting Applications

PeopleSoft PeopleTools 8.58 Home Page, Installation and Upgrade, Micro Focus Visual COBOL, My Oracle Support, Doc ID 2602329.2

Using Visual COBOL with PeopleSoft, My Oracle Support, Doc ID 2523494.1.

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1.

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler, My Oracle Support, Doc ID 1211907.1.

PeopleTools Certifications - Suggested Fixes COBOL, My Oracle Support, (search for the article name and select the current release)

PeopleTools: Global Technology, "Understanding COBOL in a Unicode Environment"

PeopleTools: Global Technology, "Understanding Running COBOL in a z/OS Unicode Environment"

Prerequisites

Before you attempt to run COBOL from the command line you should make sure the variable PS_SERVER_CFG points to a valid pspres.cfg file.

Task 12B-1: Preparing COBOL for a PeopleTools-only Upgrade

When performing a PeopleTools-only upgrade, if you have COBOL modules, you must recompile all COBOL.

For Micro Focus Visual COBOL, recompile and relink all COBOL programs for PeopleSoft PeopleTools and PeopleSoft applications, as described in a later section.

See Using the Micro Focus Visual COBOL Compiler on UNIX.

Task 12B-2: Installing Micro Focus Visual COBOL on UNIX

This section discusses:

- Understanding Micro Focus Visual COBOL for UNIX
- Managing Licenses for Micro Focus Visual COBOL on UNIX
- Obtaining Micro Focus Visual COBOL Files from Oracle Software Delivery Cloud
- Installing Micro Focus Visual COBOL for UNIX

Understanding Micro Focus Visual COBOL for UNIX

Micro Focus Visual COBOL is a suite of products for developing, compiling, and debugging COBOL. You can select a product to integrate with your choice of integrated development environment (IDE).

Review the Visual COBOL documentation for an overview of the Micro Focus Visual COBOL products.

See Visual COBOL Brochure, https://www.microfocus.com/media/brochure/visual_cobol_brochure.pdf.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

Micro Focus Visual COBOL 4.0 Patch Update 4.0 is the supported version for the current PeopleSoft PeopleTools release. The patch update 4.0 is a full release for Linux or UNIX. You do not need to install version 4.0 first.

PeopleSoft PeopleTools supports the following Visual COBOL products for Linux or UNIX:

Use these guidelines in selecting a Visual COBOL product:

- Visual COBOL Development Hub for Linux or UNIX
 - Compiler and runtime
 - Install on systems to both compile and run COBOL programs.
- COBOL Server for Linux or UNIX
 - Runtime only
 - Install on systems where you want to run compiled COBOL programs.
 - The version of COBOL Server for Linux or UNIX must be the same as or higher than that of the Visual COBOL program that you use to compile.
 - COBOL Server for Linux or UNIX works with programs compiled with Visual COBOL products. You cannot use it as the runtime for programs that were compiled with Micro Focus Server Express.

See Using Micro Focus Visual COBOL with PeopleSoft, My Oracle Support, Doc ID 2523494.1,

<https://support.oracle.com/epmos/faces/DocumentDisplay?id=2523494.1>.

See Micro Focus Visual COBOL, <https://www.microfocus.com/products/visual-cobol/>.

Task 12B-2-1: Managing Licenses for Micro Focus Visual COBOL on UNIX

Oracle is the exclusive reseller of the Micro Focus Visual COBOL compiler for use with PeopleSoft applications. When a Micro Focus compiler is licensed from Oracle, licenses are provided for both the compiler and unlimited run-time. Request the permanent license files by sending an email to licensecodes_ww@oracle.com. Specify the Micro Focus product that you are licensing, and include your Company Name, Customer ID, and CSI number (if available).

You install the license in the Micro Focus License Administration tool. The Visual COBOL installation for the compiler or runtime software puts the Micro Focus License Administration tool in this location:

`/var/microfocuslicensing/bin/cesadmintool.sh`.

After obtaining your license file from Oracle, see the Managing Licenses information in the Micro Focus documentation for the license installation options.

You can use a 30-day trial license from Oracle to evaluate the Visual COBOL compiler products, including the embedded runtime functionality. The trial license is active for 30 days from the first use. At the end of the 30-day period, you cannot use the products to compile or run COBOL programs. The trial licenses are available in the same Oracle Software Delivery Cloud download package as the Micro Focus Visual COBOL software.

Download the trial license file for your Visual COBOL product, as mentioned in the `readme.txt` included with the trial licenses. After you complete the installation of the Visual COBOL product, start the Micro Focus License Administration utility, and install the trial license. See the Micro Focus documentation on Managing Licenses for your Micro Focus product and release.

Task 12B-2-2: Obtaining Micro Focus Visual COBOL Files from Oracle Software Delivery Cloud

The Micro Focus Visual COBOL installation files are available on Oracle Software Delivery Cloud. At this point you may have already downloaded the necessary files. This section includes additional information on finding and using the files for Micro Focus Visual COBOL if necessary.

1. Log in to Oracle Software Delivery Cloud at <https://edelivery.oracle.com>.
2. Enter Micro Focus in the type-ahead search field, and select the download package for Micro Focus Visual

COBOL.

3. Click Add to cart.
4. Select the link Checkout.
5. For the products that you want to download, select your operating system from the Platform/Languages drop-down list.
6. Click Continue.
7. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
8. Click one of the filenames to download an individual zip file, or click Download to obtain all of the files listed.

Download the installation files.

The files include software and documentation. Save the zip files to a temporary directory on your local system. The directory where you save the zip files for both versions is referred to in this documentation as `VC_INSTALL`. You must extract (unzip) each file on the platform for which it is intended. For example, if you download the zip file for Solaris, you must unzip it on Solaris to avoid problems.

Task 12B-2-3: Installing Micro Focus Visual COBOL for UNIX

After downloading your Visual COBOL files from Oracle Software Delivery Cloud, locate the installation instructions in the Micro Focus documentation. Review the prerequisites, licensing information, and installation instructions.

To select the compiler of choice, set the `COBDIR` environment variable to one of the compilers.

1. Locate the documentation for the product you want to install from the Micro Focus web site.
See Visual COBOL 4.0 Patch Update 4 Documentation web site,
<https://www.microfocus.com/documentation/visual-cobol/visualcobol40pu4/>.
2. Review and fulfill the system requirements in the Micro Focus online documentation for the Visual COBOL product that you install.
 - Micro Focus Visual COBOL 4.0 Development Hub for Linux or UNIX, System Requirements.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/DevHub/GUID-9B374744-8D70-48A6-AD4A-F3B6EC0D0B75.html>.
 - For COBOL Server for Linux or UNIX, see Micro Focus Visual COBOL 4.0 for Development Hub for UNIX, Overview of Deploying Your Applications.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/DevHub/GUID-415A668F-84E2-44BA-AA0C-0642DF1A9351.html>.
3. Install Visual COBOL.
 - Micro Focus Visual COBOL 4.0 Development Hub for Linux or UNIX, Installation.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/DevHub/GUID-5C9262D5-65FE-4B71-A118-04744582B265.html>.
 - COBOL Server Install Options.
See <https://www.microfocus.com/documentation/visual-cobol/vc40pu4/DevHub/GUID-5A31DC62-2778-4DCA-8A82-64AD5D1D3846.html>.

Task 12B-3: Using Micro Focus Visual COBOL Compiler on UNIX

This section discusses:

- Understanding Visual COBOL Compilation on UNIX
- Setting Environment Variables for Visual COBOL
- Modifying the Liblist64 File (for IBM AIX)
- Compiling Visual COBOL on UNIX with `PS_HOME` and `PS_APP_HOME`
- Compiling Visual COBOL on UNIX with `PS_HOME`, `PS_APP_HOME`, and `PS_CUST_HOME`
- Linking Visual COBOL
- Recompiling Visual COBOL on UNIX
- Setting Up the Visual COBOL Runtime

Understanding Visual COBOL Compilation on UNIX

You always need to compile your COBOL programs at installation time. After you set up your application or batch server, perform the steps discussed in this section.

Note. For situations that require compiling your COBOL programs after installation, see *Recompiling Visual COBOL on UNIX*.

You have two options for compiling:

- You can treat one application or batch server as your compile server, compile all your COBOL programs there, and then distribute cblbin from there to all other relevant servers. In this case, you would copy any patches and customizations to this designated server before carrying out the compile. You would also need to install the Visual COBOL runtime program on the other servers.
- The second option is to compile on all servers. In this situation, all servers would need a COBOL compiler, and you would need to copy any patches and customizations to all of these servers before carrying out the compile. In this case, you would install one of the Visual COBOL development programs, which include runtime capability, on all servers.

Note. You should have read/write access to the directory `PS_HOME/cblbin` to be able to compile the COBOL programs.

Note. To copy a compiled COBOL program from one UNIX server to another, they must be on the same operating system that the compile took place on. For example, if you compile on Oracle Solaris for the Application Server, and the Process Scheduler is on AIX, you cannot copy the compiled program (you will also need to compile on the AIX machine).

The way that you set up your installation environment determines how you compile COBOL. This section includes different procedures for the different installation environments, as follows:

- Installations with `PS_HOME` and `PS_APP_HOME`
As mentioned, for the current release, the PeopleSoft Application software is installed to a `PS_APP_HOME` location that is different from the `PS_HOME` location for PeopleSoft PeopleTools. For this installation follow the instructions in the section *Compiling COBOL on UNIX with `PS_HOME` and `PS_APP_HOME`*.
- Installations with `PS_HOME`, `PS_APP_HOME`, and `PS_CUST_HOME`.

You have the option to place customized COBOL baseline sources into a location referenced by the environment variable `PS_CUST_HOME`.

The `PS_CUST_HOME` directory structure must replicate that of `PS_HOME` or `PS_APP_HOME`; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location. For example, if the original location for the COBOL source files is `PS_APP_HOME/src/cbl`, place the customized files in `PS_CUST_HOME/src/cbl`.

If your environment includes customized files in a `PS_CUST_HOME` directory, follow the instructions in the section Compiling COBOL on UNIX with `PS_HOME`, `PS_APP_HOME`, and `PS_CUST_HOME`.

Task 12B-3-1: Setting Environment Variables for Visual COBOL

On your UNIX system, you need to log in and ensure the following environment variables are set appropriately. Alternatively, make sure the following environment variables are set in the `.profile` file in the user's home directory:

- `$COBDIR` must be set to the correct Micro Focus Visual COBOL installation.
For example, for the Visual COBOL Development Hub for UNIX compiler software:
`COBDIR=/products/mf/visualcobol_devhub_4.0;export COBDIR`
For example, for COBOL Server for Linux/UNIX runtime software:
`COBDIR=/products/mf/cobol_server_4.0;export COBDIR`
- `$COBDIR/lib` must be appended to `LD_LIBRARY_PATH`, `LIBPATH`, or `SHLIB_PATH`, whichever is appropriate for your platform.
`LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$COBDIR/lib; export LD_LIBRARY_PATH`
`LIBPATH=$LIBPATH:$COBDIR/lib; export LIBPATH`
`SHLIB_PATH=$SHLIB_PATH:$COBDIR/lib; export SHLIB_PATH`
- `$COBDIR/bin` must be appended to the `PATH`; for example:
`PATH=$PATH:$COBDIR/bin;export PATH`

To set the required PeopleSoft environment variables, source the script `psconfig.sh`. Enter the following command from the `PS_HOME` directory:

```
. ./psconfig.sh
```

Task 12B-3-2: Modifying the Liblist64 File (for IBM AIX)

If you are compiling Visual COBOL on AIX, modify the `liblist64` file as described here. Check My Oracle Support for additional information about modifications that need to be made in the `liblist64` file for Visual COBOL.

See My Oracle Support, Certifications.

To modify the `liblist64` file for AIX:

1. Change directory to `$COBDIR/lib`.
`cd $COBDIR/lib`
2. Add the following line to the `liblist` file:
`x:*:s!t:-lC`

The following listing shows where to make the changes (in bold font):

```
#          More emulation of cc (MUST be after MF/user libraries):
x:*:st:-L/usr/lib/threads
x:*:st:-lpthreads
x:*:s!t:-lc                <=== Add this line
x:*:s:-lc
```

Task 12B-3-3: Compiling Visual COBOL on UNIX with PS_HOME and PS_APP_HOME

This section assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

Use the shell script *pscbl.mak*, found in *PS_HOME/setup*, to do the PeopleSoft COBOL compilation. This table describes the allowed arguments for *pscbl.mak*:

Command	Description
<i>pscbl.mak</i>	Use this command, with no argument, to compile all the COBOL programs.
<i>pscbl.mak PS_HOME</i>	Use this argument to compile only the PeopleSoft PeopleTools COBOL programs.
<i>pscbl.mak PS_APP_HOME</i>	Use this argument to compile only the PeopleSoft Application COBOL programs.
<i>pscbl.mak <COBOL_PROGRAM></i>	Enter the name for a valid PeopleSoft PeopleTools or PeopleSoft Application COBOL program to compile a specific program.

If you specify any argument other than the ones mentioned above, you will get the following usage display message:

```
echo Correct usage of the program is:
echo 1. pscbl.mak
echo 2. pscbl.mak PS_HOME
echo 3. pscbl.mak PS_APP_HOME
echo 4. pscbl.mak PTPDBTST (or any tools/apps program, Note Peoplesoft=>
COBOL programs are 6, 7 or 8 characters long)
```

To compile COBOL programs on UNIX:

1. Set *PS_HOME* environment variable in the UNIX shell prompt from which you want to run the COBOL compile.

You can run *PS_HOME/psconfig.sh* with the following command to set the *PS_HOME* environment variable in the shell.

```
cd <PS_HOME>
. ./psconfig.sh
```

Verify if *PS_HOME* is set with this command:

```
$ echo $PS_HOME
$ /home/<user>/PTcompile
```

2. Set the PS_APP_HOME environment variable (PS_APP_HOME refers to the location where you have installed the PeopleSoft Application software) with this command:

```
PS_APP_HOME=/home/<user>/HRcompile; export PS_APP_HOME
```

3. Run pscbl.mak, using one of these methods:

- To compile all PeopleSoft COBOL programs, that is, those for PeopleSoft PeopleTools and PeopleSoft Application, run this command:

```
pscbl.mak
```

This will compile the programs that are under *PS_HOME/src/cbl* and *PS_APP_HOME/src/cbl*.

- To compile only PeopleSoft PeopleTools COBOL programs, run this command:

```
pscbl.mak PS_HOME
```

- To compile only PeopleSoft Application COBOL programs, run this command:

```
pscbl.mak PS_APP_HOME
```

- To compile a single COBOL program, run the command with the COBOL program name excluding the .cbl extension.

For example, for a PeopleSoft PeopleTools COBOL program PTPDBTST.CBL, or a PeopleSoft Application COBOL program GPPDPRUN.CBL, run:

```
pscbl.mak PTPDBTST
```

```
pscbl.mak GPPDPRUN
```

PeopleSoft PeopleTools compiled COBOL programs will be placed under the *PS_HOME\cblbin* directory.

PeopleSoft Application compiled COBOL programs will be placed under the *PS_APP_HOME\cblbin* directory.

Task 12B-3-4: Compiling Visual COBOL on UNIX with PS_HOME, PS_APP_HOME, and PS_CUST_HOME

This section assumes that you have set up a PS_CUST_HOME environment variable for customized COBOL source files.

To compile COBOL programs on UNIX:

1. Set PS_HOME environment variable in the UNIX shell prompt from which you want to run the COBOL compile.

You can run *PS_HOME/psconfig.sh* with the following command to set the PS_HOME environment variable in the shell:

```
cd <PS_HOME> . ./psconfig.sh
```

Verify if the PS_HOME environment variable is set with this command:

```
$ echo $PS_HOME $ /home/<user>/PTcompile
```

2. Set the PS_APP_HOME environment variable with this command:

```
PS_APP_HOME=/home/<user>/HRcompile; export PS_APP_HOME
```

3. Set the PS_CUST_HOME environment variable with this command:

```
PS_CUST_HOME=/home/<user>/CUSTcompile; export PS_CUST_HOME
```

4. To compile all the COBOL source under *PS_CUST_HOME* dynamically, issue the command:

```
./pscb1.mak PS_CUST_HOME
```

PeopleSoft PeopleTools compiled COBOL programs and PeopleSoft Application compiled COBOL programs will be placed under the *PS_CUST_HOME\cblbin* directory.

Task 12B-3-5: Linking Visual COBOL

Understanding Visual COBOL Linking

PSRUN is the PeopleSoft procedure that connects the COBOL batch programs with the RDBMS API.

PSRUNRMT is the PeopleSoft procedure that connects the remote COBOL programs with the RDBMS API.

Both PSRUN and PSRUNRMT are compiled uniquely for each platform and consist of modules provided with PeopleSoft software, the RDBMS platform, and the operating system.

You need to create the PSRUN and PSRUNRMT programs in the following situations:

- You are installing PeopleSoft software for the first time.
- Any COBOL programs have changed.
- The version of the RDBMS running the PeopleSoft system has changed.
- The COBOL compiler has changed.
- One of the C programs supplied with the PeopleSoft system has changed.

Note. The PeopleSoft system only supports dynamic linking of COBOL. Static linking is not an option.

Linking Visual COBOL Components on UNIX

To link Visual COBOL components on UNIX:

1. Change to the *PS_HOME/setup* directory:

```
cd $PS_HOME/setup
```

2. For dynamic linking, run:

```
./psrun.mak
```

The PSRUN.MAK script should return the UNIX prompt when done. If the compile completes without errors, the files PSRUN and PSRUNRMT will now exist in the *PS_HOME/bin* directory. If you encounter errors, check *PS_HOME/setup/psrun.err* and *PS_HOME/setup/psrunrmt.err*

Task 12B-3-6: Recompiling Visual COBOL on UNIX

You always need to compile at installation, so you will only need to recompile COBOL in the following situations:

- You are installing PeopleSoft software for the first time.
- The supported COBOL compiler changes.
- You change the version of your RDBMS.
- You change the version of your operating system.
- You apply a PeopleSoft PeopleTools upgrade, patch, or fix.

Note. Remember, you must always use your file server as the source repository for your COBOL. You should download any patches and apply any customizations to the file server, and disseminate them from there.

You can compile a *single* COBOL program dynamically by using this command syntax:

```
./pscb1.mak <PROGRAM NAME WITHOUT "cbl" EXTENSION>
```

For example, the following command compiles the lone file PTPDBTST.

```
./pscb1.mak PTPDBTST
```

Note. If you want to recompile all your COBOL, you can follow the appropriate procedure as described earlier.

See Compiling COBOL on UNIX with PS_HOME and PS_APP_HOME, or Compiling COBOL on UNIX with PS_HOME, PS_APP_HOME, and PS_CUST_HOME.

The compile should run without errors until it completes. After the script is complete, check the destination directories for the newly created files. They should have a length greater than zero as well as a current date and time stamp. You can find the files in the following locations:

- For environments with PS_HOME: PS_HOME/src/cbl/int, PS_HOME/src/cbl/lst, and PS_HOME/cblbin
For environments with PS_APP_HOME: PS_APP_HOME/src/cbl/int, PS_APP_HOME/src/cbl/lst, and PS_APP_HOME/cblbin
 - For environments with PS_CUST_HOME: PS_CUST_HOME/src/cbl/int, PS_CUST_HOME/src/cbl/lst, and PS_CUST_HOME/cblbin
-

Note. You can also use pscbl.mak PTP*** to compile all source files that start with PTP.

Task 12B-3-7: Setting Up the Visual COBOL Runtime

Understanding the Micro Focus Visual COBOL Runtime

For systems that will only run PeopleSoft COBOL programs, where no compiling is needed, you only need to install the Visual COBOL runtime program, COBOL Server for Linux or UNIX. Typically, PeopleSoft COBOL application programs are run on PeopleSoft Application Server systems and PeopleSoft Process Scheduler systems.

Do not install the runtime program on the same system as the Visual COBOL development and integration program, Visual COBOL Development Hub for Linux or UNIX. The Visual COBOL development programs include a runtime program. On systems where you compiled the development programs you do not need to install a separate runtime program.

Setting Up the Micro Focus Visual COBOL Runtime

To set up the Visual COBOL runtime:

1. Install Visual COBOL Development Hub for Linux or UNIX on the development system.
2. Compile the PeopleSoft COBOL application files on the Visual COBOL development system.

When you compile by running pscbl.mak, it copies the COBOL runtime files from the COBDIR/bin directory to PS_HOME/cblbin directory.

3. Install the COBOL Server for Linux or UNIX program on the runtime system.

4. Set the COBDIR and other environment variables as previously described on the runtime system.
Be sure to set the correct value for the runtime system. For example, for COBOL Server for Linux or UNIX runtime software:

```
COBDIR=/products/mf/cobol_server_4.0;export COBDIR
```


See Setting Environment Variables for Visual COBOL.
5. Copy *PS_HOME/cblbin* from the development system to the runtime system.
6. Link with *PS_HOME/setup/psrun.mak* and start running the compiled COBOL programs.

Task 12B-4: Installing IBM COBOL on IBM AIX

This section discusses:

- Understanding the IBM COBOL for AIX Installation
- Prerequisites
- Installing IBM COBOL for AIX v5.1.0.0

Understanding the IBM COBOL for AIX Installation

The IBM COBOL for AIX compiler version 5.1.0.0 is supported for the current PeopleSoft PeopleTools release. This section includes the installation of the IBM COBOL Compiler on IBM AIX.

Prerequisites

To install and use IBM COBOL for AIX 5.1.0.0, you must have the following:

- PeopleSoft PeopleTools
We recommend that you take the latest available PeopleSoft PeopleTools patch level. You should install PeopleSoft PeopleTools and your PeopleSoft application software before you compile the IBM COBOL for AIX source files.
- IBM COBOL for AIX version 5.1.0.0.
You must obtain IBM COBOL for AIX compiler from your IBM vendor. Obtain the installation documentation and review the information on system prerequisites and installation methods. The following instructions assume that you have the IBM installation files and installation documentation. Contact your IBM representative to obtain the software.
See IBM COBOL for AIX on the IBM web site, <https://www.ibm.com/us-en/marketplace/cobol-compiler-aix/>.
See IBM Knowledge Center, <https://www.ibm.com/support/knowledgecenter/>.
- The IBM COBOL compiler uses the system temporary space for some steps. Be sure the space is not full before beginning the compilation.
See Using the IBM COBOL Compiler on IBM AIX, Troubleshooting the IBM COBOL Compiler.

Task 12B-4-1: Installing IBM COBOL for AIX v5.1.0.0

This procedure assumes that you have obtained the installation file from IBM and installed the COBOL compiler and COBOL runtime components on your system.

See IBM Knowledge Center, COBOL for AIX, V5.1 Documentation,
https://www.ibm.com/support/knowledgecenter/SS6SGM_5.1.0/com.ibm.cobol51.aix.doc/welcome.html.

Task 12B-5: Using the IBM COBOL Compiler on IBM AIX

This section discusses:

- Setting Environment Variables for IBM COBOL
- Compiling COBOL on AIX with a PS_HOME Setup
- Troubleshooting the IBM COBOL Compiler
- Setting Up the IBM COBOL Runtime
- Removing the IBM COBOL Installation

Setting Environment Variables for IBM COBOL

Before compiling the IBM COBOL for AIX, or before installing the files on machines where the COBOL will be run, you must specify environment variables as described in this section. This procedure assumes that the installation directory for PeopleSoft PeopleTools is *PS_HOME*.

To set the environment variables for IBM COBOL for AIX, go to the PeopleSoft PeopleTools installation directory and source the *psconfig.sh* script:

```
cd <PS_HOME>
. ./psconfig.sh
```

This section includes different procedures depending upon how you set up your installation environment.

- *PS_HOME Setup*

If you installed the PeopleSoft PeopleTools and PeopleSoft Application software to *PS_HOME*, follow the instructions in the section Compiling COBOL on AIX with a PS_HOME Setup.

- *PS_CUST_HOME Setup*

For PeopleSoft PeopleTools 8.53 and later, you have the option to place customized COBOL baseline sources into a location referenced by the environment variable *PS_CUST_HOME*.

The *PS_CUST_HOME* directory structure must replicate that of *PS_HOME*; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location. If you set up a *PS_CUST_HOME* directory for your customized COBOL source files, follow the instructions in the section Compiling COBOL on AIX with a PS_CUST_HOME Setup.

See Also

"Preparing for Installation," Defining Installation Locations.

Task 12B-5-1: Compiling COBOL on AIX with a PS_HOME Setup

This section assumes that you have installed the PeopleSoft PeopleTools and PeopleSoft Application software to the *PS_HOME* directory, and that you do not have customized COBOL source files in a *PS_CUST_HOME* directory. In addition, this procedure assumes that you have set the environment variables as described in the previous section.

This section is only required for those who need to compile the COBOL sources, not for those who only need to run the compiled COBOL.

To compile the COBOL source files:

1. Change the directory to *PS_HOME/setup*; for example:

```
cd $PS_HOME/setup
```

2. Depending on the character encoding type that your installation uses, set the environment variable *PS_ENCODING*, as specified in this table:

Database Encoding	Command
ANSI	<code>export PS_ENCODING=ansi</code>
EBCDIC (DB2 z/OS only)	<code>export PS_ENCODING=ansi</code>
Unicode	<code>export PS_ENCODING=unicode</code>

Make sure that you are giving the correct value of this environment variable. You will receive errors if the wrong value of this environment variable is specified.

- If your setup includes the file *\$PS_HOME/setup/unicode.cfg*, indicating that the character encoding for your installation is Unicode, but you set the value of *PS_ENCODING* to *ansi* with the commands above, you will get the following error

```
pscbldm.mak : ERROR : <PS_HOME>/unicode.cfg EXISTS, but INCOMPATIBLE⇒
encoding of $PS_ENCODING was specified, EXITING!!!
```

- If your setup does not have the file *\$PS_HOME/setup/unicode.cfg*, indicating that the character encoding for your installation is non-Unicode, but you set the value of *PS_ENCODING* to *unicode*, you will get the following error

```
pscbldm.mak : ERROR : <PS_HOME>/setup/unicode.cfg does not EXIST,⇒
but INCOMPATIBLE encoding of $PS_ENCODING was specified, EXITING!!!
```

3. Use this command to compile:

```
./pscbldm.mak apps
```

The optional parameter *apps* determines the location of the work area where the compilation takes place. The allowed values and compilation location for PeopleSoft product lines are listed in this table:

Product Line	Apps Parameter	Location
PeopleSoft PeopleTools	pt (default)	<i>PS_HOME/sdk/cobol/pscbldpt/src</i>
Human Capital Management	hcm	<i>PS_HOME/sdk/cobol/pscbldhrms/src</i>
Financials/Supply Chain Management	fscm	<i>PS_HOME/sdk/cobol/pscbldfscm/src</i>

The compiled COBOL programs will be placed under *<PS_HOME>/CBLBIN_IBM<X>*.

<X> is A for ANSI or U for Unicode.

Note. If you see the following output during the compilation, you can ignore it:

```
Preprocessing COBOL files ls: 0653-341 The file *.cfg does not exist.
Preprocessing the file PSPBASCH.cbl Can't open input file
```

Task 12B-5-2: Troubleshooting the IBM COBOL Compiler

This section discusses:

- Understanding Troubleshooting for the IBM COBOL Compiler
- Reviewing Screen Output from pscblibm.mak
- Reviewing erroribm.lst
- Reviewing the LISTOUT.LST file
- Reviewing COBOL_PROGRAM.LST files
- Reviewing temporary space errors

Understanding Troubleshooting for the IBM COBOL Compiler

You can find the error and list files discussed in this section in the following locations, depending upon your installation setup:

- If *PS_CUST_HOME* is the same as *PS_HOME*, or *PS_CUST_HOME* is undefined, all error and list files mentioned here are placed in directories under *PS_HOME*.
- If *PS_CUST_HOME* is different from *PS_HOME*, and you compile PeopleSoft Application COBOL source files, the error and list files mentioned here are placed in directories under *PS_CUST_HOME*.

When compiling COBOL programs on AIX using the IBM COBOL compiler, compiler and linker informational messages are reported in the following locations:

- screen output from pscblibm.mak
- erroribm.lst
PS_HOME/setup/erroribm.lst
- LISTOUT.lst file
`<PS_HOME>/sdk/cobol/pscbl<APPS>/src/LISTOUT.lst`
`<APPS>` is the PeopleSoft product family, such as hcm.
 See Compiling COBOL on AIX with a *PS_HOME* Setup
- COBOL_PROGRAM.lst
`<PS_HOME>/sdk/cobol/pscbl<APPS>/lst/<COBOL_PROGRAM>.lst`

Initially, either review the screen output or the erroribm.lst file in *PS_HOME*/setup. The erroribm.lst file will contain the names of the programs that failed to compile. You can examine the file LISTOUT.lst to find the COBOL program names listed in erroribm.lst to review the cause of the failures. Then review the *COBOL_PROGRAM*.lst file to analyze the COBOL error in context of the COBOL source code. After you have corrected the compile or linker errors, you can simply start a complete re-compile.

Depending on the relevancy of the failing compiled modules to your project mission, you can decide to resolve all compile and linker errors or continue without the failed modules.

The programs PTPPSRUN and PTPPSRMT must be compiled correctly. If these programs do not compile correctly, none of the COBOL programs will run. These programs are located at *PS_HOME*/src/cbl/ibm/unix.

If these programs fail to compile, you will get the following errors:

```
./psclibm.mak : Error : Critical program PTPPSRUN did not compile
./psclibm.mak : Error : This error must be fixed prior to running any⇒
cobol programs...

./psclibm.mak : Error : Critical program PTPPSRMT did not compile
./psclibm.mak : Error : This error must be fixed prior to running any⇒
cobol programs via RemoteCall
```

Be sure to resolve the errors for these programs before proceeding.

Reviewing Screen Output from psclibm.mak

The screen output is the first place you should look to determine if there is a compilation or linking error. Errors including the phrase "fail to compile/link" will be displayed at the end of the screen output. For example:

```
./psclibm.mak: Error : The list of file(s) failed to compile/link.
CEPCROLL fail to compile/link
ENPBTRNS fail to compile/link
ENPMMAIN fail to compile/link
GLPJEDT2 fail to compile/link
SFPCRELS fail to compile/link
SFPREVAL fail to compile/link
./psclibm.mak : The list of file(s) that failed to compile/link can be⇒
found at /data1/home/easa/pt854/setup/erroribm.lst
./psclibm.mak : The compilation log is generated at /data1/home/easa⇒
/pt854/sdk/cobol/psclpt/src/LISTOUT.lst
./psclibm.mak : The compile listing of the COBOL programs can be seen at ⇒
/data1/home/easa/pt854/sdk/cobol/psclpt/lst
```

Reviewing erroribm.lst

The erroribm.lst file is located in the *PS_HOME*/setup directory, and contains a list of the programs that failed to compile. For example:

```
CEPCROLL fail to compile/link
ENPBTRNS fail to compile/link
ENPMMAIN fail to compile/link
GLPJEDT2 fail to compile/link
SFPCRELS fail to compile/link
SFPREVAL fail to compile/link
```

Reviewing the LISTOUT.LST file

The LISTOUT.lst file is located in the *<PS_HOME>/sdk/cobol/pscl<APPS>/src* directory and contains compiler and linker informational, warning and error messages.

For example, the following error is related to program PTPDBTST:

```
exec: /usr/bin/ld -b64 -bpT:0x100000000 -bpD:0x110000000 -bhalt:5 /lib⇒
/crt0_64.o -lg -bexport:/usr/lib/libg.exp -o PTPCURND PTPCURND.o -brtl -bE:⇒
```

```

symlist.
exp -lpthreads -ldl -lnsl -L/home/sphilli2/852-803-I1-AIX-ORAU-DEBUG/bin ->
lpcompat_ansi -lpssqlapi_ansi -lpsuser_ansi -lpspetssl -lpsora_ansi ->
lpscobnet_ansi -L/usr/lpp/cobol/lib -L/usr/lpp/SdU/vsam/lib -L/usr/lpp/SdU/sfs/lib -lcob2s -lsmrtlite -lC128 -lC -lc
unlink: PTPCURND.o
exec: /usr/lpp/cobol/bin/IGYCCOB2 -qtest -qdynam -qaddr(64),flag(w),trunc=>
(bin),arith(extend) -qADDR(64) PTPDBTST.cbl
PP 5724-V62 IBM COBOL for AIX 3.1.0 in progress ...
LineID Message code Library phase message text
      IGYLI0090-W 4 sequence errors were found in this program.
Messages Total Informational Warning Error Severe =>
Terminating
Printed: 1 1
LineID Message code Message text
      IGYSC0205-W Warning message(s) were issued during library phase=>
processing. Refer to the beginning of the listing.
      588 IGYPA3007-S "ZZ000-SQL-ERROR-ROUTINE" was not defined as a
      procedure-name. The statement was discarded.
Messages Total Informational Warning Error Severe =>
Terminating
Printed: 2 1 1
Suppressed: 6 6
End of compilation 1, program PTPDBTST, highest severity: Severe.
Return code 12
PTPDBTST fail to compile/link

```

Reviewing COBOL_PROGRAM.LST files

The COBOL_PROGRAM.lst files are located in `<PS_HOME>/sdk/cobol/pschl<APPS>/lst` directory and contain the compiler output for a specific program.

For example, a portion of the PTPDBTST.lst file contains this compilation error found for program PTPDBTST, where the ZZ000-SQL-ERROR-ROUTINE was not defined:

```

      588 IGYPA3007-S "ZZ000-SQL-ERROR-ROUTINE" was not defined as a=>
      procedure-name. The statement was discarded.
-Messages Total Informational Warning Error Severe =>
Terminating
0Printed: 2 1 1
0Suppressed: 6 6
-* Statistics for COBOL program PTPDBTST:
* Source records = 805
* Data Division statements = 213
* Procedure Division statements = 52

```

Reviewing temporary space errors

IBM COBOL compiler uses the system temporary space to do some steps of the compilation. Like other UNIX processes, the compiler may give errors when the system temporary space is full.

To avoid or correct this problem, clean up the system temporary space on your machine.

Here is a sample of errors seen during compilation, when the system temporary space (/tmp) was full in a development AIX machine:

```
pscbllibm.mak : Compiling EGPPRCTL.cbl ...
IGYDS5247-U   An error occurred while attempting to write a compiler work=>
file, "SYSUT7".
Compiler aborted with code 1247
IGYSI5258-U   Error removing WCode file.: A file or directory in the path=>
name does not exist.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path=>
name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer=>
to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path=>
name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer=>
to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path=>
name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer=>
to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path=>
name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer=>
to an open file.
```

Task 12B-5-3: Setting Up the IBM COBOL Runtime

This section discusses:

- Installing the IBM COBOL for AIX Runtime Files
- Setting Environment Variables for a PS_CUST_HOME Setup
- Configuring the Application Server Domain
- Configuring the Process Scheduler Domain

Installing the IBM COBOL for AIX Runtime Files

For those machines that only need to run the compiled COBOL files, you must have obtained the installation file from IBM and installed the cobol runtime components on your system. You do not need to install the compiler. You must also configure the PeopleSoft Application Server and Process Scheduler domains.

See Installing IBM COBOL on IBM AIX.

Setting Environment Variables for a PS_CUST_HOME Setup

This section applies to those installations in which:

- You have several Application Server or Process Scheduler domains.

- Each of those domains is going to be associated with a particular *PS_CUST_HOME* directory.

In this case it is a good idea to define *PS_CUST_HOME* in *PS_HOME/psconfig.sh*. For example, edit *psconfig.sh* to add this lines:

```
PS_CUST_HOME="/home/psft/CUSTcompile"; export PS_CUST_HOME
```

After making this change, you must source the *PS_HOME/psconfig.sh* file again.

This way you would not need to add the *PS_CUST_HOME* environment variable through the "Edit environment variable" Application Server and Process Scheduler administration menus in PSADMIN each time you create a new domain.

Configuring the Application Server Domain

This section assumes that you have created an Application Server domain, as described in the chapter "Configuring the Application Server on UNIX." The configuration and log files for application server domains reside in a directory referred to as *PS_CFG_HOME*.

See the information on working with *PS_CFG_HOME* in the *PeopleTools: System and Server Administration* product documentation.

Note. You must create a new domain to configure the environment for running IBM COBOLs. You will not be able to reuse an existing domain for the same.

To create and configure the Application Server domain:

- Go to the *PS_HOME/appserv* directory and run *psadmin*.
- When the menu appears, specify *1* for Application Server and press ENTER.
- Enter *2* for Create a Domain, and press ENTER.
- Specify the domain name. For example:

```
Please enter name of domain to create : HCM92
```

Note. If you have already set the environment variable *PS_CUST_HOME*, as explained in the section Setting Environment Variables for a *PS_CUST_HOME* Setup, you can skip the steps 5 through 10.

- On the Quick-configure menu, select *16*, Edit environment settings.
- If your *PS_CUST_HOME* is defined and is different from *PS_HOME*, carry out the following two steps:

Note. If *PS_CUST_HOME* is the same as *PS_HOME*, skip these two steps and continue with step 8.

- On the PeopleSoft Domain Environment Settings, select *2* to add environment variable.
- Enter *PS_CUST_HOME* as the name of the environment variable, and the installation directory where you installed the customized COBOL files as the value of the environment variable.

For example:

```
Enter name of environment variable: PS_CUST_HOME
Enter value: /home/psft/CUSTcompile
```

You will see an asterisk in front of the *PS_CUST_HOME* environment variables, indicating that these variables have not been saved.

- Specify *6* to save the environment variables.
- Press ENTER to continue at the following message:

Your changes have been saved.

Please be aware these changes will not take effect until you complete the domain configuration process.
Press Enter to continue...

9. Enter *q* for return to the previous menu.
10. On the Quick-configure menu, enter *15*, for Custom configuration.
11. Answer *n* (no) when asked if you want to change the values, until you see the section Remote Call.

```
Values for config section - RemoteCall
COBOL Platform=
RCCBL Redirect=0
RCCBL PRDBIN=%PS_HOME%\cblbin%PS_COBOLTYPE%
Do you want to change any values (y/n/q)? [n]: y
```

Enter *y* (yes) to make a change, as shown in this example.

12. Enter *IBM* as the COBOL platform and ignore the remaining options.

```
COBOL Platform [] : IBM
```

13. Answer *n* (no) when asked if you want to change any of the remaining sections.
14. Enter *1* to boot the domain.
15. Enter *1* for Boot (Serial Boot), or *2* for Parallel Boot.

Configuring the Process Scheduler Domain

To create and configure the Process Scheduler domain:

Note. You must create a new domain to configure the environment for running IBM COBOLs. You will not be able to reuse an existing domain for the same.

1. Go to the *PS_HOME/appserv* directory and run *psadmin*.
2. When the menu appears, specify *2* for Process Scheduler and press ENTER.
3. Enter *2* for Create a Domain.
4. Specify the domain name. For example:

```
Please enter name of domain to create : HCM92
```

Note. Domain names are case-sensitive and must be eight characters or less.

Note. If you have already set the environment variable *PS_CUST_HOME*, as explained in the section Setting Environment Variables for a *PS_CUST_HOME* Setup, you can skip the steps 5 through 10.

5. On the Quick-configure menu, select *7*, Edit environment settings.
6. If your *PS_CUST_HOME* is different from *PS_HOME*, carry out the following two steps.

Note. If *PS_CUST_HOME* is the same as *PS_HOME*, skip these two steps and continue with step 8.

- a. On the PeopleSoft Domain Environment Settings, select *2* to add an environment variable.
- b. Enter *PS_CUST_HOME* as the name of the environment variable, and the installation directory where you installed your PeopleSoft Application software as the value of the environment variable.

For example:

Enter name of environment variable: PS_CUST_HOME

Enter value: /home/psft/CUSTcompile

7. Enter 6 to save the environment variables.
8. Press ENTER to continue at the following message:
 Your changes have been saved.
 Please be aware these changes will not take effect until you complete⇒
 the domain configuration process.
 Press Enter to continue...
9. Enter *q* to return to the previous menu.
10. On the Quick-configure menu, enter 6, for Custom configuration.
11. Answer *n* (no) when asked if you want to change the values, until you see the section Remote Call.
 Values for config section - RemoteCall
 COBOL Platform=
 RCCBL Redirect=0
 RCCBL PRDBIN=%PS_HOME%\cblbin%PS_COBOLTYPE%
 Do you want to change any values (y/n/q)? [n]: **y**

 Enter *y* (yes) to make a change, as shown in this example.
12. Enter *IBM* as the COBOL Platform and ignore the remaining options.
 COBOL Platform [] : **IBM**
13. Answer *n* (no) when asked if you want to change any of the remaining sections.
14. Enter *1* to boot the domain.

Task 12B-5-4: Removing the IBM COBOL Installation

Before you remove the IBM COBOL compiler on IBM AIX, review the requirements in the IBM documentation. Follow the uninstalling instructions in the IBM COBOL for AIX installation guide.

See IBM Knowledge Center, COBOL for AIX v5.1 Documentation,
https://www.ibm.com/support/knowledgecenter/SS6SGM_5.1.0/com.ibm.cobol51.aix.doc/welcome.html.

Chapter 13

Installing Web Server Products

This chapter discusses:

- Installing Oracle WebLogic Server

Task 13-1: Installing Oracle WebLogic Server

This section discusses:

- Understanding the Oracle WebLogic Installation
- Reviewing Troubleshooting Tips
- Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud
- Installing JDK
- Installing Oracle WebLogic on Microsoft Windows
- Installing Oracle WebLogic on UNIX in Silent Mode
- Configuring JDK for Daylight Savings Time Change
- Removing the Oracle WebLogic Installation on Microsoft Windows
- Removing the Oracle WebLogic Installation on UNIX

Understanding the Oracle WebLogic Installation

PeopleSoft PeopleTools 8.58 supports Java 8 enabled 64-bit Oracle WebLogic Server 12.2.1.3.0. You must install an operating-system specific Java Developers Kit (JDK) before beginning the Oracle WebLogic installation.

See Installing JDK for Oracle WebLogic.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

This section describes a traditional installation of Oracle WebLogic. When you use the PeopleSoft DPKs for either a full-tier installation using the PeopleSoft Application Images or for a mid-tier installation using the PeopleTools DPKs, Oracle WebLogic is installed as part of the installation, and you do not need to carry out the separate installation in this section. If you choose to install Oracle WebLogic independently of the DPK installation, you can obtain installation files for Oracle WebLogic on the Oracle Software Delivery Cloud portal and use the steps in this section.

See Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud.

Note that to use a separate Oracle WebLogic installation with a DPK deployment, you must use customizations to specify the Oracle WebLogic installation location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for Component Software Locations.

To familiarize yourself with the most current support information and information about any required Oracle WebLogic service packs based on operating system platform or PeopleSoft PeopleTools versions, consult the Certifications area of My Oracle Support.

See Also

Oracle Software Delivery Cloud, <http://edelivery.oracle.com>

My Oracle Support, Certifications

Clustering and High Availability for PeopleTools, My Oracle Support, (search for the article title)

Operating System, RDBMS, and Additional Component Patches Required for Installation PeopleTools, My Oracle Support, (search for the article title and release number)

Oracle WebLogic Server 12.2.1.3.0 documentation, <http://docs.oracle.com/middleware/12213/wls/index.html>

Reviewing Troubleshooting Tips

If you have trouble with the installation, review these tips:

- It can require up to 800 MB space to install Oracle WebLogic. If there is not enough space, the installer displays an error with information about the space limitation. You will need to exit the installation and create some space under your home directory before starting over.
- The Oracle WebLogic installer makes use of the default system temporary space. It will stop and display an error message if the temporary space is not sufficient. Clean up the default system temp space and try again. If you do not have the privilege to clean up that directory and need to proceed, the workaround is to set aside a directory under your Home directory and use it as the temporary space. This can be achieved by setting -Djava.io.tmpdir in the command for launching the installer.

The following command is a sample Linux command for silent mode installation, which uses the "temp" directory under your Home directory. *RESPONSE_DIR* refers to the location of the silent mode response file, and *INVENTORY_DIR* refers to the location of the Oracle inventory file.

See Installing Oracle WebLogic on UNIX in Silent Mode.

```
$JAVA_HOME/bin/java -jar -Djava.io.tmpdir=~/.temp ./fmw_12.2.1.3.0_>
wls.jar -silent -responseFile RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_>
DIR/oraInst.loc
```

Note. This workaround may not be applicable on all platforms. If you tried and the installer still errors out due to the amount of temporary space, contact your system administrator to clean up the system temporary space before proceeding.

- If the installation fails, and the Middleware Home directory that you specified for the Oracle WebLogic 12.2.1.3.0 installation is one in which other Oracle products have been installed in previous releases, (for example c:\oracle folder in Microsoft Windows), it may indicate corruption in the registry.xml file inside your existing Middleware Home. Pick a different location for the Oracle WebLogic 12.2.1.3.0 installation directory and try the installation again.
- If you are installing onto a UNIX environment, in case of installation failure, refer to the log file

Wls1221Install.log under the installation logs directory to view the events that occurred.

- If you encounter the following error message while running in console mode on a Microsoft Windows operating system, it means an environment variable `_JAVA_OPTIONS` has been set in your system. It causes the Java process initiated by the Oracle WebLogic installer to fail.

```
ERROR: JVMPI, an experimental interface, is no longer supported.
Please use the supported interface: the JVM Tool Interface (JVM TI).
```

To resolve the problem, remove the environment variable `_JAVA_OPTIONS` from your system and rerun the installation.

- If you encounter the following error message while installing on an Oracle Solaris operating system, it means there is a problem with access to the temporary directory:

```
*sys-package-mgr*: can't write cache file
```

This message appears because the Oracle WebLogic installer creates a temporary directory (for example, on Oracle Solaris it is `/var/tmp/wlstTemp`) that is shared by all users, and it is unable to differentiate between users. As a result, access to the directory is blocked when the user accessing the directory is not the one who originally created the directory. The workaround for this problem is to remove the installation and install it again after manually adjusting the temporary directory permissions. A user with superuser privileges can use the following command to adjust the permissions:

```
chmod -R 777 /var/tmp/wlstTemp
```

For more information, search the Oracle documentation for Oracle WebLogic.

Task 13-1-1: Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud

At this point you should have already downloaded the necessary files from Oracle Software Delivery Cloud. If not, this section includes additional information on finding and using the files for Oracle WebLogic if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

See Oracle Software Delivery Cloud, <https://edelivery.oracle.com>.

To obtain the files for Oracle WebLogic installation:

1. After logging in to Oracle Software Delivery Cloud, read the information about export restrictions, and then click Accept.
2. Enter Oracle WebLogic in the Product field, and select Oracle WebLogic Server Enterprise Edition (FMW, WLS, WebLogic Server 12c), from the drop-down list.

Note. The Enterprise Edition includes Oracle WebLogic Server and Oracle Coherence, as well as other items.

3. Click Select Platform, select the operating system you are running on, and click Select.

The following operating systems are supported:

- IBM AIX
 - HP-UX
 - Linux
 - Microsoft Windows
 - Oracle Solaris
4. Click Continue.

- On the page listing the selected product, click Continue.

Note. Click the arrow to view the list of products included.

- Read the license agreements, and select the check box to acknowledge that you accept the agreement, and then click Continue.
- Click Continue on the Download Queue page.
- On the File Download window, download the zip files for Oracle WebLogic Server and Oracle Coherence.

Download the files you need by clicking a file name to download an individual file, or click Download All to obtain all of the files listed.

Save the zip files to a temporary directory on your local system. The directory where you save the zip file is referred to in this documentation as *WLS_INSTALL*. You must extract (unzip) the file on the platform for which it is intended. For example, if you download the zip file for Oracle Solaris, you must unzip it on Oracle Solaris to avoid problems. If you unzip the file to a staging directory on a Microsoft Windows computer and copy the staging directory to an Oracle Solaris, the stage area files may be corrupt.

- Extract the files into *WLS_INSTALL*.

The Oracle WebLogic installer file is `fmw_12.2.1.3.0_wls.jar`.

Note. If you need to FTP the downloaded file, make sure to FTP it in Binary mode.

Task 13-1-2: Installing JDK

This section discusses:

- Understanding the JDK Requirement for Oracle WebLogic
- Installing JDK for IBM AIX
- Installing JDK for HP-UX Itanium
- Installing JDK for Linux
- Installing JDK for Microsoft Windows
- Installing JDK for Oracle Solaris on SPARC

Understanding the JDK Requirement for Oracle WebLogic

Before beginning the Oracle WebLogic installation you must install the 64-bit Java 8 JDK. The specific JDK required depends upon the operating system and vendor, as described in this table:

Operating System Platforms	JDK Version Supported	64-bit or Mixed Mode*
IBM AIX	IBM JDK 8.0 SR5 FP15	64-bit
HP-UX Itanium	Java version "1.8.0.14-hp-ux"	Mixed mode Use "-d64" to run in 64-bit mode.
Linux	Oracle JDK 1.8.0_171+	64-bit
Microsoft Windows	Oracle JDK 1.8.0_171+	64-bit

Operating System Platforms	JDK Version Supported	64-bit or Mixed Mode*
Oracle Solaris on SPARC	Oracle JDK 1.8.0_171+	64-bit

* The mixed mode installer runs in 32-bit by default. The parameter *-d64* is required to run them in 64-bit mode.

Installing JDK for IBM AIX

To install 64-bit IBM JDK for IBM AIX:

1. Go to the IBM JDK download and service site:

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>

Note. You need a user name and password for downloading IBM JDK. If you don't have the required credentials, your AIX support personnel should be able to help.

2. Select the link for Java 8 64-bit under Java SE Version 8.
3. Provide the required information to sign in.
4. Install the JDK on the AIX computer where you will install the Oracle WebLogic server.

The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for HP-UX Itanium

To install Hewlett-Packard JDK on HP-UX Itanium:

1. Go to the Hewlett-Packard Downloads and Documentation site.

See JDK/JRE 8.0.x Downloads and Documentation,

<https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=HPUXJDKJRE80>.

2. Select the link for Version 8.0.14 or higher.
3. Provide the required information to sign in.
4. Click Next and download JDK.
5. Install the JDK on the computer where you will install the Oracle WebLogic server, following the instructions in the Hewlett-Packard documentation.

The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Linux

To install 64-bit JDK on Linux:

1. Go to the Oracle Java download site:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

2. Download Oracle Java 8 64-bit JDK version 1.8.0_171 or higher for Linux x86-64.

Refer to the JDK installation instructions at the following link:

http://docs.oracle.com/javase/8/docs/technotes/guides/install/linux_jdk.html#BJFGGEFG

3. Install the JDK on the computer where you will install the Oracle WebLogic server. The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Microsoft Windows

To install 64-bit JDK on Microsoft Windows:

1. Go to the Oracle JDK download site:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

2. Download Oracle Java 8 64-bit JDK version 1.8.0_171 or higher for Microsoft Windows x86-64.

Refer to the JDK installation instructions at the following link:

http://docs.oracle.com/javase/8/docs/technotes/guides/install/windows_jdk_install.html#CHDEBCCJ

3. Install the JDK on the computer where you will install the Oracle WebLogic server. The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Oracle Solaris on SPARC

To install JDK on Oracle Solaris on SPARC (64-bit):

1. Go to the Oracle JDK download site:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

2. Download the Oracle Java 8 64-bit JDK version 1.8.0_171 or higher for Solaris SPARC.

Refer to the installation instructions at the following link:

http://docs.oracle.com/javase/8/docs/technotes/guides/install/solaris_jdk.html#CHDBJEFD

3. Install the JDK on the computer where you will install the Oracle WebLogic server.

The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

Note. Spaces are not allowed in the *JAVA_HOME* name.

Task 13-1-3: Installing Oracle WebLogic on Microsoft Windows

The following procedure assumes that you saved the installation file *fmw_12.2.1.3.0_wls.jar* from Oracle Software Delivery Cloud in the directory *WLS_INSTALL*. Installation in GUI mode is normally used for Microsoft Windows operating systems. You should have installed the appropriate JDK to *JAVA_HOME* before beginning this installation.

See Installing JDK for Oracle WebLogic.

Note. Previous releases of Oracle WebLogic Server, such as 9.2 MPX, and 10.3.X, can coexist with 12.2.1.3.0 on a single machine. The best practice is to install Oracle WebLogic 12.2.1.3.0 into an empty directory, or at least one that does not contain other Oracle WebLogic (previously BEA) products.

If you choose, however, to install this version of Oracle WebLogic in an existing *WLS_HOME* directory (for example, c:\oracle), you must shut down all instances of Oracle WebLogic Server running in that *WLS_HOME* before performing this installation.

To install Oracle WebLogic Server 12.2.1.3.0:

1. Open a command prompt and change directory to *WLS_INSTALL*.

Note. If you are running on a Microsoft Windows operating system, you must run the command prompt as administrator.

2. Set the environment variable *JAVA_HOME* to be the location where you installed the Oracle Java JDK 1.8.

For example, if you installed JDK to D:\jdk1.8.0_171 use this command:

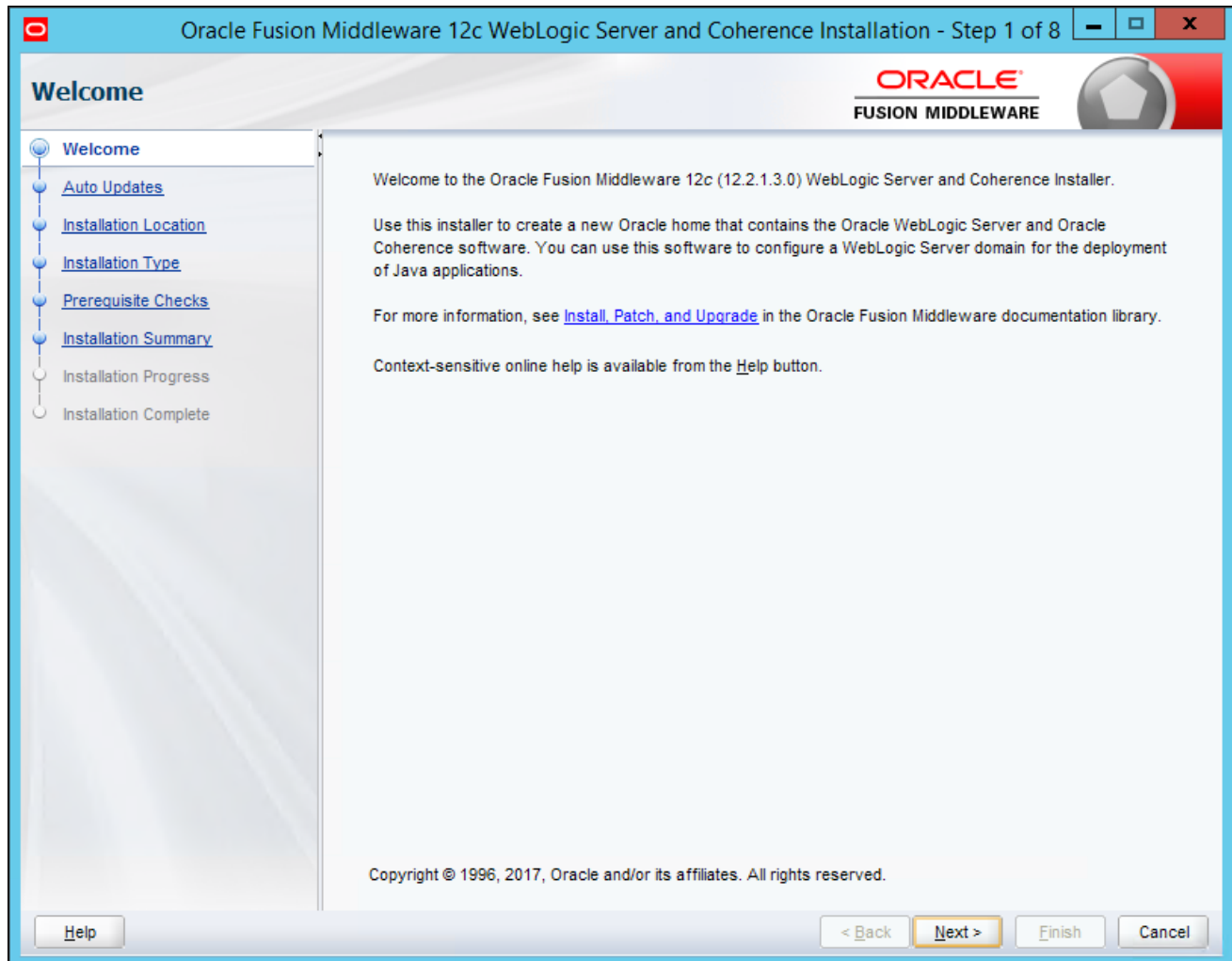
```
set JAVA_HOME=D:\jdk1.8.0_171
```

3. Use the following command to launch the installer:

```
%JAVA_HOME%\bin\java -jar fmw_12.2.1.3.0_wls.jar
```

Note. It may take up to five minutes to extract the installer. You see system check messages during the extraction process. The Welcome window appears when the extraction is complete.

4. Click Next on the Welcome window for Oracle Fusion Middleware 12c (12.2.1.3.0) WebLogic Server and Coherence Installer.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 1 of 8

5. Select the Skip Auto Updates radio button.

Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 2 of 8

Auto Updates

ORACLE
FUSION MIDDLEWARE

Welcome

Auto Updates

Installation Location

Installation Type

Prerequisite Checks

Installation Summary

Installation Progress

Installation Complete

☒ Skip Auto Updates

☐ Select patches from directory

Location:

☐ Search My Oracle Support for Updates

Username:

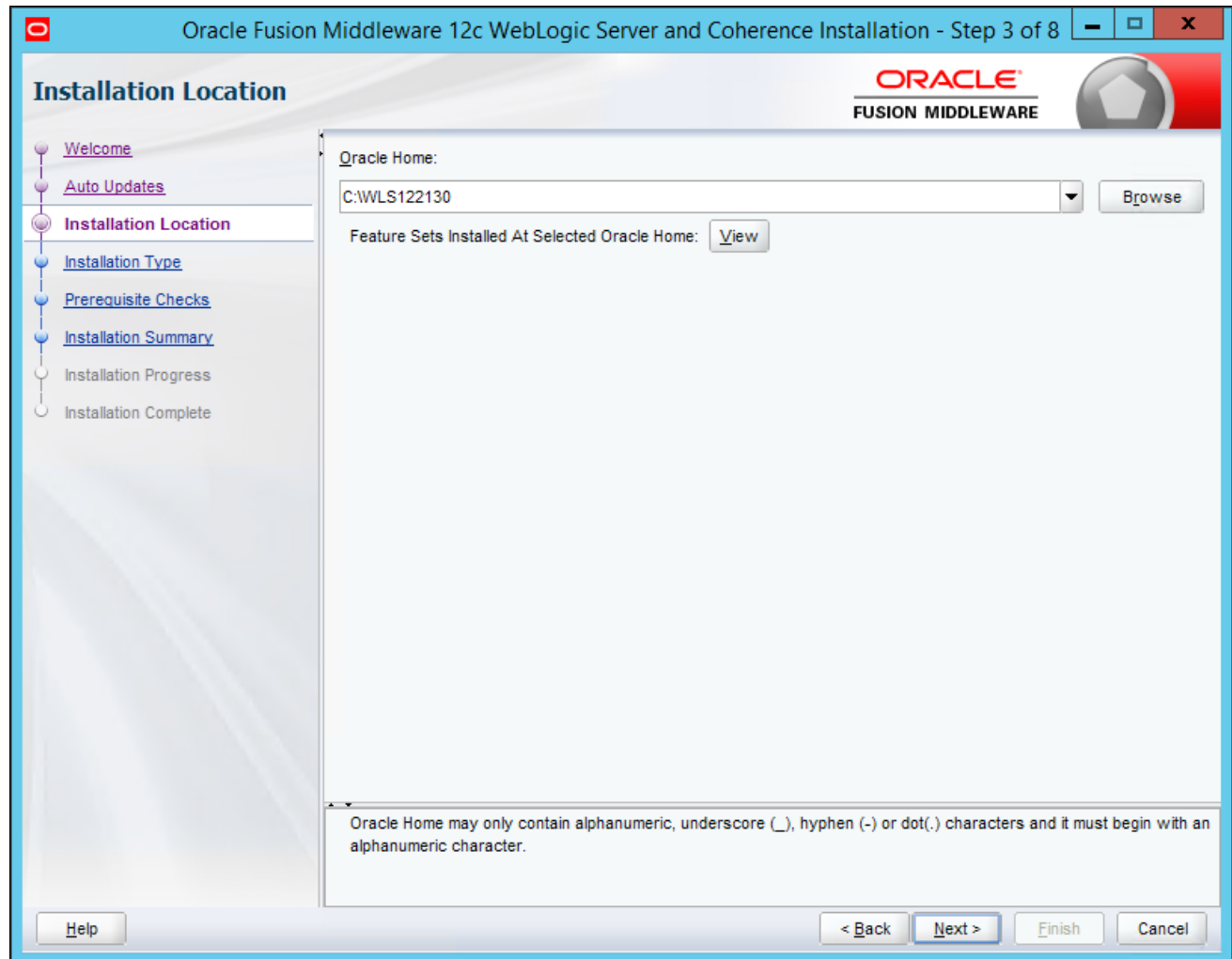
Password:

Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 2 of 8

6. On the Installation Location window, enter a location for the Oracle Home, or browse to an existing directory. Do not choose a directory that contains an existing installation of Oracle WebLogic.

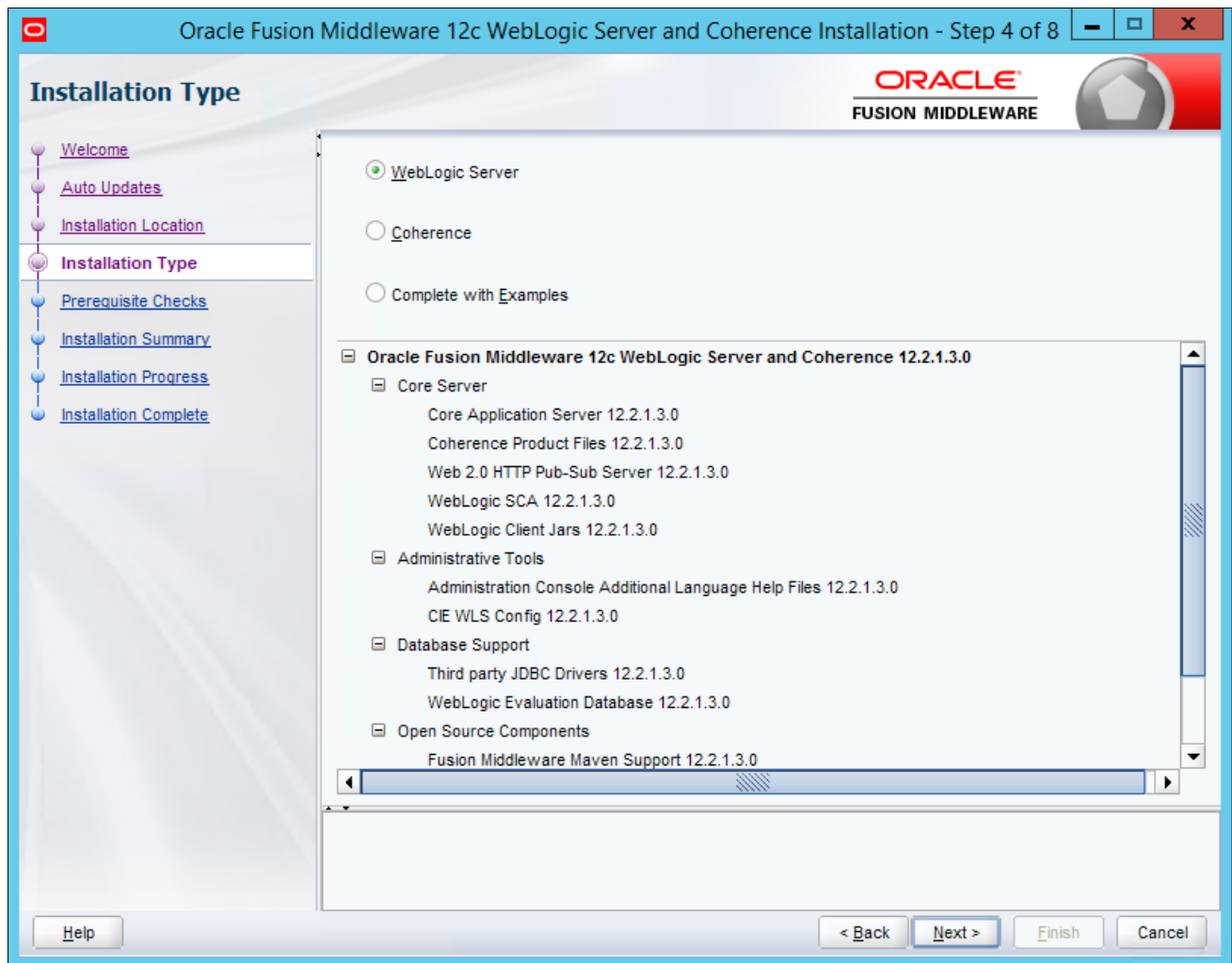
If the directory does not exist, the Oracle WebLogic installer creates it. The directory where you install Oracle WebLogic is referred to as *WLS_HOME* in this documentation. In this example *WLS_HOME* is C:\WLS122130.

Click Next to continue.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 3 of 8

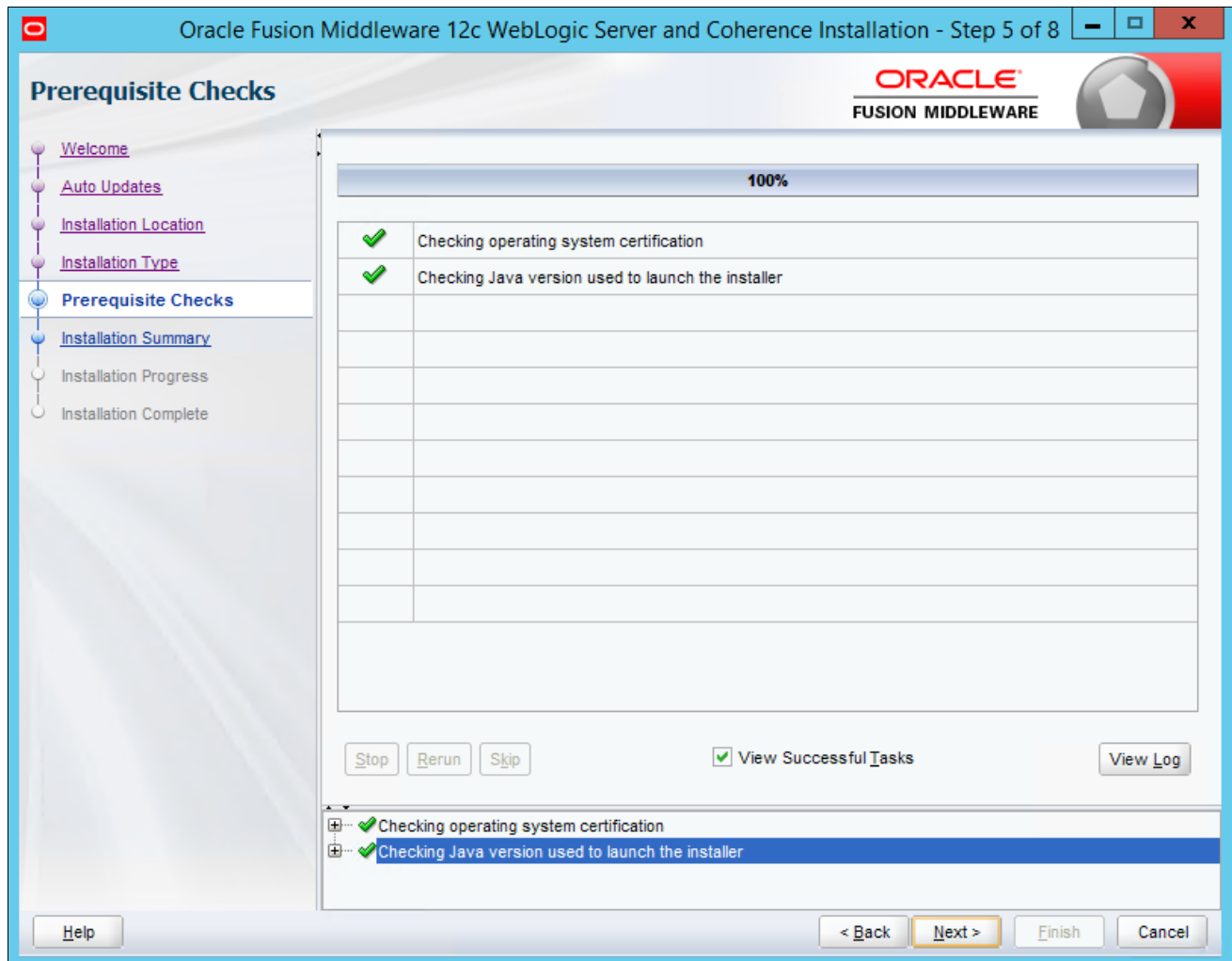
7. Accept the default WebLogic Server installation option on the Installation Type window, for WebLogic Server Installation, and then click Next.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 4 of 8

8. Wait while the installer carries out prerequisite checks, and then click Next.

In this example the system passed the prerequisite checks.

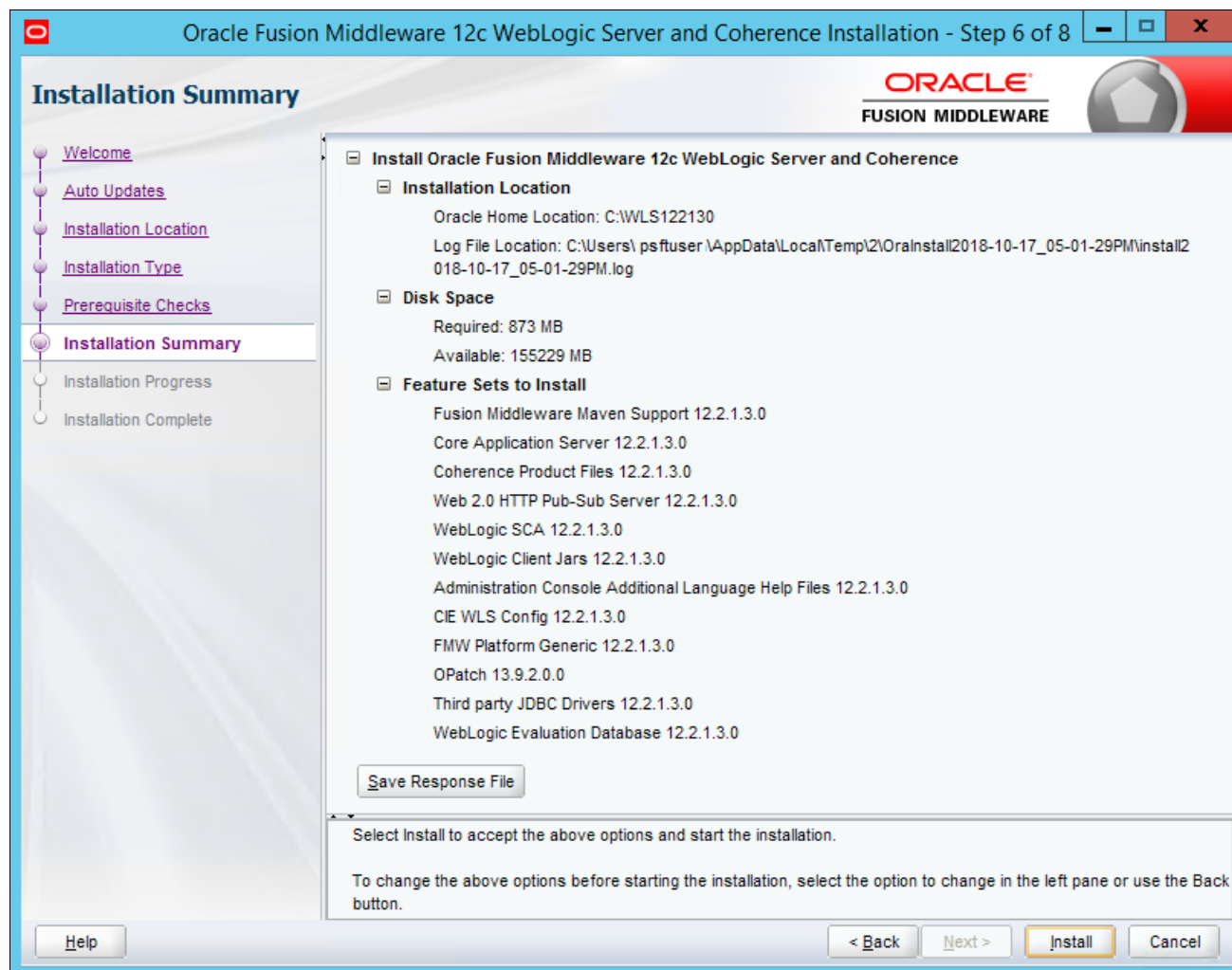


Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 5 of 8

9. Verify your choices in the installation summary, such as the installation location and features to install.

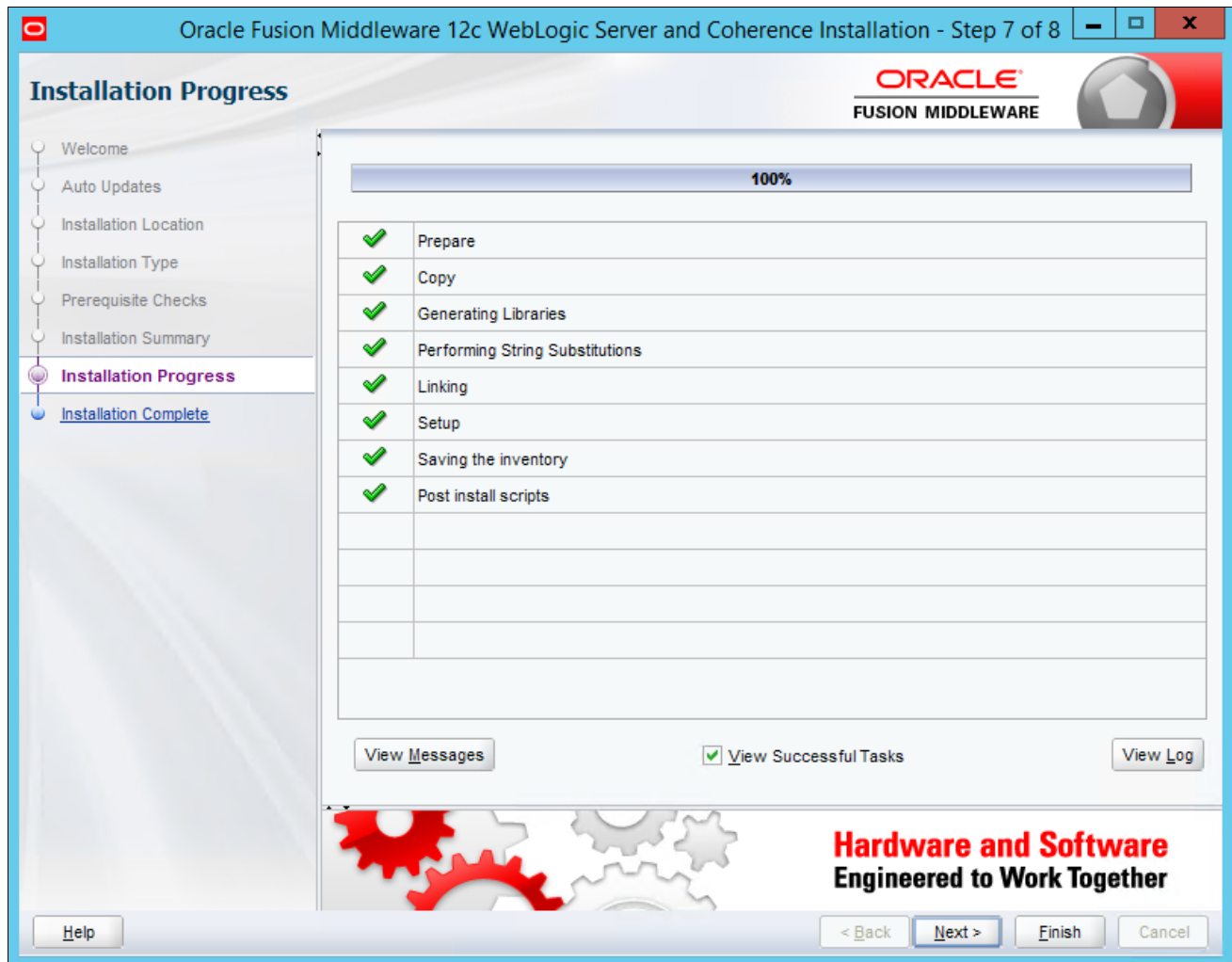
If you want to save a response file to be used in silent installation, click Save Response File and provide a location.

Click Install to begin the installation.



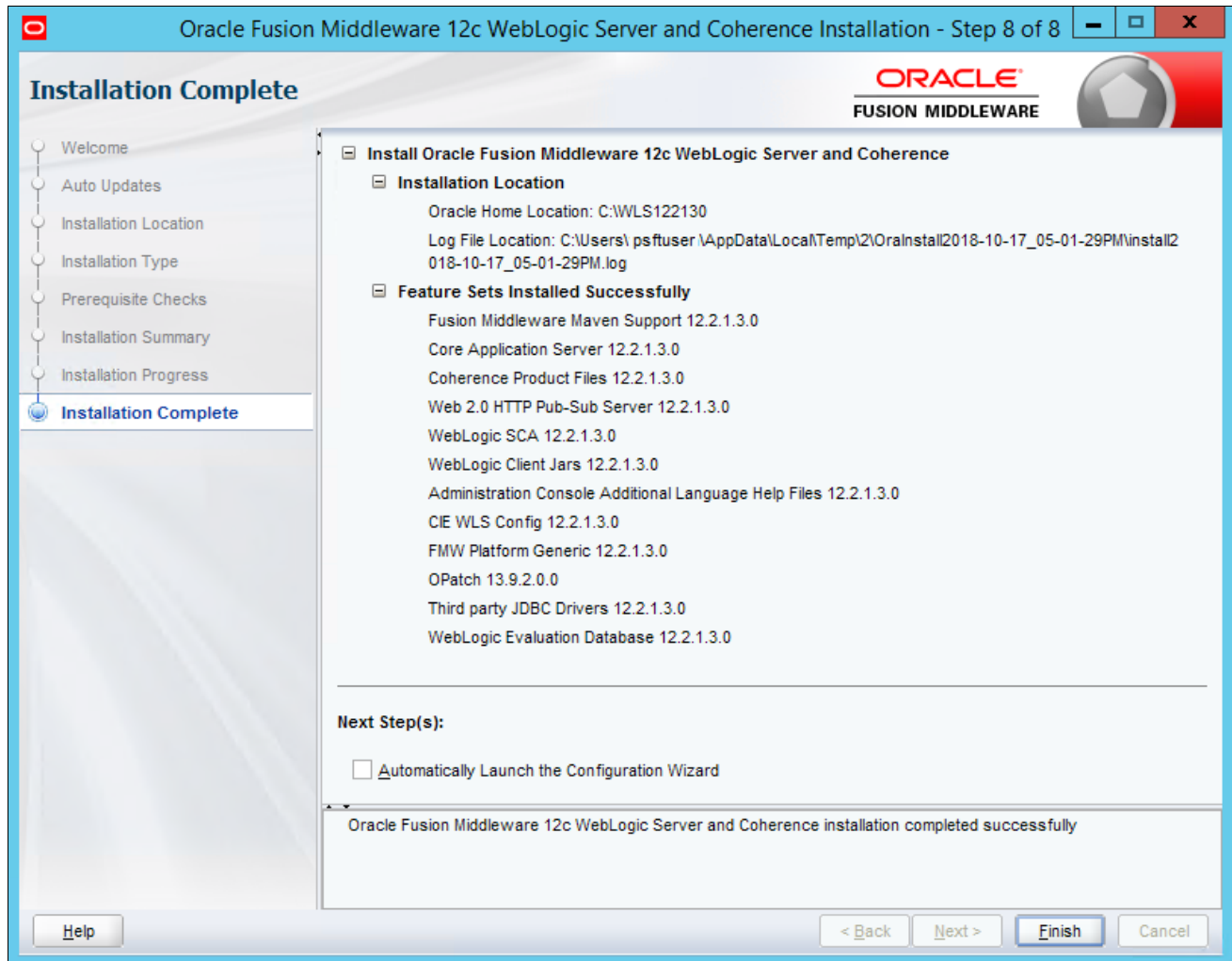
Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 6 of 8

A progress indicator appears. Click Next when the tasks are complete, as shown in this example:



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 7 of 8

10. When the installation has completed successfully, clear the Automatically Launch the Configuration Wizard option, and click Finish.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 8 of 8

Task 13-1-4: Installing Oracle WebLogic on UNIX in Silent Mode

Use these instructions for silent mode installation for UNIX operating systems. With silent mode installation, you provide the required settings in a response file.

Note. Console mode installation is not supported for Oracle WebLogic 12.2.1.3.0.

See the information on silent installation for Oracle WebLogic in the Oracle Middleware documentation.

The following procedure assumes that you saved the installation file `fmw_12.2.1.3.0_wls.jar` from Oracle Software Delivery Cloud in the directory `WLS_INSTALL`. You should have installed the appropriate JDK to `JAVA_HOME` before beginning this installation.

Note. If you downloaded the zip file for the Oracle WebLogic installation from Oracle Software Delivery Cloud to a Microsoft Windows computer, FTP the zip file in binary mode to your UNIX computer before unzipping it into `WLS_INSTALL`.

To run the Oracle WebLogic installation in silent mode:

1. Change directory to *WLS_INSTALL* and make the installer file executable using the following command:

```
chmod a+x fmw_12.2.1.3.0_wls.jar
```

2. In a shell window, change directory to *WLS_INSTALL*:

```
cd WLS_INSTALL
```

3. Set *JAVA_HOME* to be the location where you installed the JDK.

For example, if the JDK is installed under "/home/jdklnk8u171", use the following command:

```
export JAVA_HOME=/home/jdklnk8u171
```

4. If it does not exist, use a text editor, such as "vi", to create the central inventory location file, named *oraInst.loc*, in a directory referred to in this documentation as *INVENTORY_DIR*.

The *oraInst.loc* file contains only the following two lines:

```
inventory_loc=/home/psftuser/oraInventory
inst_group=wlsgrp
```

The *oraInst.loc* file contains the following information:

- *inventory_loc* — Specify the full path to the directory where you want the installer to create the inventory directory. The location in the example is /home/psftuser/oraInventory. Use any directory other than the *WLS_INSTALL* directory where you placed the *fmw_12.2.1.3.0_wls.jar* file.
- *oui_install_group* — Specify the name of the group whose members have write permissions to this directory. The group name in the example is *wlsgrp*.

5. Copy the following content into a text editor and save it as *res.rsp*.

This is the silent response file. The directory where you save it is referred to here as *RESPONSE_DIR*.

```
[ENGINE]
```

```
#DO NOT CHANGE THIS.
```

```
Response File Version=1.0.0.0.0
```

```
[GENERIC]
```

```
#Set this to true if you wish to skip software updates
```

```
DECLINE_AUTO_UPDATES=true
```

```
#My Oracle Support User Name
```

```
MOS_USERNAME=
```

```
#My Oracle Support Password
```

```
MOS_PASSWORD=<SECURE VALUE>
```

```
#If the Software updates are already downloaded and available on your⇒
  local system, then specify
```

```
the path to the directory where these patches are available and set⇒
```

```
  SPECIFY_DOWNLOAD_LOCATION
```

```
to true
```

```
AUTO_UPDATES_LOCATION=
```

```
#Proxy Server Name to connect to My Oracle Support
SOFTWARE_UPDATES_PROXY_SERVER=

#Proxy Server Port
SOFTWARE_UPDATES_PROXY_PORT=

#Proxy Server Username
SOFTWARE_UPDATES_PROXY_USER=

#Proxy Server Password
SOFTWARE_UPDATES_PROXY_PASSWORD=<SECURE VALUE>

#The oracle home location. This can be an existing Oracle Home or a new⇒
Oracle Home
ORACLE_HOME=

#Set this variable value to the Installation Type selected. e.g. Web⇒
Logic Server, Coherence,
Complete with Examples.
INSTALL_TYPE=WebLogic Server
```

6. Use a text editor to enter the full path for ORACLE_HOME; for example:

```
#The oracle home location. This can be an existing Oracle Home or a new⇒
Oracle Home
ORACLE_HOME=/home/wls122130
```

Oracle WebLogic will be installed into the ORACLE_HOME directory entered here. This must be a new directory; do not enter a directory that has been used previously.

7. If this is the first time you are installing on your system (meaning there is no pre-existing Oracle inventory location), use the following commands to perform a silent installation.

These commands use res.rsp as the name for the response file.

- For IBM AIX, Linux, or Oracle Solaris on SPARC:

```
$JAVA_HOME/bin/java -jar ./fmw_12.2.1.3.0_wls.jar -silent -response⇒
File RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_DIR/oraInst.loc
```

- For HP-UX Itanium, the JVM parameter "-d64" is required:

```
$JAVA_HOME/bin/java -d64 -jar ./fmw_12.2.1.3.0_wls.jar -silent -⇒
responseFile RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_DIR/ora⇒
Inst.loc
```

8. If you have previously installed an Oracle product on your system and do not need to specify an Oracle inventory location, use the following commands to perform a silent installation:

- For IBM AIX, Linux, or Oracle Solaris on SPARC:

```
$JAVA_HOME/bin/java -jar ./fmw_12.2.1.3.0_wls.jar -silent -response⇒
File RESPONSE_DIR/res.rsp
```

- For HP-UX Itanium, the JVM parameter "-d64" is required:

```
$JAVA_HOME/bin/java -d64 -jar ./fmw_12.2.1.3.0_wls.jar -silent -⇒
responseFile RESPONSE_DIR/res.rsp
```

9. After you enter the appropriate command from the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

When the installation is complete, you should see a completion message such as "The installation of Oracle Fusion Middleware 12c WebLogic Server and Coherence 12.2.1.3.0 completed successfully."

Task 13-1-5: Configuring JDK for Daylight Savings Time Change

The version of JDK mentioned in the previous section Installing JDK for Oracle WebLogic includes the Daylight Saving Time (DST) rules available at the time of packaging. If new rules are implemented after this time, you should use the instructions in this section to update the time zone definition files.

You can skip this section unless a change to the DST rules has happened near or after the general availability date of Oracle WebLogic or PeopleSoft PeopleTools. Consult the information on configuring PeopleSoft time zone definitions in the *PeopleTools: Global Technology* product documentation.

This section provides an example of how the time zone updater utility (TZUPDATER), which is supplied by the JDK vendors, can be used to update the time zone definition files contained in the JDK used by Oracle WebLogic server.

1. Identify and shut down any JVM processes that are using the JDK that you will be updating.
2. For future reference or restoration, back up the location where the targeted JDK is located.

The JDK being used for different operating systems is different. For Oracle WebLogic 12.2.1.3.0, refer to the `commBaseEnv.cmd` (for Microsoft Windows), or `commBaseEnv.sh` (for UNIX) file under `WLS_HOME\oracle_common\common\bin` to determine the setting for `JAVA_HOME` and the exact name and location for the JDK being used by your Oracle WebLogic server. `WLS_HOME` is the directory where Oracle WebLogic is installed.

3. Download the appropriate updater utility for your operating system from the JDK vendor.

Each tzupdater provided by the vendor comes with instructions (typically in a readme file) describing how to:

- Locate the correct JDK.
- Apply classes using the tzupdater or provided scripts.
- Check tzupdater versions.

Read the instructions carefully as the steps and instructions are vendor-specific. Keep in mind that these instructions and versions may be updated when the vendor finds it necessary.

Note. After successfully running the TZUPDATER to update a JDK location, the changes will take effect only for newly started Java processes from that location. In the event that you did not identify and stop all Java processes running from this location, it will be necessary to stop and restart these for the changes to take effect.

See Also

Timezone Updater Tool, Oracle Technology Network, <http://www.oracle.com/technetwork/java/javase/tzupdater-readme-136440.html>

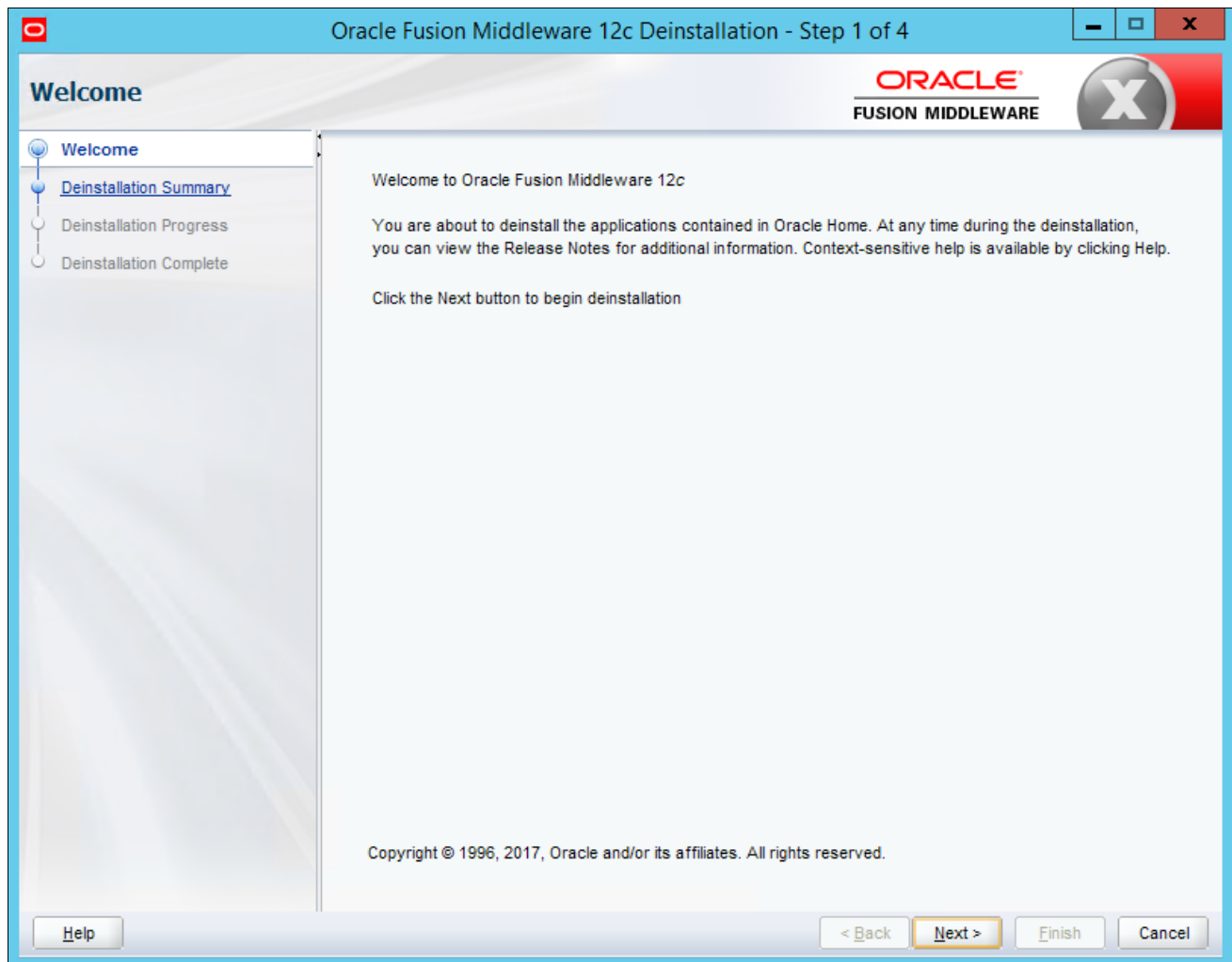
Task 13-1-6: Removing the Oracle WebLogic Installation on Microsoft Windows

To remove the Oracle WebLogic installation on Microsoft Windows (GUI mode):

1. Before running the deinstaller, stop all servers and processes associated with the Oracle home you are going to remove.

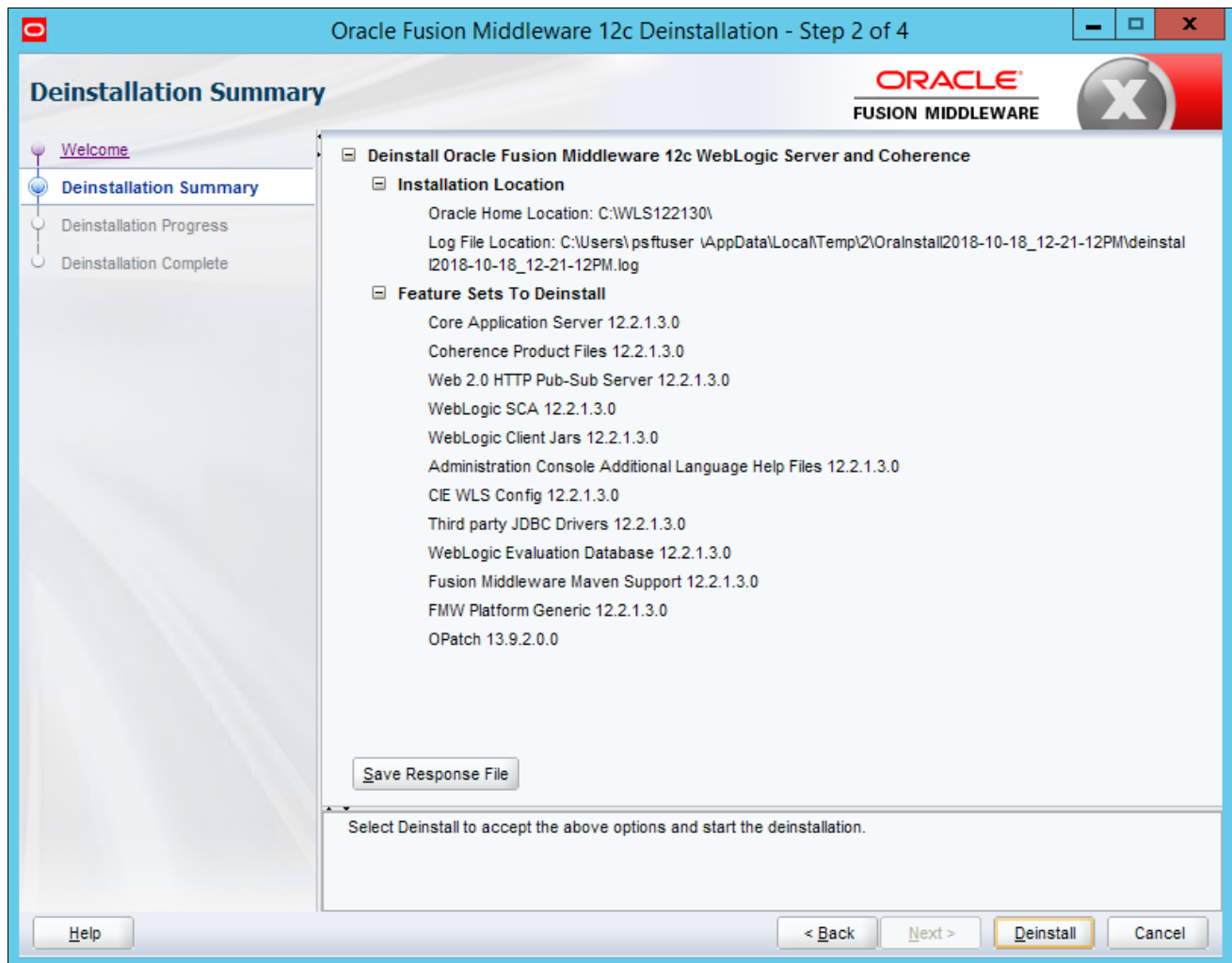
2. Change directory to the `WLS_HOME\oui\bin` folder and run the `deinstall.cmd` script.

You see one or two command prompts with progress messages, and then the Welcome window appears. `WLS_HOME` is the location where you installed your Oracle WebLogic 12.2.1.3.0, for example `C:\WLS122130`. Click Next on the Welcome window.



Oracle Fusion Middleware 12c Deinstallation - Step 1 of 4

3. Verify the components that you want to uninstall on the summary page (by default all components are selected as shown in this example).

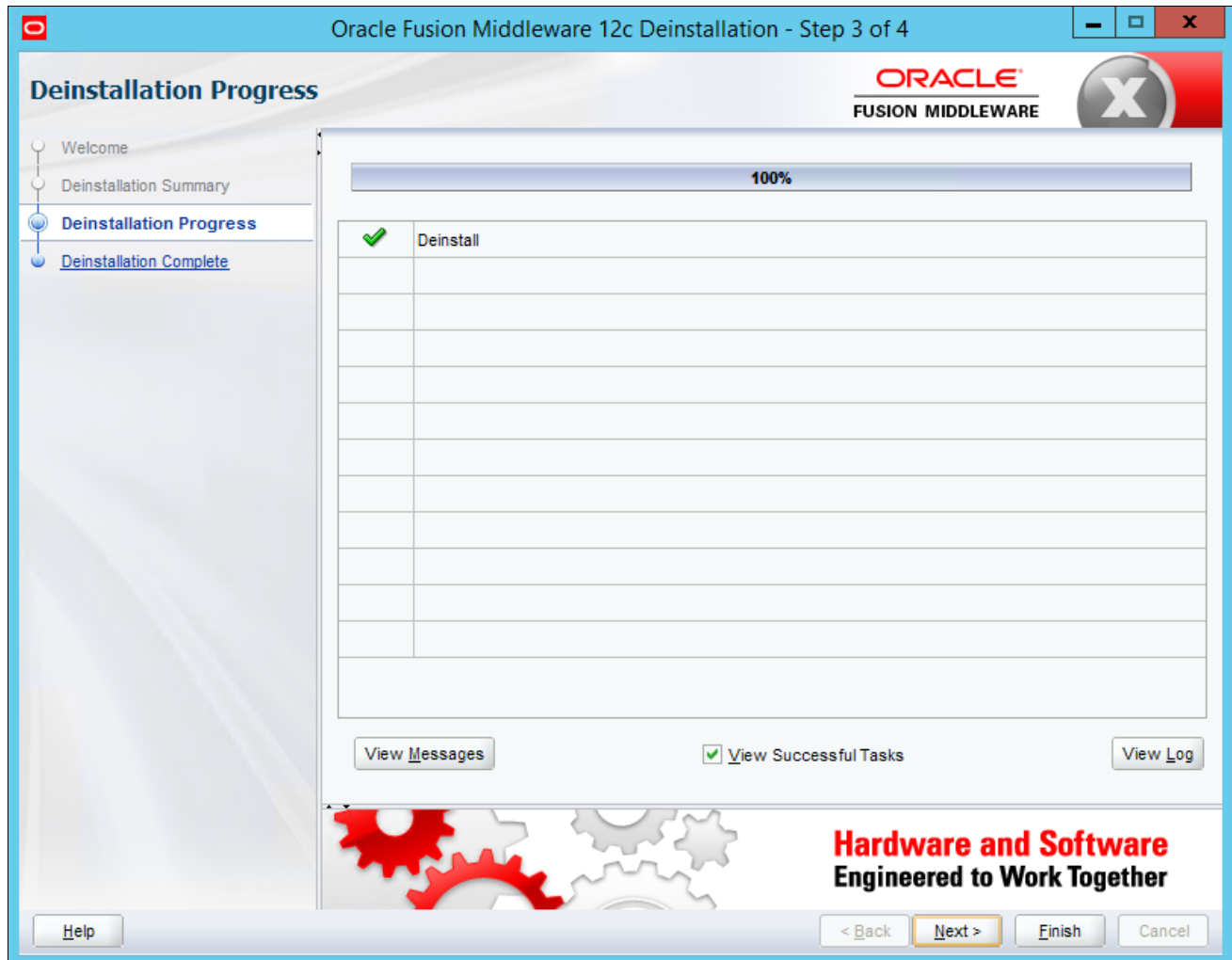


Oracle Fusion Middleware 12c Deinstallation - Step 2 of 4

4. Click the Save Response File button and browse to a location to save the file, which you can use for a silent mode deinstallation at another time.

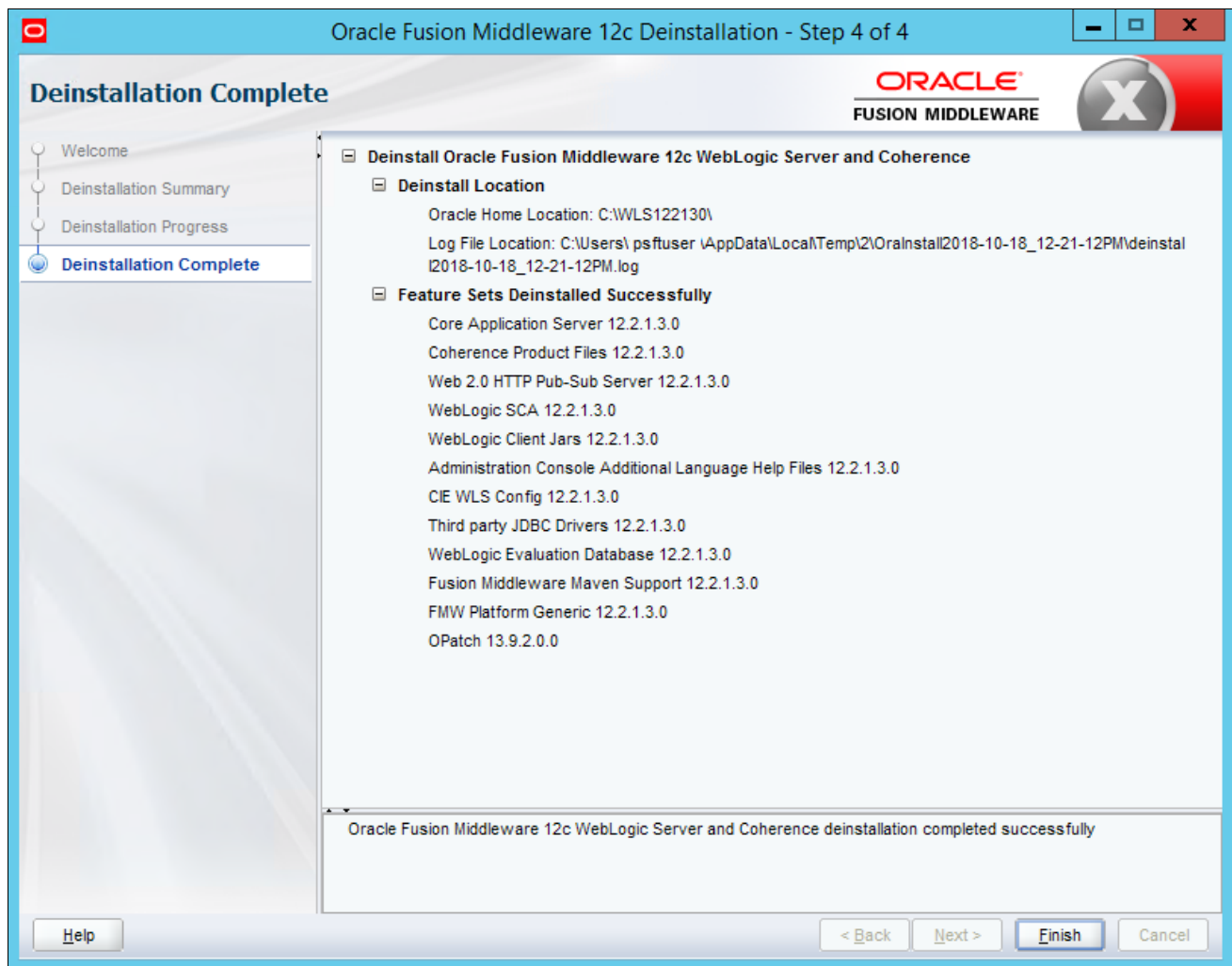
See Removing the Oracle WebLogic Installation on UNIX.

Click Deinstall. A progress indicator appears. Click Next when the tasks are complete, as shown in this example.



Oracle Fusion Middleware 12c Deinstallation - Step 3 of 4

- Click Finish on the Deinstallation Complete window.



Oracle Fusion Middleware 12c Deinstallation - Step 4 of 4

- Remove the *WLS_HOME* directory manually after the deinstallation.

Task 13-1-7: Removing the Oracle WebLogic Installation on UNIX

To remove the installation on UNIX, you run in console mode, and use a response file.

Note. The previous section, Removing the Oracle WebLogic Installation on Microsoft Windows, included a step in which you saved a response file. You can edit and use this response file for different operating system platforms.

To remove the Oracle WebLogic installation on UNIX in silent mode:

- Before running the deinstaller, stop all servers and processes associated with the Oracle home you are going to remove.
- If you need to create a response file, copy the following content into a text editor and save it.

This is the silent response file, referred to here as *RESPONSE_DIR/response.txt*.

```
[ENGINE]
```

```
#DO NOT CHANGE THIS.
Response File Version=1.0.0.0.0
```

```
[GENERIC]
```

```
#This will be blank when there is nothing to be de-installed in⇒
distribution level
SELECTED_DISTRIBUTION=WebLogic Server~12.2.1.3.0
```

```
#The oracle home location. This can be an existing Oracle Home or a new⇒
Oracle Home
ORACLE_HOME=
```

3. Edit the ORACLE_HOME line to add the location where you installed Oracle WebLogic 12.2.1.3.0; for example:

```
#The oracle home location. This can be an existing Oracle Home or a new⇒
Oracle Home
ORACLE_HOME=/home/wls122130
```

4. Change directory to *WLS_HOME*/oui/bin and locate the deinstall.sh script.
WLS_HOME is the location where you installed your Oracle WebLogic 12.2.1.3.0.

5. Run the following command.

For *INVENTORY_DIR*, specify the full directory path containing the Oracle installer inventory file, oraInst.loc.

See Installing Oracle WebLogic on UNIX in Silent Mode.

```
./deinstall.sh -silent -response RESPONSE_DIR/response.txt -invPtrLoc ⇒
INVENTORY_DIR/oraInst.loc
```

6. An indicator shows the progress of the removal process, followed by a completion message such as "The uninstall of Oracle Fusion Middleware 12c WebLogic Server and Coherence 12.2.1.3.0 completed successfully."
7. Remove the *WLS_HOME* directory manually to complete the deinstallation.

Chapter 14

Installing Additional Components

This chapter discusses:

- Reviewing Additional Components
- Installing Oracle Tuxedo

Reviewing Additional Components

Depending upon your PeopleSoft installation environment, you may need to install and configure software components that are not included with the PeopleSoft PeopleTools installation files, or which you acquire from vendors other than Oracle. Some of the components that are discussed in this installation guide include:

- Oracle Tuxedo

The installation of Oracle Tuxedo is required for a basic PeopleSoft PeopleTools installation, and is covered in this chapter.

- COBOL

COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check My Oracle Support for details about whether your application requires COBOL.

See "PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers," My Oracle Support, Doc ID 747059.1.

See "PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler," My Oracle Support, Doc ID 1211907.1.

The installation and configuration of Micro Focus and IBM COBOL compilers are covered in later chapters.

See "Installing and Configuring COBOL on UNIX."

See "Installing and Configuring COBOL on Windows."

- Elasticsearch

Elasticsearch is the search engine for the PeopleSoft Search Framework for the current release. Oracle provides Elasticsearch as deployment packages (DPKs) for Microsoft Windows and Linux that deliver the required Elasticsearch, Logstash, and Kibana software versions, Java-based plug-ins needed for integration with PeopleSoft environments, and customized code where required. Be sure to obtain and use the Elasticsearch DPKs provided for use with the PeopleSoft installation.

See Elasticsearch Home Page, My Oracle Support, Doc ID 2205540.2.

Note. Oracle Secure Enterprise Search (SES) and Verity are not supported for the current release.

Note. Use the My Oracle Support Certifications area to determine the latest certified versions of additional components that are supported for the PeopleSoft PeopleTools release you are installing.

Task 14-1: Installing Oracle Tuxedo

This section discusses:

- Understanding Oracle Tuxedo
- Prerequisites
- Reviewing Oracle Tuxedo Installation Errors
- Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud
- Obtaining the Oracle Tuxedo Patches from My Oracle Support
- Removing Existing Oracle Tuxedo Installations from Microsoft Windows (Optional)
- Designating the Application Server Administrator on Microsoft Windows
- Installing Oracle Tuxedo on Microsoft Windows in GUI Mode
- Installing Oracle Tuxedo on Microsoft Windows in Silent Mode
- Uninstalling the Oracle Tuxedo Patch on Microsoft Windows
- Uninstalling Oracle Tuxedo in GUI Mode
- Checking the Windows Service Account
- Restricting Domain Process Privileges
- Setting Up the Windows Services for Oracle Tuxedo
- Verifying the Server Installation on Microsoft Windows
- Removing Existing Oracle Tuxedo Installations from UNIX (Optional)
- Completing the Preinstallation Checklist on UNIX
- Designating the Oracle Tuxedo Owner on UNIX
- Installing Oracle Tuxedo in Silent Mode on UNIX
- Installing the Oracle Tuxedo Patch on UNIX
- Uninstalling the Oracle Tuxedo Patch from UNIX
- Uninstalling Oracle Tuxedo from UNIX Using Silent Mode
- Verifying the Server Installation on UNIX
- Ensuring that Oracle Tuxedo Coexists with Earlier Versions

Understanding Oracle Tuxedo

This section describes a traditional installation of Oracle Tuxedo. When you use the PeopleSoft DPKs for either a full-tier installation using the PeopleSoft Application Images or for a mid-tier installation using the PeopleTools DPKs, Oracle Tuxedo is installed as part of the installation, and you do not need to carry out the separate installation in this section. If you choose to install Oracle Tuxedo independently of the DPK installation, you can obtain installation files for Oracle Tuxedo on the Oracle Software Delivery Cloud portal and use the steps in this section.

Note that to use a separate Oracle Tuxedo installation with a DPK deployment, you must use customizations to specify the Oracle Tuxedo installation location.

See "Completing the DPK Initialization with Customizations," Preparing the Customization File for Component Software Locations.

The PeopleSoft application server uses the Oracle® Fusion Middleware product, Oracle Tuxedo, to perform transaction management, messaging, and administration. This task guides you through the installation of Oracle Tuxedo on your server. It is essential that you install Oracle Tuxedo 64-bit, version 12c Release 2 (12.2.2.0), which is available on Oracle Software Delivery Cloud. You need to install Oracle Tuxedo before you go any further in setting up your application server and your PeopleSoft Pure Internet Architecture. After you perform the installation described here, you will configure the application server environment to incorporate Oracle Tuxedo with the PeopleSoft components.

Oracle supports Oracle Tuxedo 12c Release 2 (64-bit) for UNIX, and Oracle Tuxedo 12c Release 2 (64-bit) with MS Visual Studios 2017 for Microsoft Windows, with PeopleSoft PeopleTools 8.58.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

The minimum patch level certified for running Oracle Tuxedo 12c Release 2 for UNIX with PeopleSoft PeopleTools 8.58 is Rolling Patch 23 (RP023). These installation instructions include the installation of the base Oracle Tuxedo 12c Release 2, followed by the patch installation.

Note. For PeopleSoft customers running on Oracle Exalogic Elastic Cloud, we strongly recommend the use of the Exalogic OVM Template for PeopleSoft.

See Oracle's PeopleSoft Virtualization Products, My Oracle Support, Doc ID 1538142.1.

Note. For the sake of brevity and convenience, this documentation shortens "Oracle Tuxedo 12c Release 2 (64-bit)" to "Oracle Tuxedo 12cR2" and "Oracle Tuxedo 12c Release 2 (64-bit) with MS Visual Studios 2017" to "Oracle Tuxedo 12cR2_VS2017."

If you have a previous version of Oracle Tuxedo installed, you need to install the new version of Oracle Tuxedo, and re-create your application server domains. (You must create your domains using PSADMIN; you cannot migrate existing domains.) You can also use the PSADMIN domain import utility.

You can install Oracle Tuxedo once for each release on a machine, regardless of the number of PeopleSoft applications or databases the server supports. For example, if you installed Oracle Tuxedo 10gR3 for an earlier release of your PeopleSoft application, you may install Oracle Tuxedo 12cR2 on the same machine in a separate directory. For example:

On Microsoft Windows, you may install into C:\oracle\tuxedo10gR3_VS2008 and C:\oracle\tuxedo12.2.2.0.0_VS2017.

On UNIX, you may install into /home/oracle/tuxedo10gR3 and /home/oracle/tuxedo12cR2.

If more than one PeopleSoft application uses the same Oracle Tuxedo version (that is, the same patch level), then it is recommended that you have a single installation of Oracle Tuxedo to serve all the supported PeopleSoft applications. A single Oracle Tuxedo installation simplifies future maintenance (such as applying patches). However, if you choose to have more than one Oracle Tuxedo installation (this scenario is possible only on UNIX systems, as Oracle Tuxedo does not allow multiple installations of the same version of Oracle Tuxedo on Microsoft Windows), you must install and maintain the same Oracle Tuxedo version more than once in different directories.

See Also

Oracle Tuxedo Documentation on Oracle Technology Network,
<http://www.oracle.com/technetwork/middleware/tuxedo/documentation/index.html>

PeopleTools: Portal Technology

PeopleTools: System and Server Administration

Operating System, RDBMS, and Additional Component Patches Required for Installation PeopleTools, My Oracle Support (search for article name and select the release)

Clustering and High Availability for PeopleTools, My Oracle Support (search for title)

Using OVM Templates for PeopleSoft on Exalogic, My Oracle Support (search for title)

Prerequisites

Before you begin to install Oracle Tuxedo, make sure that you have the following resources in place:

- Before beginning the Oracle Tuxedo installation you must install 64-bit Java 8 JDK.
The specific JDK required depends upon the operating system and vendor. Follow the instructions in the Oracle WebLogic section to install Java 8 JDK for your operating system.
See Installing JDK for Oracle WebLogic.
- TCP/IP connectivity (required for PeopleSoft PeopleTools 8.50 or higher) between the client machine and the application server
- For UNIX, you must have root access.
- Enough free disk space on the application server to install the product.
The disk space requirements vary by operating system. For free disk space requirements, see the Oracle Tuxedo documentation.

Reviewing Oracle Tuxedo Installation Errors

Here are a few tips to help with installation errors.

- Change the debug level.
If the Oracle Tuxedo installation fails with no error message, open a command prompt and enter the following command:

```
set LAX_DEBUG=1
```


After entering this command, start the installer again. If you are using GUI mode on Microsoft Windows, you must start the installer using the same command prompt.
- Change the default temporary space.
The Oracle Tuxedo installer uses the default system temporary space. If there is not enough space for installation, it will stop with an error. To specify a different temporary directory on Microsoft Windows, use the following command before starting the installer:

```
set IATEMPDIR=Complete_Path_Temp_Dir
```


Replace *Complete_Path_Temp_Dir* with the full path to the temporary directory that you want to use for the installation.
- Change the BLOCKSIZE on Linux
If you are sure you have enough space, but the installer still gives an error about low disk space (this usually happens on Linux), run the following command before starting the installer:

```
unset BLOCKSIZE
```
- Install Microsoft Windows files.

If you see a message saying certain DLL files can not be found, install vcredist_x64.exe from %PS_HOME%\setup\psvcrt.

Task 14-1-1: Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud

You can obtain the files needed to install Oracle Tuxedo 12cR2 or 12cR2_VS2017 from the Oracle Software Delivery Cloud portal. At this point you should have already downloaded the necessary files. If you have not yet downloaded the files, this section includes additional information on finding and using the files for Oracle Tuxedo if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

See Oracle Software Delivery Cloud, <https://edelivery.oracle.com>.

1. After logging in to Oracle Software Delivery Cloud, read the export restrictions, and then click Accept.
2. Enter Oracle Tuxedo in the Product field, and select Oracle Tuxedo 12.2.2.0.0 to add it to your cart.
3. Click Selected Software.
4. From the Platforms/Languages drop-down list, select the operating system you are running on, and then click Continue.
5. Read the license agreement and select the check box to acknowledge that you accept the agreement.
6. Click Continue.
7. Click the filenames to download.

Save the zip file to a temporary directory on your local system, referred to in this documentation as *TUX_INSTALL*.

8. After you download the installation files from Oracle Software Delivery Cloud, if it is necessary, transfer the files to a UNIX computer using FTP. Unzip the file and change the permissions of the unzipped file to make it an executable, for example using the `chmod +x` command.
9. Extract the files into *TUX_INSTALL*.

After you extract, you see a Disk1 folder with two subfolders, install and stage.

Note. If you are doing an Oracle Tuxedo for the PeopleTools Client, install Oracle Tuxedo 12cR2_VS2017 for Microsoft Windows (64-bit) to run with PeopleSoft PeopleTools 8.58.

Task 14-1-2: Obtaining the Oracle Tuxedo Patches from My Oracle Support

You can download the latest patch for Oracle Tuxedo 12cR2 for UNIX from My Oracle Support.

Note. To obtain older Oracle Tuxedo patches, raise a service request through My Oracle Support.

To obtain the latest Oracle Tuxedo patch:

1. Sign in to My Oracle Support with your account name and password:
<https://support.oracle.com>
2. Select the Patches & Updates tab.
3. Under Patch Search, select Product or Family (Advanced Search).
4. Select *Oracle Tuxedo* from the product drop-down list.
5. Select *Oracle Tuxedo 12.2.2.0.0* from the release drop-down list.

6. Select your platform.

Note. For detailed supported platform information, see the certifications area on My Oracle Support.

The supported platforms are:

- AIX
- HP-UX Itanium
- Linux
- Oracle Solaris on SPARC

7. Click Search.

Download the necessary files from the list of results. For installation on Microsoft Windows operating systems, make sure your rolling patch (RP) description has "VS2017" in the description.

Note. To begin a new search, select Edit Search in the top right of the results page.

8. Download the patch file for your operating system platform to a convenient directory, referred to here as *TUX_INSTALL*.

9. After you install a patch, use these steps to verify the installation:

- a. In a command prompt, change directory to *TUXDIR*\bin (where *TUXDIR* is the Oracle Tuxedo installation location).
- b. Execute the following command:

```
tmadmin -v
```

The command displays the patch level. For example:

```
INFO: Oracle Tuxedo, Version 12.2.2.0.0, 64-bit, Patch Level 023
```

Task 14-1-3: Removing Existing Oracle Tuxedo Installations from Microsoft Windows (Optional)

You may already have prior versions of Oracle Tuxedo installed on your system from an earlier version of PeopleSoft PeopleTools. If you are completely upgrading to PeopleSoft PeopleTools 8.58 from an earlier version of PeopleSoft PeopleTools, then you may uninstall the existing version and patches.

Note. It is not mandatory to uninstall the existing version of PeopleSoft PeopleTools, as Oracle Tuxedo 12cR2_VS2017 can coexist with prior versions on the same machine.

If you wish to use two versions of PeopleSoft PeopleTools that depend on different versions of Oracle Tuxedo, you should read the section "Ensuring that Oracle Tuxedo Coexists with Earlier Versions" before continuing.

You may have to uninstall Oracle Tuxedo for these reasons:

- You are having problems starting Oracle Tuxedo and decide to reinstall.
- You no longer need Oracle Tuxedo on a machine.

To uninstall Oracle Tuxedo from Microsoft Windows:

1. Using PSADMIN, shut down any application server, Process Scheduler, and Search server domains that may be running on the machine.
2. Stop the processes for the Tuxedo Monitor and the Tuxedo Administrative Web Server (wlisten and tuxwsvr), if applicable.

- a. Right-click on the task bar and select Task Manager.
 - b. Highlight wlisten, and click the End Task button.
 - c. Highlight tuxwsvr and click the End Task button.
 - d. Exit Task Manager.
3. Stop and set the TListen *VERSION* service to manual, if applicable.
Replace *VERSION* with the version number for the existing service. For example, this would be TListen 9.1 or TListen 10gR3.
 - a. Select Start, Settings, Control Panel. Double-click Administrative Tools, and double-click the Services icon.
 - b. Select TListen *VERSION* and click the Stop button.
 - c. Choose the Startup Type and set to Manual.
 4. Stop and set the ORACLE ProcMGR *VERSION* (or BEA ProcMGR *VERSION* for earlier releases) service to manual.
 - a. Select Start, Settings, Control Panel. Double-click Administrative Tools, and double-click the Services icon.
 - b. Select ORACLE ProcMGR *VERSION* and click the Stop button.
 - c. Choose the Startup Type and set to Manual.
 5. Reboot your machine.
 6. Uninstall Oracle Tuxedo in one of the following ways:
 - Using the Oracle Tuxedo *VERSION* installation CD provided by Oracle for PeopleSoft installations, open a Command Window, navigate to the root of the CD, and enter `pstuxinstall rmall`. This will remove Oracle Tuxedo *VERSION* plus any delivered Oracle Tuxedo patches from your system.
 - Using the Add/Remove Programs dialog, in sequence remove: Oracle Tuxedo*VERSION* RP and then Oracle Tuxedo *VERSION*.
 7. Go to the Control Panel, double-click on the System icon, and then perform the following actions:
 - a. Make sure `TUXDIR\bin` is deleted from the PATH environment variable definition.
TUXDIR refers to the Oracle Tuxedo installation directory.
 - b. Delete the environment variable TUXDIR.
 - c. Make sure you click on Apply and OK to save your changes.
 8. Using Explorer, delete the Tuxedo home directory, such as `C:\bea\tuxedo9.1`.
If you are unable to delete any files, reboot your machine and retry.

Task 14-1-4: Designating the Application Server Administrator on Microsoft Windows

Before beginning the installation, you need to designate an existing user—or create a new user such as TUXADM or some other account—to be the Application Server Administrator. The Application Server Administrator, not the Windows Administrator, will install Oracle Tuxedo.

The designated user must be a local Microsoft Windows administrator and must have full system privileges. The Oracle Tuxedo installation program creates a new service for Microsoft Windows—called ORACLE ProcMGR V12.2.2.0.0_VS2017—for which you need administrator privileges. This service was developed to port Oracle Tuxedo from UNIX to Microsoft Windows. Administrator rights are required since system registry settings are updated. Once this new service is created, you must reboot to start it.

When you configure your application server domain in a read-only *PS_HOME* environment, the user ID designated to be the Application Server Administrator must have read-only access to *PS_HOME*, read and write access to *PS_CFG_HOME*, and read-only access to the Oracle Tuxedo installation directory, *TUXDIR*, (for example, C:\oracle\tuxedo12.2.2.0.0_VS2017). Otherwise, in a scenario where *<PS_CFG_HOME>* = *<PS_HOME>*, the Application Server Administrator must have read and write access to *PS_HOME* and read-only access to *TUXDIR*.

See "Configuring the Application Server on Windows."

See "Preparing for Installation," Defining Installation Locations.

To designate the Application Server Administrator:

1. Add the user ID by selecting Start, Administrative Tools, Computer Management, Local Users and Groups.
Keep in mind that you can also use an existing account if you do not care to create a new one. You can set this to the system account or an account that is a domain administrator (if there is a need to access files on the domain).
2. Expand Local Users and Groups.
3. If the user ID does not yet exist, highlight the Users folder, and select Action, New User.
4. On the New User dialog box, specify the information for the new account.
Make sure to deselect the User must change password at next logon check box.
5. Expand the Groups folder.
6. Right-click the Administrators group, and select All Tasks, Add to Group, Add.
7. Click Locations to select the local machine or the network domain in which you created the new user.
8. Enter the new user name you created in the object names box.
9. Click OK, and click Apply and OK again to accept the changes.

Task 14-1-5: Installing Oracle Tuxedo on Microsoft Windows in GUI Mode

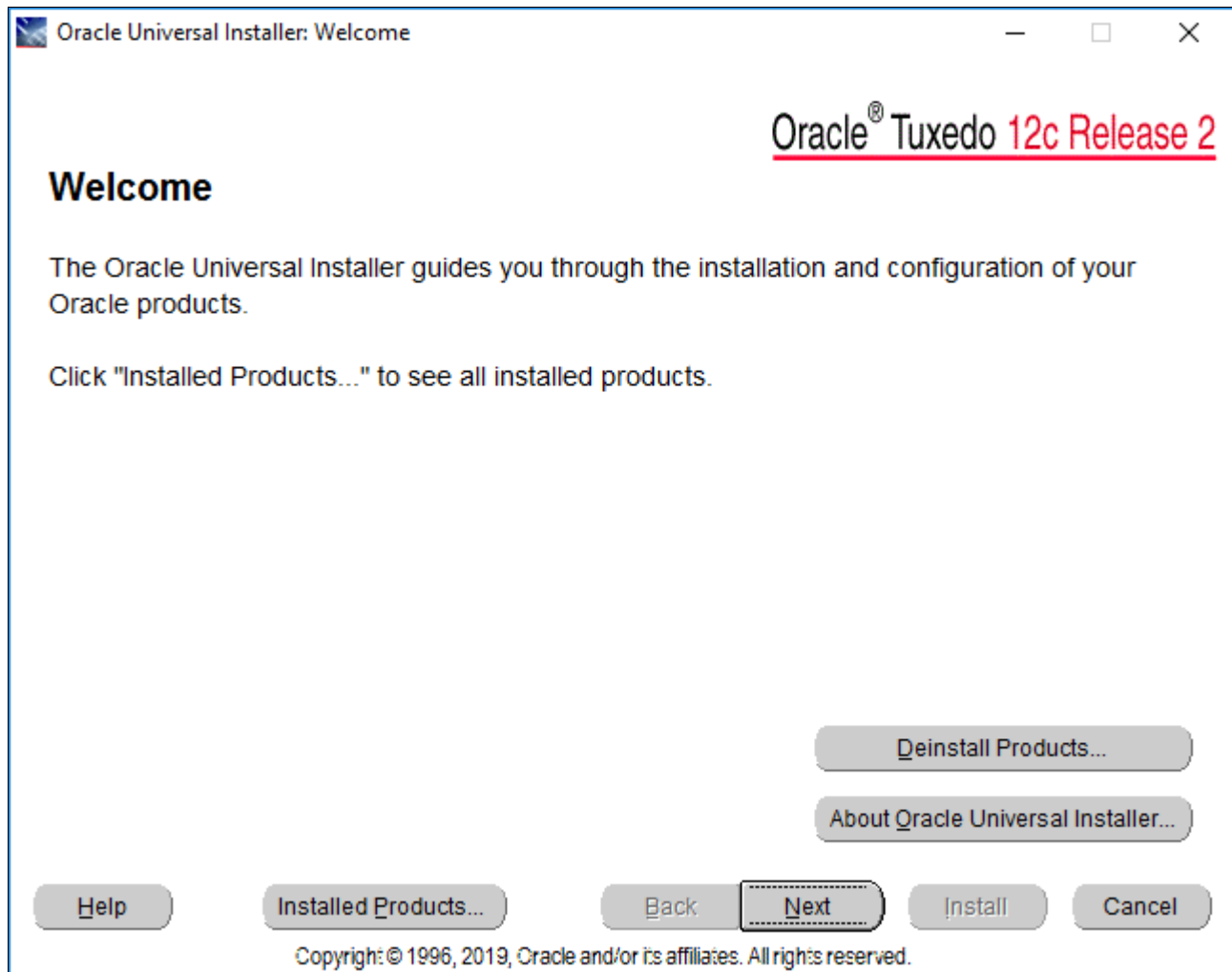
The following procedure assumes that you saved and extracted the installation files from Oracle Software Delivery Cloud in the directory *TUX_INSTALL*. Installation in GUI mode is normally used for Microsoft Windows operating systems.

Note. Oracle Tuxedo 12cR2_VS2017 can coexist on a machine with other versions of Oracle Tuxedo.

To install Oracle Tuxedo on Microsoft Windows:

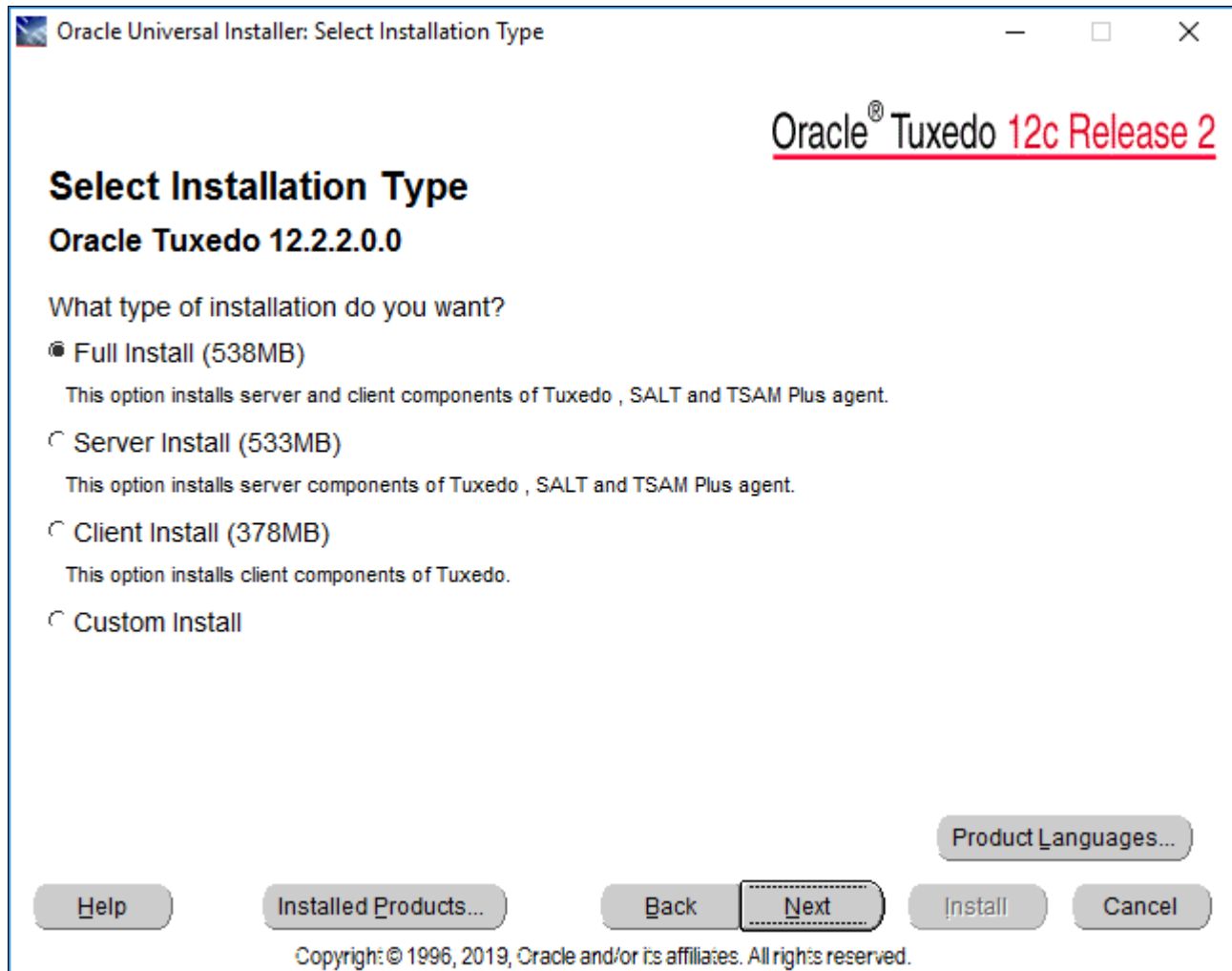
1. Open a command prompt and set the environment variable *JAVA_HOME* to be the location where you installed the Oracle Java JDK 1.8.
For example, if you installed JDK to C:\jdk1.8.0_221 use this command:
`set JAVA_HOME=C:\jdk1.8.0_221`
2. In the same command prompt, change directory to *TUX_INSTALL*\Disk1\install and run setup.bat to start the Oracle Universal Installer.

3. Click OK on the Welcome window, shown in this example:



Oracle Universal Installer: Welcome window for Oracle Tuxedo 12c Release 2

4. Accept the default option, Full Install, on the Select Installation Type window, as shown in this example, and click Next.



Oracle Universal Installer: Select Installation Type window

5. Specify a name and the home directory path for the installation.

You can enter a new name, or choose an existing name from the drop-down list. The name that you supply will be used to identify this Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list. In this example, the name is Tuxedo1222vs2017.

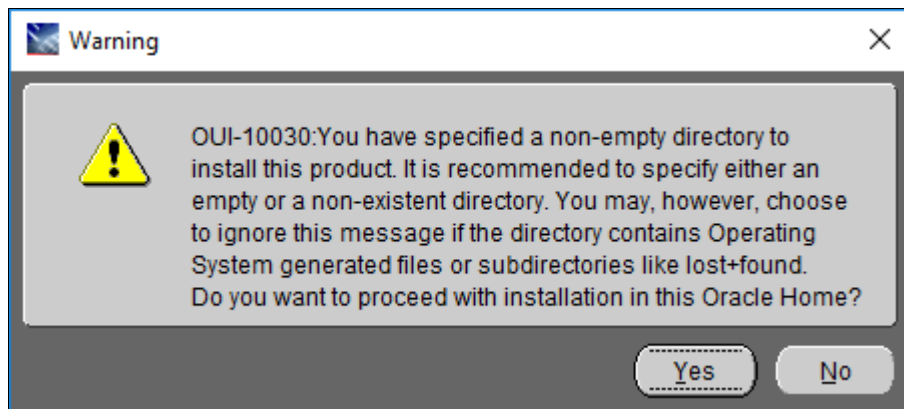
Specify the full path for the home directory. You can choose an existing path from the drop-down list. The Path refers to the location where the Oracle Tuxedo will be installed. The default is *ORACLE_HOME*\tuxedo12.2.2.0.0_VS2017. In this example, the path is C:\Oracle, which is the recommended location, so the software will be installed to C:\oracle\tuxedo12.2.2.0.0_VS2017. The installation directory is referred to in this documentation as *TUXDIR*.

Note. In previous Oracle Tuxedo and PeopleSoft PeopleTools releases, the installation directory was referred to as *BEA_HOME*, and the default was C:\bea. You may see installation directories from previous releases displayed here, and if so, you can select one.

Oracle Universal Installer: Specify Home Details window

6. If you select an existing directory that is not empty, you may see a warning message.

The message recommends that you install to an empty directory unless the directory contains Operating System generated files or subdirectories like lost+found. Click Yes to close the message and continue.

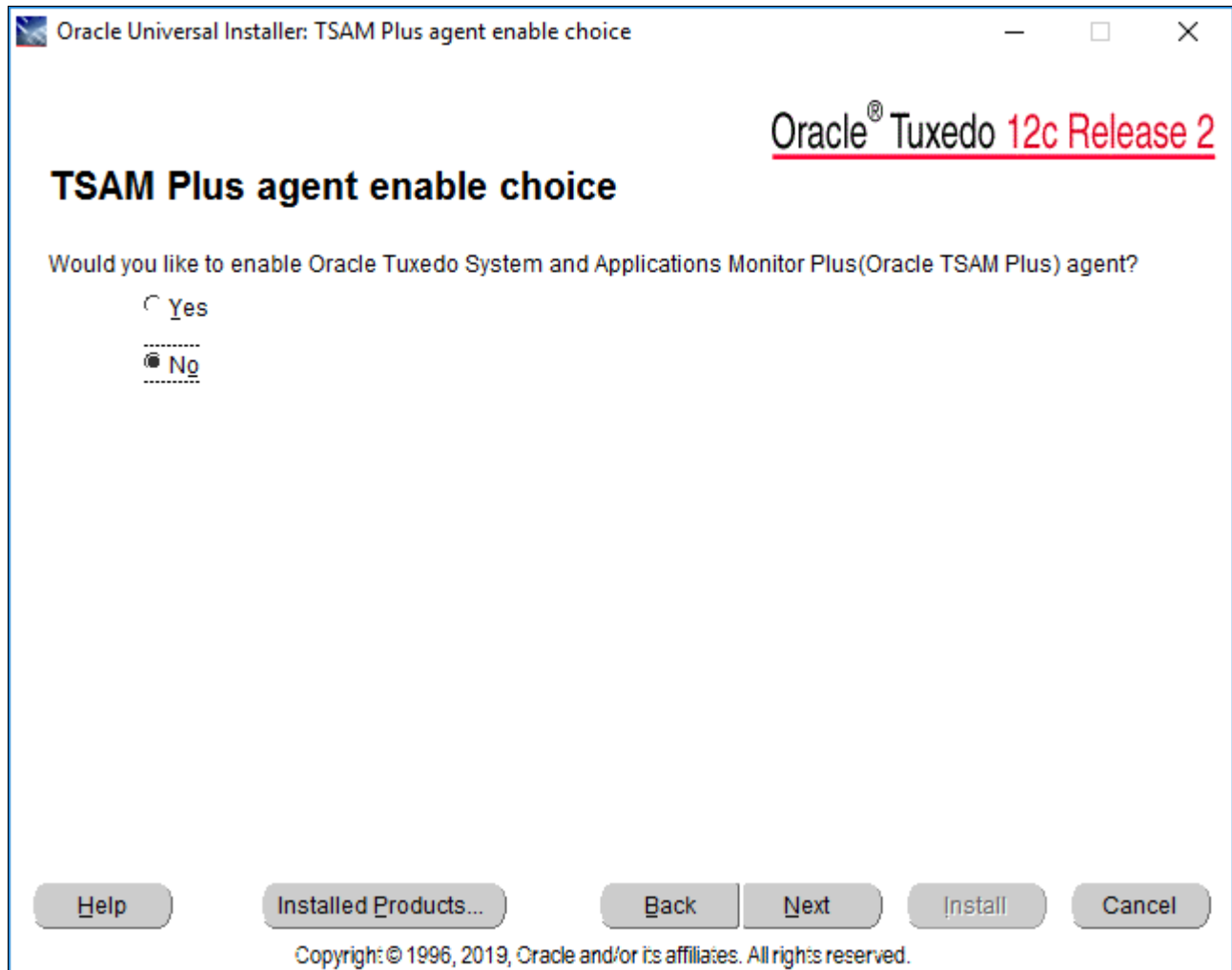


Warning message for a non-empty directory

7. If you have other versions of Oracle Tuxedo on your system, you may get a warning that earlier versions were detected, and with a recommendation that you exit and remove the earlier versions.

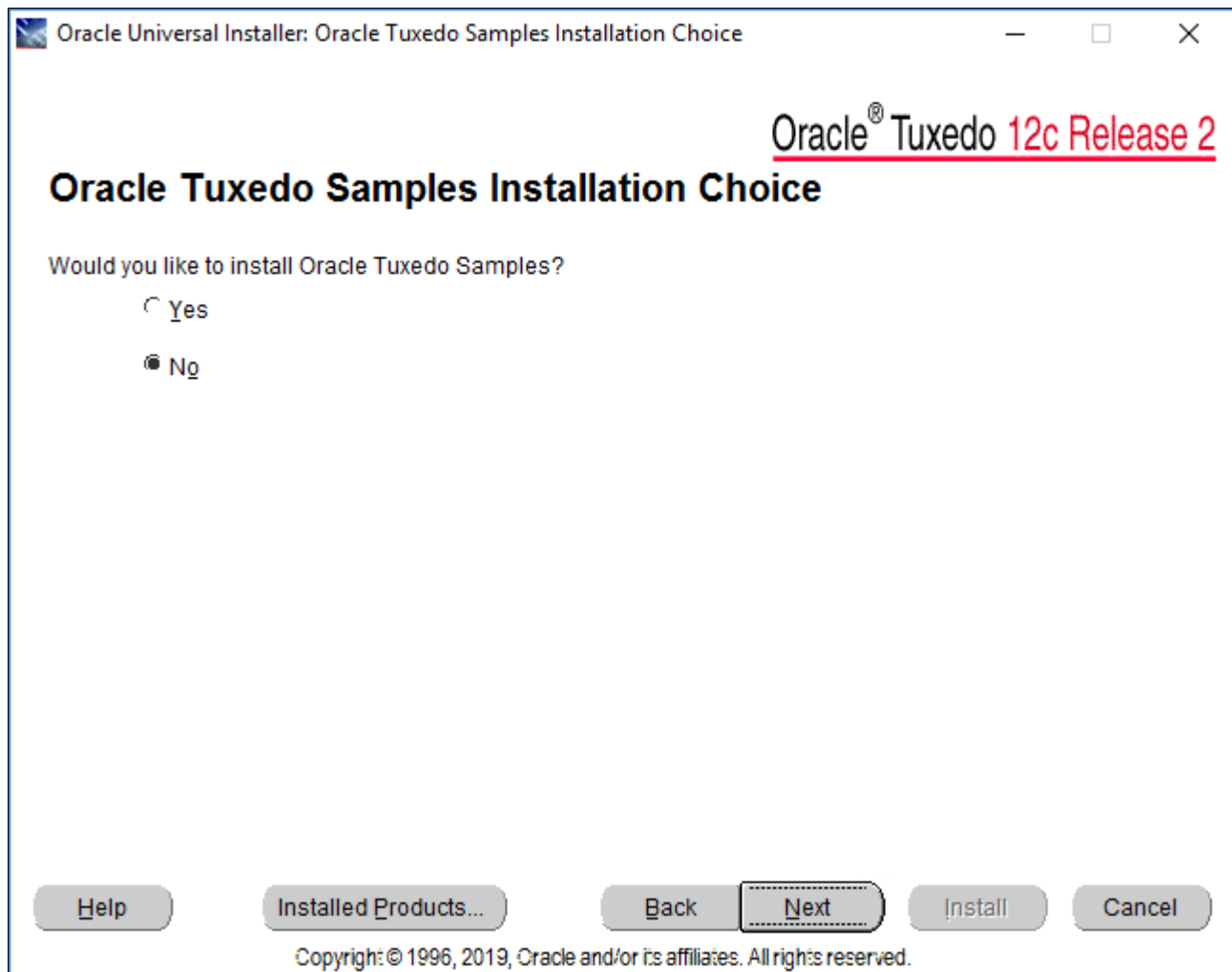
You can either quit and remove the earlier version, or install to a different directory if you want to maintain more than one version of the software. The message directs you to the earlier Installation Guide for instructions for using more than one version of the software. Click Next to continue.

8. Select No on the TSAM Plus agent enable choice window, as shown in this example, and then click Next. This indicates that you do not want to enable Oracle Tuxedo System and Applications Monitor Plus (Oracle TSAM Plus) agent.



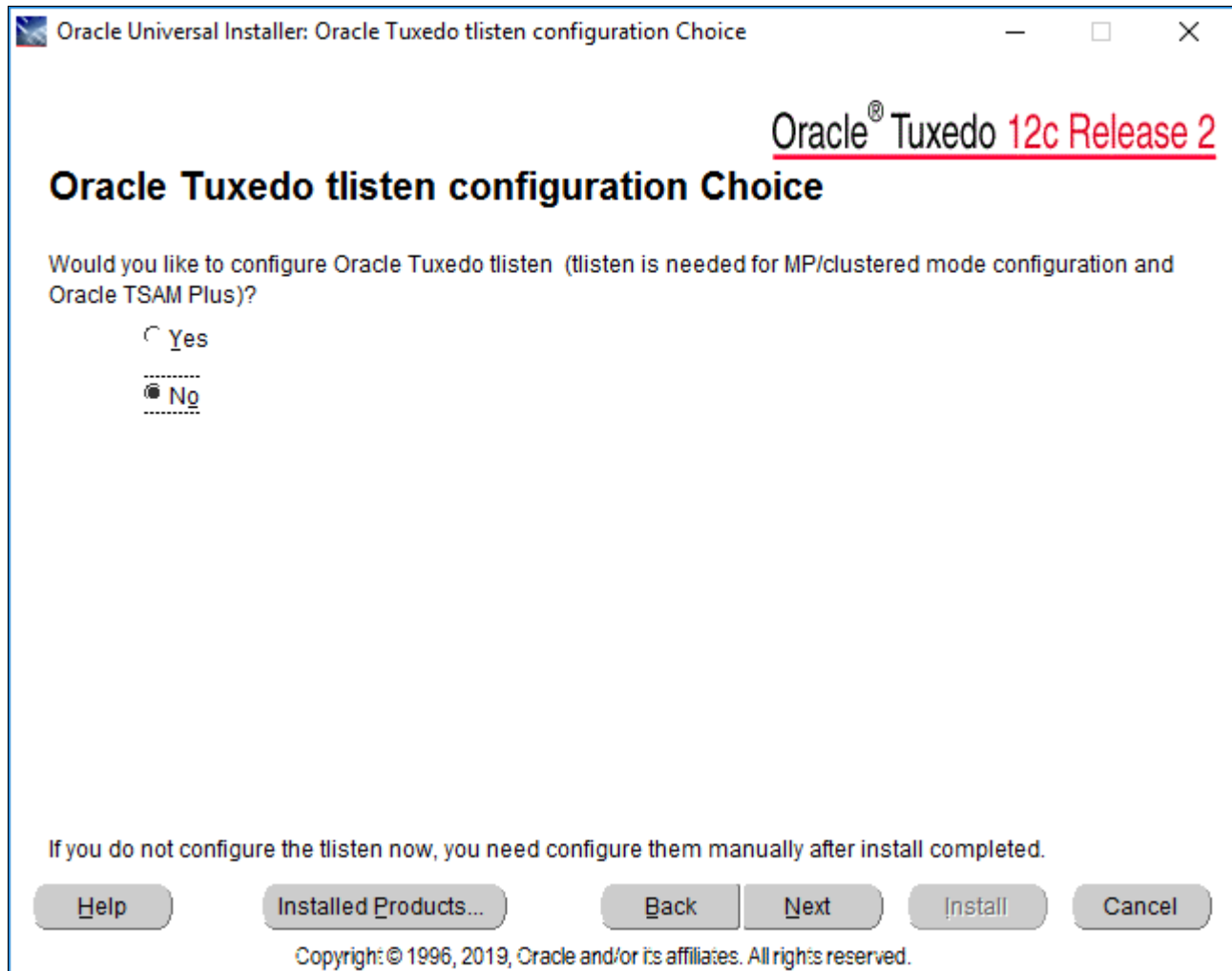
Oracle Universal Installer: TSAM Plus agent enable choice window

9. Select No to indicate that you do not want to install Oracle Tuxedo Samples, as shown in this example, and then click Next.



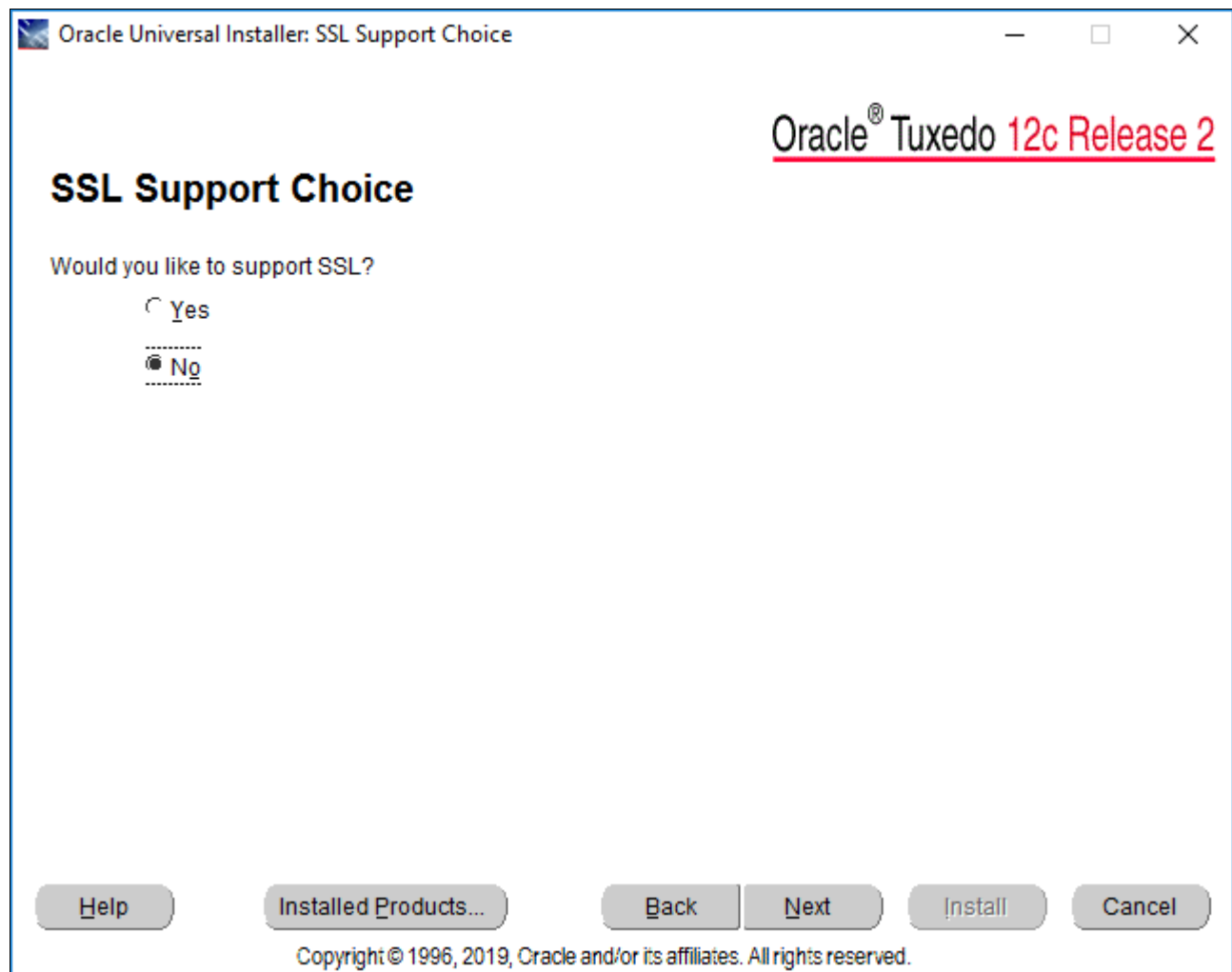
Oracle Universal Installer: Oracle Tuxedo Samples Installation Choice window

10. Select No to indicate that you do not want to configure Oracle Tuxedo tlisten, as shown in this example, and then click Next.



Oracle Universal Installer: Oracle Tuxedo tlisten configuration Choice window

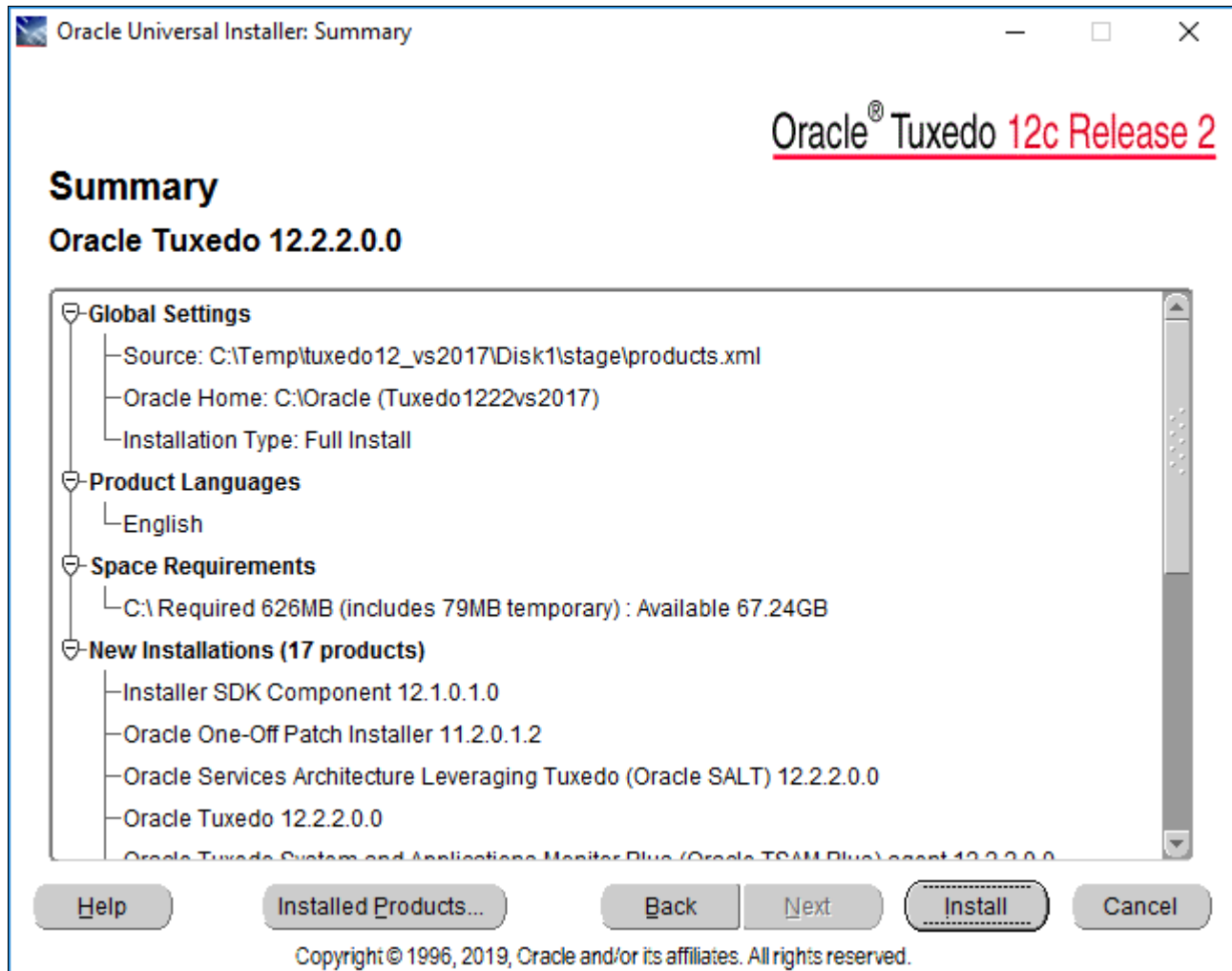
11. Select No on the SSL Support Choice window, as shown in this example, and then click Next.



Oracle Universal Installer: SSL Support Choice window

12. Review the summary information, and click Install to continue.

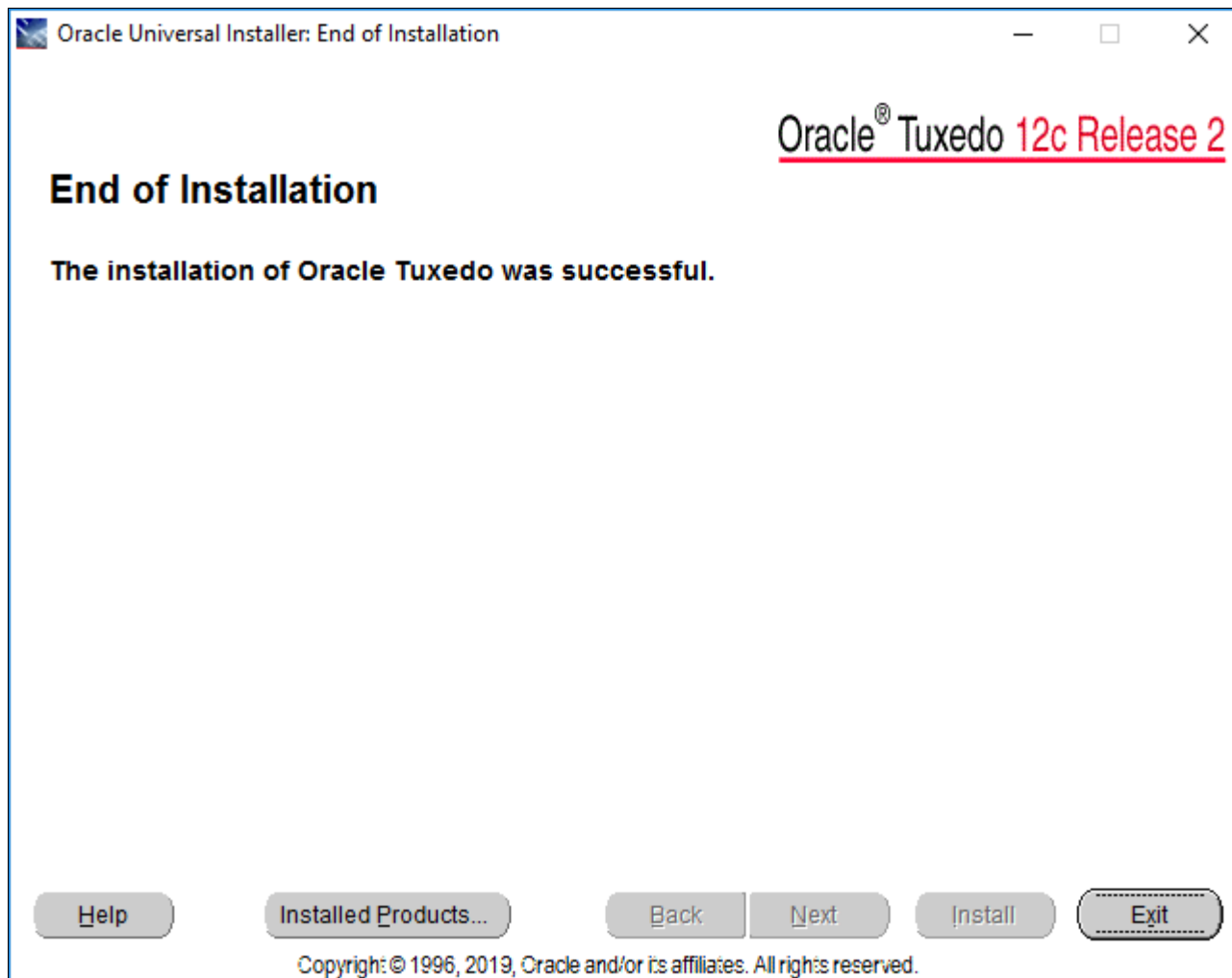
The summary information, shown in this example, includes the product name, install folder, installation type, and disk space information. If you want to change any of your choices, click Back.



Oracle Universal Installer: Summary window

A progress indicator appears during the installation.

13. Click Exit when you see the window indicating the installation completed successfully, as shown in this example.



Oracle Universal Installer: End of Installation window

Task 14-1-6: Installing Oracle Tuxedo on Microsoft Windows in Silent Mode

This section discusses:

- Understanding Silent Installation on Microsoft Windows
- Running the Silent Mode Installation on Microsoft Windows

Understanding Silent Installation on Microsoft Windows

You can carry out a silent installation of Oracle Tuxedo 12cR2_VS2017 by providing all the required settings in a response file. With silent installation there is little or no user interaction.

See Oracle Tuxedo documentation.

Use a text editor to create the response file and specify the values according to your installation requirements. Here is a sample response file:


```
#
# ..... Silent Installation Properties file .....
#

RESPONSEFILE_VERSION=2.2.1.0.0

ORACLE_HOME="C:\oracle"

ORACLE_HOME_NAME="tuxedo1222_VS2017"

INSTALL_TYPE="Full Install"

ENABLE_TSAM_AGENT=false

LDAP_SUPPORT_SSL=false

INSTALL_SAMPLES=false

ENCRYPT_CHOICE=0

CONFIG_TLISTEN=false
```

Most of the entries are similar to those seen in the GUI installation. Note the following definitions:

- **ORACLE_HOME:** The high level installation directory, for example C:\oracle.
The installer creates the Oracle Tuxedo installation directory, *TUXDIR*, as *ORACLE_HOME\tuxedo12.2.2.0.0_VS2017*.
- **ORACLE_HOME_NAME:** The name of the current Oracle installation, for example *tuxedo1222_VS2017*.
This identifies the Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list.

Running the Silent Mode Installation on Microsoft Windows

The following procedure assumes that you saved and extracted the installation file from Oracle Software Delivery Cloud in the directory *TUX_INSTALL*.

See Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud.

To run the installer:

1. Create a response file as described in the previous section and copy it to *TUX_INSTALL*.
2. Open a command prompt and change directory to *TUX_INSTALL\Disk1\install*.
3. Run the installer.

- If you specify an empty directory for *ORACLE_HOME*, use this command:

```
setup.exe -silent -responseFile response_file
```

Specify the full path to the response file. For example, if the response file name is *response.rsp*, and *TUX_INSTALL* is *D:\Temp*, use this command:

```
setup.exe -silent -responseFile D:\Temp\response.rsp
```

- If you specify an existing directory that is not empty for *ORACLE_HOME*, you must include the *-force* option.

When you use the `-force` option with a non-empty `ORACLE_HOME`, you may see a warning message recommending that you install to an empty directory or one that includes Operating System generated files. You may close the message to continue the installation.

```
setup.exe -silent -responseFile D:\Temp\response.rsp -force
```

Note. If you do not include the `-force` option with an `ORACLE_HOME` directory that is not empty, the installer will abort.

4. After you enter the commands in the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

When the installation is complete, you should see a completion message such as "The installation of Oracle Tuxedo was successful." You also see the location of the installation log.

Task 14-1-7: Uninstalling the Oracle Tuxedo Patch on Microsoft Windows

To remove an Oracle Tuxedo installation, you must first remove the rolling patch, as follows:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.
2. Verify that the environment variable `TUXDIR` is set to the Oracle Tuxedo installation location, such as `C:\oracle\tuxedo12.2.2.0.0_VS2017`.
3. Verify that the environment variable `ORACLE_HOME` is set to the `ORACLE_HOME` location you specified when you installed Oracle Tuxedo, such as `C:\oracle`.
4. Open a command prompt and run the following command:

```
%ORACLE_HOME%\OPatch\opatch.bat rollback -id 27127314
```

Task 14-1-8: Uninstalling Oracle Tuxedo in GUI Mode

To remove the Oracle Tuxedo 12cR2_VS2017 installation:

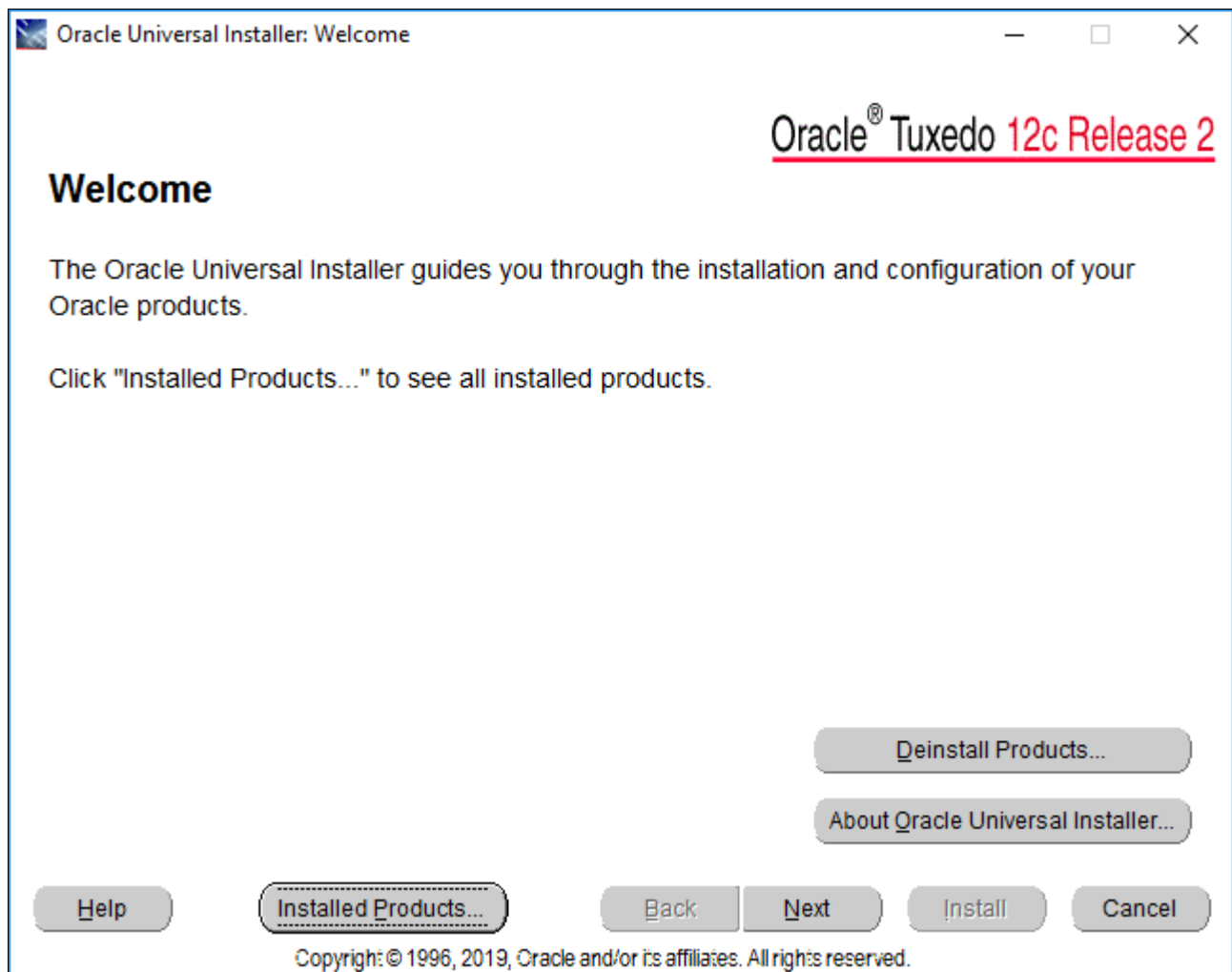
1. Open a command prompt and set the environment variable `JAVA_HOME` to be the location where you installed the Oracle Java JDK 1.8.

For example, if you installed JDK to `C:\jdk1.8.0_221` use this command:

```
set JAVA_HOME=C:\jdk1.8.0_221
```

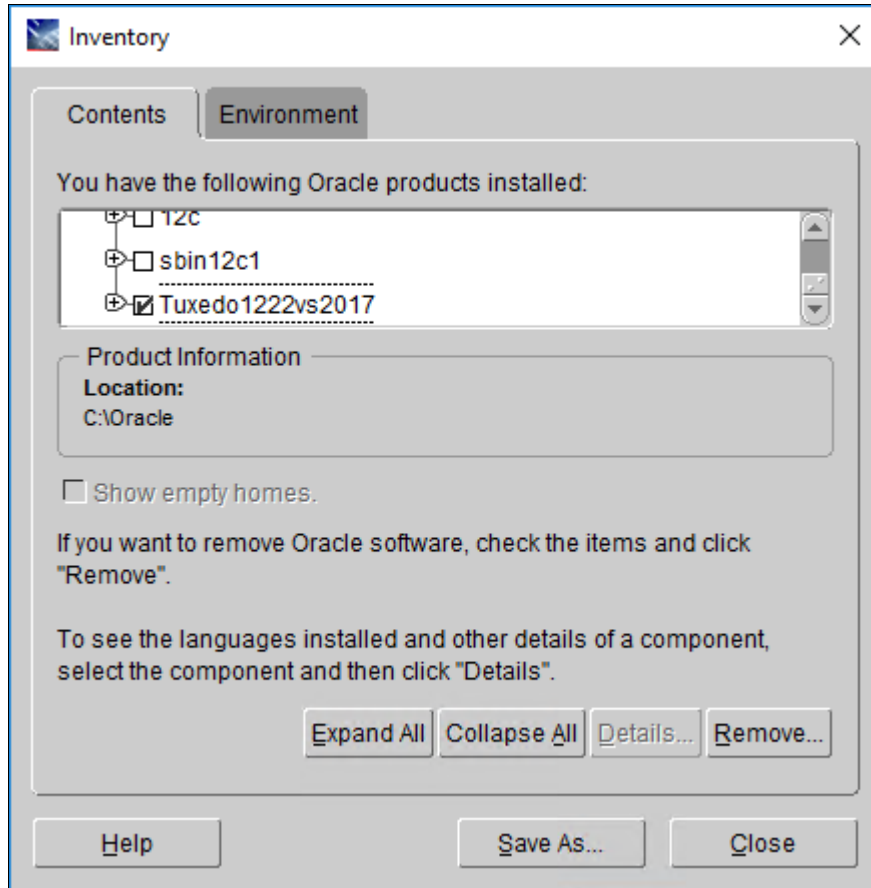
2. In the same command prompt, change directory to `TUX_INSTALL\Disk1\install` and run `setup.bat` to start the Oracle Universal Installer.

3. Click Deinstall Products, as shown in this example:



Oracle Universal Installer: Welcome window

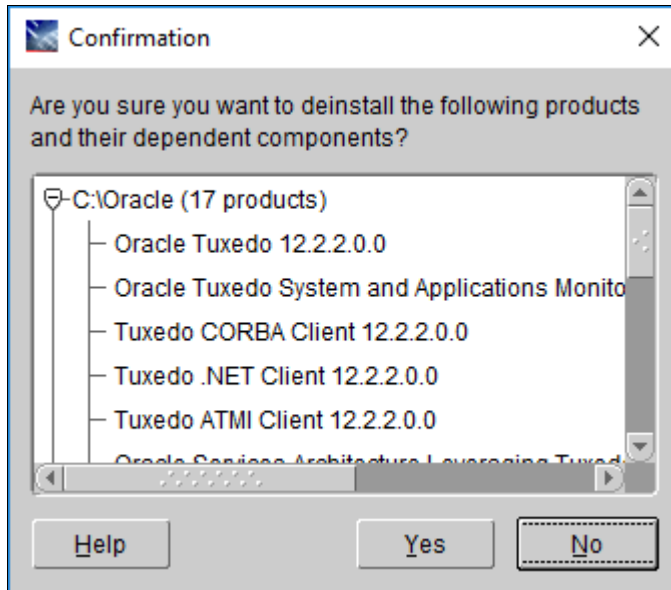
4. On the Contents page, select the name for the Oracle Tuxedo installation, which is Tuxedo1222vs2017 in this example, and then click Remove.



Inventory dialog box: Contents page

- Click Yes on the confirmation dialog box.

The dialog box lists the products and dependent components that will be removed.



Confirmation dialog box

- Open the Microsoft Windows registry, for example by selecting Start, Run, regedit.

Verify that the following key has been removed from the registry:

HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\TUXEDO\12.2.2.0.0_VS2017

Task 14-1-9: Checking the Windows Service Account

Use the information in this section to ensure that the Microsoft Windows services are properly configured. Oracle recommends installing the application server binaries locally on your C drive, for best performance. The procedure to set up the ORACLE ProcMGR V12.2.2.0.0_VS2017 service in the next section includes options for the account type. Use the following guidelines to choose between the Local System account option and the This Account option. (For the option This Account, you must specify a user ID and password.)

Note. For the sake of brevity and convenience, this documentation sometimes shortens "ORACLE ProcMGR V12.2.2.0.0_VS2017" to "Oracle ProcMGR."

- If you plan to install the PeopleSoft application server binaries (as in, psappsrv.exe and so on) on a remote file server, you must select the This Account option.
- If the PeopleSoft application server binaries are *local*, that is, they exist on your local hard drive, you can use either the Local System account or This Account option.
- If you intend to use this Microsoft Windows service to start Process Scheduler, you must *always* select the This Account option. Enter the name of your Domain/Windows user name—not the machine name—and your password.
- If you are running on Microsoft Windows and are configuring a search index that resides on a mapped network drive, you must ensure that the user ID of the Oracle ProcMGR service has access to network drives accessed by the search engine. The search engine stores the search indexes at *PS_HOME/data/search*. However, this path can be changed in the application or the Process Scheduler's configuration. If this path is changed in these configurations and it points to a network drive, you must ensure that the user ID that starts the Oracle ProcMGR service has access to these network drives. The application server and the Process

Scheduler are started by the Oracle ProcMGR service and therefore inherit the same permissions as the Oracle ProcMGR service.

See Also

"Setting Up Process Scheduler on Windows," Setting Up Process Scheduler Security

Task 14-1-10: Restricting Domain Process Privileges

This section discusses:

- Understanding Domain Process Privileges
- Setting TM_CPAU Environment Variable

Understanding Domain Process Privileges

For PeopleSoft systems, the Oracle ProcMGR service (tuxipc.exe) is responsible for starting Oracle Tuxedo domain processes on Microsoft Windows. By default, domain processes run as the same user ID that the service is running as. In a default installation, the service is configured to log on to Microsoft Windows as the Local System user. Microsoft does not support assigning network privileges to the Local System user for security reasons, but the Local System user otherwise has full administrative access to the local system.

In this configuration, PeopleSoft PeopleTools domain processes also run as the Local System user, which presents several potential issues, including:

- PeopleSoft PeopleTools domain processes are unable to access network resources.
- PeopleSoft PeopleTools domain processes run with more privileges than are necessary. A compromised PeopleSoft PeopleTools process will have full access to the local system and could potentially be used to gain unauthorized access to the local system.
- All PeopleSoft PeopleTools domain processes on the system run as the same user ID.

These problems are not present on UNIX systems where domain processes are always started as the user that runs tadmin (by way of PSADMIN for PeopleSoft installations) to boot the domain. UNIX systems therefore support multiple domains, each running under different user IDs, with only the desired local privileges, and with no undesirable restrictions to network resources.

For Microsoft Windows platforms, you can use the Oracle Tuxedo TM_CPAU environment variable to achieve behavior similar to UNIX systems. If TM_CPAU is set to *YES* before tuxipc is started, tuxipc creates an Oracle Tuxedo process that belongs to the user who initiated tmbot. If the Oracle ProcMGR service (tuxipc.exe) is started with the TM_CPAU=YES environment variable set, then domain processes will run as the user ID used to run tadmin (PSADMIN) to boot the domain.

Using the TM_CPAU environment variable enables a variety of configuration options, including:

- The Oracle ProcMGR service can be run as the Local System user, but domain processes can be run using a minimally privileged user. This reduces the chance of a compromised PeopleSoft PeopleTools process being used to gain unauthorized access to the system. Note that the option "Allow services to interact with Desktop" should *not* be selected.
- The Oracle ProcMGR service can be configured to log on to Microsoft Windows using a minimally privileged user ID and PeopleSoft PeopleTools processes can run as a user with more privileges than the Oracle Tuxedo user ID. For example, the Oracle Tuxedo user ID could have read-only access to *PS_CFG_HOME*, but the PeopleSoft PeopleTools user could have read-write access. The Oracle Tuxedo user ID does not actually require read access to *PS_HOME*. When CreateProcessAsUser runs, access to the executable to start is

evaluated using the user ID that the process will run as.

- A single Microsoft Windows system can be used to host multiple PeopleSoft PeopleTools installations that are each administered by a different user. A non-administrative user ID used to boot one domain will have no privileges to processes started with a different user ID.
- Domain processes can be identified and managed in Windows Task Manager by a non-administrative user.

See File Formats, Data Descriptions, MIBs, and System Processes Reference, Oracle Tuxedo Reference Topics, http://docs.oracle.com/cd/E35855_01/tuxedo/docs12c/rf5/rf5.html.

Setting TM_CPAU Environment Variable

This is a recommended step. Perform this step only if Local System account is used in the task Setting Up the Windows Services for Oracle Tuxedo.

To set the TM_CPAU environment variable:

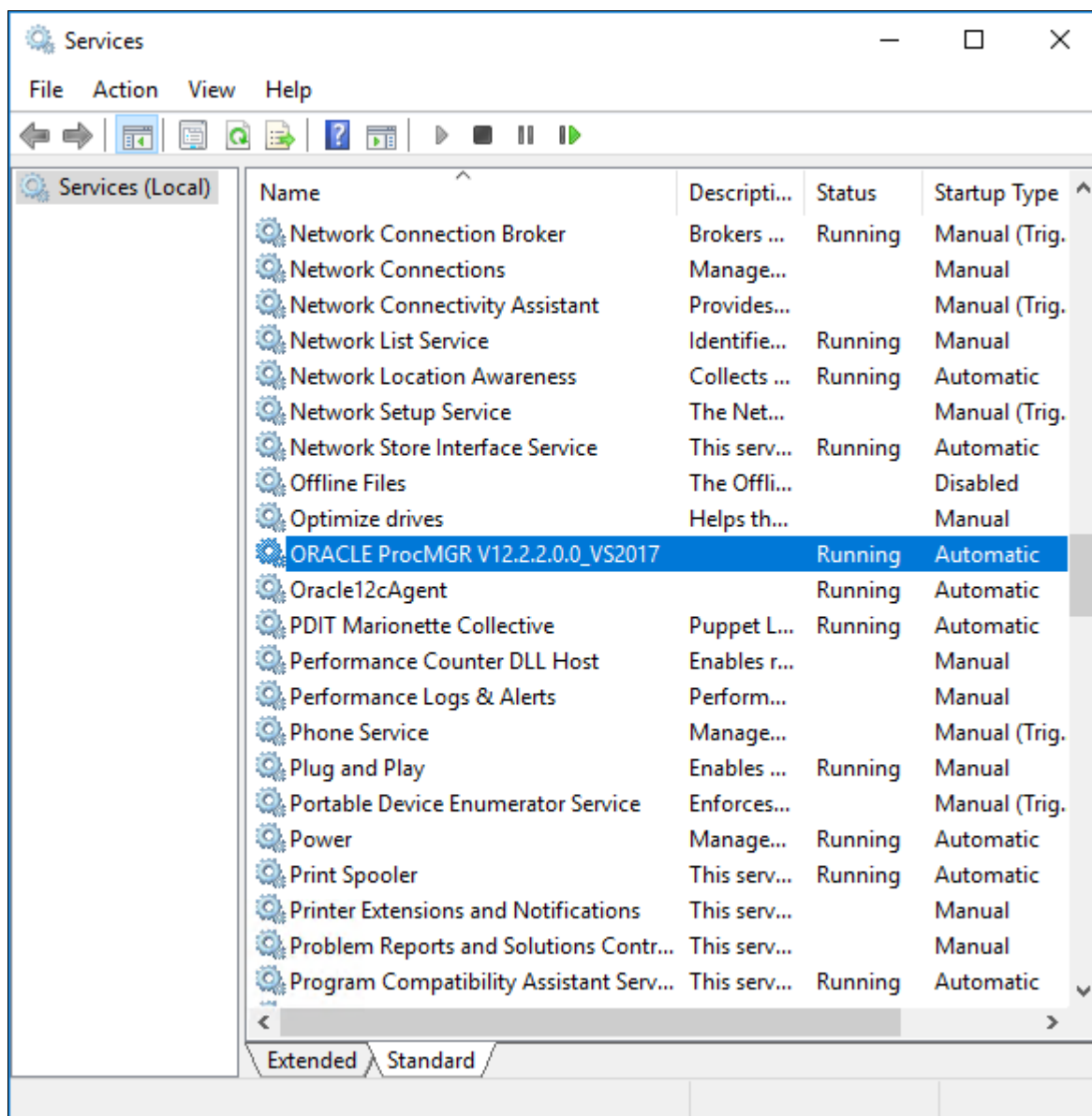
1. Access the Control Panel, and then select System and Security, System.
2. Select Advanced system settings.
3. Select the Advanced tab.
4. Click Environment Variables.
5. In the System variables area, click New to add a new environment variable.
6. Enter TM_CPAU as the variable name, YES as the value, and click OK three times to close the dialog boxes.
7. Restart your machine.

Task 14-1-11: Setting Up the Windows Services for Oracle Tuxedo

To set up the Microsoft Windows services for Oracle Tuxedo:

1. Log on again as the Application Server Administrator, TUXADM, or a designated user ID.
2. Access the Services dialog box, for example from Windows Administrative Tools.

3. Locate the service labeled *ORACLE ProcMGR V12.2.2.0.0_VS2017*.



Services dialog box

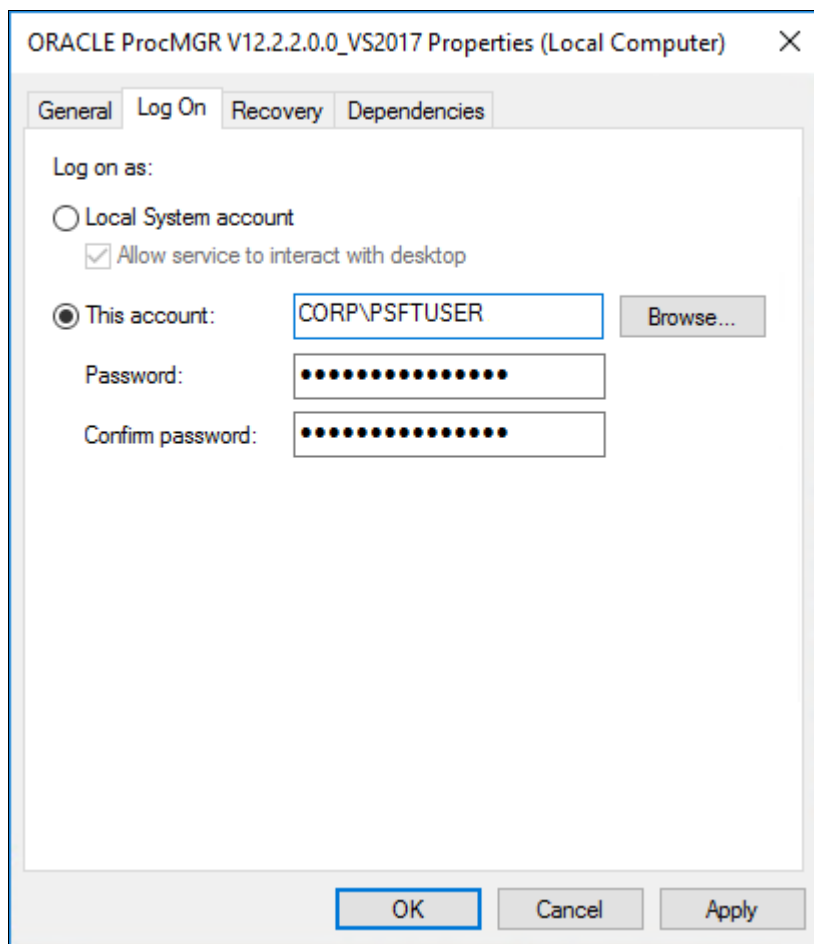
4. Double-click ORACLE ProcMGR V12.2.2.0.0_VS2017 to open the properties dialog box.
5. On the General tab, if the Stop button is enabled, click it to stop the current ORACLE ProcMGR V12.2.2.0.0_VS2017 process.
6. Select Log On.

7. Choose either Local System account or This account.

If you select This account, as shown in this example, be sure to specify a user with the appropriate permissions, and then enter and confirm the password.

Note. The option used—Local System account or This account—must be consistent with your ODBC catalog definition, due to registry operations. For example, if you use the Local System Account option, you must also catalog your ODBC data source using System DSN.

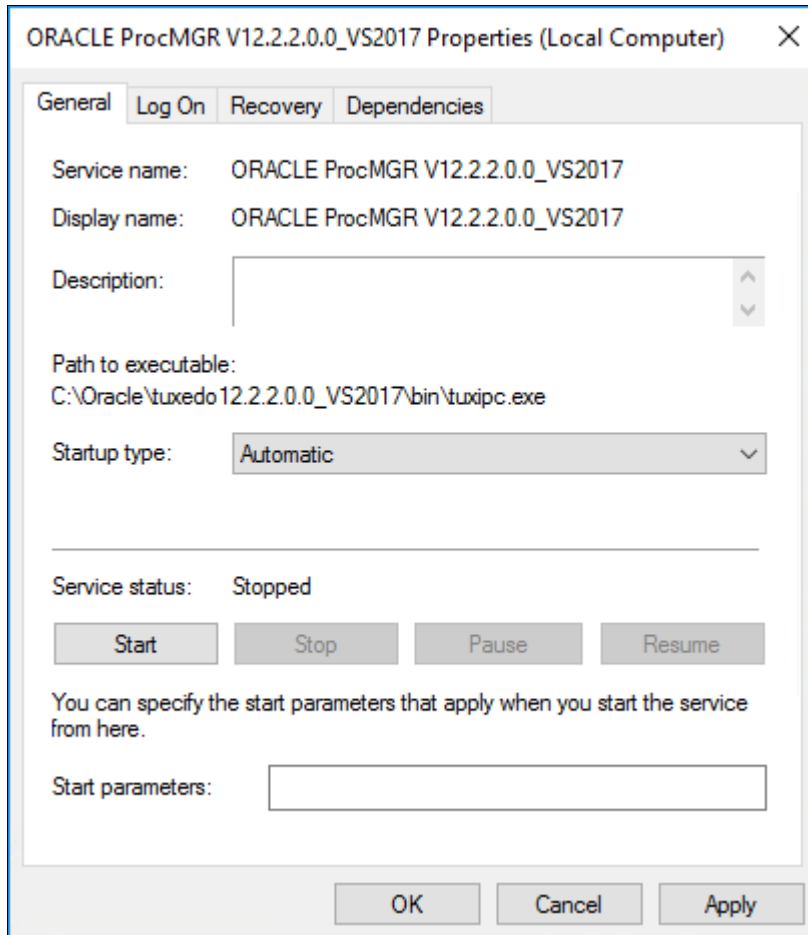
See Checking the Windows Service Account.



ORACLE ProcMGR V12.2.2.0.0_VS2017 Properties dialog box: Log On tab

8. Select General.

Make sure that Startup Type is set to *Automatic*, as shown in this example.



ORACLE ProcMGR V12.2.2.0.0_VS2017 Properties dialog box: General tab

9. Click Start.

The status Started appears both on the General tab of the Oracle ProcMGR V12.2.2.0.0_VS2017 Properties dialog box and in the Services dialog box. Click OK to close the dialog box.

10. As mentioned, unless you intend to use the Tuxedo Web Monitor, you should disable the TListen 12.2.2.0.0_VS2017 (Port: *PORT*) service, where *PORT* is the port number you entered during the installation. The default is 3050.

Task 14-1-12: Verifying the Server Installation on Microsoft Windows

At this point, you should verify that the server installation was successful.

To verify the installation:

1. Open a command prompt.
2. Set the TUXDIR environment variable; for example:

```
set TUXDIR=C:\oracle\tuxedo12.2.2.0.0_VS2017
```
3. Go to the directory where you installed Oracle Tuxedo, *TUXDIR*, and then to the bin sub-directory. For example:

```
C:\oracle\tuxedo12.2.2.0.0_VS2017\bin
```

- 4. Issue this command:

```
tmadmin -v
```

The command will return the Oracle Tuxedo version that is installed. For example:

```
INFO: Oracle Tuxedo, Version 12.2.2.0.0_VS2017, 64-bit, Patch Level 023
```

If you do not see the desired output, review your steps and reinstall Oracle Tuxedo 12cR2_VS2017.

- 5. Open the Microsoft Windows registry, for example by selecting Start, Run, regedit.

Verify that the following key is created in the Windows registry:

```
HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\TUXEDO\12.2.2.0.0_VS2017
```

Task 14-1-13: Removing Existing Oracle Tuxedo Installations from UNIX (Optional)

You may have older versions of Oracle Tuxedo installed on your system from an earlier version of PeopleSoft PeopleTools. If you are completely upgrading to PeopleSoft PeopleTools 8.58 from an earlier version of PeopleSoft PeopleTools and you do not require the older Oracle Tuxedo anymore, then, you may uninstall it.

Note. It is not mandatory to uninstall older Oracle Tuxedo versions from the machine where you are installing Oracle Tuxedo 12cR2, as older Oracle Tuxedo versions and Oracle Tuxedo 12cR2 can exist on the same machine.

You may have to remove your Oracle Tuxedo installation on UNIX for the following reasons:

- You are having problems starting Oracle Tuxedo and decide to reinstall.
- You no longer need Oracle Tuxedo on a machine.

To remove Oracle Tuxedo from UNIX:

1. Using PSADMIN, shut down any application server, Process Scheduler, and Search server domains that may be running on the machine.
2. Use the UNIX `rm` command to directly remove the Oracle Tuxedo installation.
Be sure to remove the directory containing Oracle Tuxedo, referred to here as *TUXDIR*.
3. Remove the TUXDIR environment variable and any entries containing your platform-specific LIBRARY PATH and PATH environment variables.

Task 14-1-14: Completing the Preinstallation Checklist on UNIX

We recommend that you complete the following preinstallation checklist before you begin the Oracle Tuxedo installation. The checklist includes various parameters with descriptions and example values. Specify your values in the Real Value column. Completing this information first should save you time during your installation.

Item	Description	Example Value	Real Value
ORACLE_HOME	The high level installation directory. You specify this value in the silent installation file.	/oracle	<enter value>

Item	Description	Example Value	Real Value
ORACLE_HOME_NAME	The name of the current Oracle installation. This identifies the Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list.	tuxedo1222	<enter value>
TUXDIR	The full path to the Oracle Tuxedo installation. The installer creates this as ORACLE_HOME/tuxedo12.2.2.0.0	/oracle/tuxedo12.2.2.0.0	<enter value>
Username	The UNIX user name of the Application Server Administrator (Oracle Tuxedo owner). See the next section for instructions.	tuxedo	<enter value>
UNIX_GROUP_NAME	The UNIX group name of the Oracle Tuxedo owner. See the next section for instructions.	tuxedo	<enter value>
FROM_LOCATION	The full path to the directory containing the products to be installed.	/home/temp/Disk1/stage/products.xml	<enter value>

Note. You can select any user name and group name you want; however, you might want to use the "tuxedo" convention for simplicity.

Task 14-1-15: Designating the Oracle Tuxedo Owner on UNIX

A new or existing user must be designated as the Oracle Tuxedo owner.

Note. The application server can be booted only by the Oracle Tuxedo owner or the group that the owner is in. The predefined UNIX "other" group does not have read or execute permission. If it is required that members of the "other" group be able to boot and shut down an application server domain, you must manually give read and execute permissions to all files and folders under the *TUXDIR/locale* and *TUXDIR/udataobj* directories.

To designate the Oracle Tuxedo owner:

1. Log in as root.
2. Create the UNIX group and the user name of the individual who will be the owner of Oracle Tuxedo.

Using the values from the preinstallation checklist, create the group and specify the group name. Then create the user who will be the Oracle Tuxedo owner, specifying the user name, group name, and home directory, denoted by TUXDIR from the checklist.

Note. The utility that you use to create the user and group varies, depending on your operating system. For example, HP-UX Itanium uses the "sam" utility, IBM AIX uses the "smit" utility, and so on. For the exact utility, refer to your operating system documentation.

Task 14-1-16: Installing Oracle Tuxedo in Silent Mode on UNIX

This section discusses:

- Understanding the Silent Mode Installation on UNIX
- Running the Silent Mode Installation on UNIX

Understanding the Silent Mode Installation on UNIX

You can carry out a silent installation of Oracle Tuxedo 12cR2 by providing all the required settings in a response file. With silent installation there is little or no user interaction.

Note. Console mode installation is not supported for Oracle Tuxedo 12cR2.

Use a text editor to modify the values in the response file according to your installation requirements. Here is a sample response file:

```
#
# ..... Silent Installation Properties file .....
#

RESPONSEFILE_VERSION=2.2.1.0.0
#Unix group to be set for the inventory directory. Valid only in Unix⇒
platforms.
UNIX_GROUP_NAME="dba"

#Complete path of the Oracle Home.
ORACLE_HOME="/home/psftuser/tuxedo"

#Oracle Home Name. Used in creating folders and services.
ORACLE_HOME_NAME="tuxedo1222"
DEINSTALL_LIST={"Tuxedo","12.2.2.0.0"}
SELECTED_LANGUAGES={"en"}
COMPONENT_LANGUAGES={"en"}
INSTALL_TYPE="Full Install"
ENABLE_TSAM_AGENT=false
LDAP_SUPPORT_SSL=false
TLISTEN_PORT="3050"
INSTALL_SAMPLES=false
ENCRYPT_CHOICE=0
CONFIG_TLISTEN=true
TLISTEN_PASSWORD=password
```

Running the Silent Mode Installation on UNIX

The following procedure assumes that:

- You saved and extracted the installation files from Oracle Software Delivery Cloud in the directory *TUX_INSTALL*.
- You installed the supported version of Java 8.

The command requires the full path for the JRE file, such as `/home/java/jre1.8.0_221`.

To install Oracle Tuxedo on UNIX:

1. If it does not exist, use a text editor, such as "vi", to create the central inventory location file, named `oraInst.loc`, in a convenient directory.

If you have previously installed Oracle software on the system, the `oraInst.loc` file may already exist. The `oraInst.loc` file contains only the following two lines:

```
inventory_loc=/home/psftuser/oraInventory
inst_group=ccpt
```

The `oraInst.loc` file contains the following information:

- `inventory_loc` — Specify the full path to the directory where you want the installer to create the inventory directory. The location in the example is `/home/psftuser/oraInventory`.
 - `oui_install_group` — Specify the name of the group whose members have write permissions to this directory. The group name in the example is `ccpt`.
2. Create a response file as described in the previous section and copy it to *TUX_INSTALL*.
 3. Open a command prompt and change directory to *TUX_INSTALL/Disk1/install*.
 4. If this is the first time you are installing on your system (that is, there is no pre-existing Oracle inventory location, and you had to create the `oraInst.loc` file in the first step), use the following command to perform a silent installation:

```
./runInstaller -responseFile <complete_filename> -silent -invPtrLoc =>
<complete_inventory_filename> -jreLoc <JRE file location>
```

Specify the full path and name for the response file, the `oraInst.loc` file, and the JRE file. For example:

```
./runInstaller -responseFile /home/temp/response.rsp -silent -invPtrLoc=>
/home/psftuser/oraInventory/oraInst.loc -jreLoc /home/java/jre1.8.0_221
```

5. If you have previously installed an Oracle product on your system and do not need to specify an Oracle inventory location, use the following command to perform a silent installation:

```
./runInstaller -responseFile <complete_filename> -silent -jreLoc <JRE=>
file location>
```

Specify the full path and name for the response file and the JRE file. For example:

```
./runInstaller -responseFile /home/temp/response.rsp -silent -jreLoc =>
/home/java/jre1.8.0_221
```

6. After you enter the commands in the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

The progress indicator includes the name and location of the installation log file. When the installation is complete, you should see a successful completion message.

Task 14-1-17: Installing the Oracle Tuxedo Patch on UNIX

These instructions assume that you have installed the base Oracle Tuxedo 12cR2, and have downloaded the platform-specific version of the rolling patch to a directory referred to here as *TUX_INSTALL*.

To install the patch:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.

Shut down any tlisten processes.

2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as /home/psftuser/oracle/tuxedo12.2.2.0.0.

Note. The TUXDIR directory should include subdirectories bin and udataobj.

3. Verify that the environment variable ORACLE_HOME is set to the *ORACLE_HOME* location you specified when you installed Oracle Tuxedo, such as /home/psftuser/oracle.

Note. This is the parent directory for the Oracle Tuxedo installation. It should include subdirectories OPatch and oui.

4. Verify that the environment variable JAVA_HOME is set to the 64-bit JDK 1.8 directory, as mentioned in the prerequisites section.

5. Go to the directory where you downloaded the patch zip file from My Oracle Support, *TUX_INSTALL*, and extract the file.

This creates a directory 25391869, which includes a zip file with the patch.

6. Open a command prompt and go to the *TUX_INSTALL/25391869* directory.

7. Run the following command:

```
$ORACLE_HOME/OPatch/opatch apply 25391869.zip
```

Note. The patch installer backs up all files being patched. The backup copy is located in the directory *ORACLE_HOME\patch_storage*. Do not delete these backup files. They will be used if you need to remove the patch installation.

8. If OPatch cannot locate the Oracle inventory, you may see a message such as the following:

```
Applying interim patch 25391869 to OH '/oracle'
Verifying environment and performing prerequisite checks.
OPatch system modification phase did not start
```

In this case, specify the full path to the Oracle inventory file oraInst.loc, with the *invPtrLoc* option:

```
%ORACLE_HOME%/OPatch/opatch.bat apply 25391869.zip -invPtrLoc <full_⇒
path_to_inventory_file>
```

Task 14-1-18: Uninstalling the Oracle Tuxedo Patch from UNIX

To remove an Oracle Tuxedo installation, you must first remove the rolling patch, as follows:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.
2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as /home/psftuser/oracle/tuxedo12.2.2.0.0.

3. Verify that the environment variable `ORACLE_HOME` is set to the `ORACLE_HOME` location you specified when you installed Oracle Tuxedo, such as `/home/psftuser/oracle`.
4. Open a command prompt and run the following command:

```
$ORACLE_HOME/OPatch/opatch rollback -id 25391869
```

Task 14-1-19: Uninstalling Oracle Tuxedo from UNIX Using Silent Mode

To remove the Oracle Tuxedo 12cR2 installation from UNIX:

1. Open a command prompt and change directory to `TUX_INSTALL/Disk1/install`.
2. Run the following command, where `ORACLE_HOME` refers to the high-level installation director, and `REMOVE_HOMES` refers to the directory to be removed:

```
./runInstaller -deinstall -silent ORACLE_HOME=<LOCATION_OF_ORACLE_HOME>⇒  
"REMOVE_HOMES={<LOCATION_OF_ORACLE_HOME_TO_BE_REMOVED>}"
```

For example:

```
./runInstaller -deinstall -silent ORACLE_HOME="/home/psftuser/tuxedo"⇒  
"REMOVE_HOMES={/home/psftuser/tuxedo}"
```

See Oracle Tuxedo documentation.

Task 14-1-20: Verifying the Server Installation on UNIX

To verify that the server installation was successful:

1. Open a shell.
2. Change directory to `TUXDIR/bin`. For example:

```
/home/psftuser/oracle/tuxedo1222/bin
```
3. Issue the following command:

```
tmadmin -v
```

The command will return the Oracle Tuxedo version that is installed. For example:

```
INFO: Oracle Tuxedo, Version 12.2.2.0.0, 64-bit, Patch Level 023
```

If you do not see the desired output, review your steps and reinstall Oracle Tuxedo 12cR2.

Task 14-1-21: Ensuring that Oracle Tuxedo Coexists with Earlier Versions

This section discusses:

- Understanding the Use of Multiple Oracle Tuxedo Versions
- Checking Your Environment Variables
- Changing the TListen Port

Understanding the Use of Multiple Oracle Tuxedo Versions

Earlier versions of PeopleSoft PeopleTools rely on earlier versions of Oracle Tuxedo—for example, PeopleSoft PeopleTools 8.53 uses Oracle Tuxedo 11gR1 for UNIX, and Oracle Tuxedo 11gR1_VS2010 for Microsoft Windows. If you are installing only PeopleSoft PeopleTools 8.58, you can safely skip this section. If you need to run application servers on PeopleSoft PeopleTools 8.58 and earlier PeopleSoft PeopleTools versions on the same machine, read this section to learn about coexistence issues. Although Oracle Tuxedo 12cR2 coexists with earlier Oracle Tuxedo versions on the same machine, you may need to take a number of manual steps to ensure that these products share the same environment gracefully.

Checking Your Environment Variables

Installing Oracle Tuxedo on UNIX changes your `TUXDIR` and `PATH` environment variables. Although you do not need to change these environment variables to successfully run PeopleSoft PeopleTools 8.58 with Oracle Tuxedo 12cR2, earlier versions of PeopleSoft PeopleTools rely on these environment variables being set.

To change your environment variables manually:

1. Set your `TUXDIR` environment variable to reflect the installation directory of your earlier Oracle Tuxedo release.

For example, Oracle Tuxedo 11gR1 may be installed to `/home/oracle/tuxedo11gR1`. This means that `TUXDIR=/home/oracle/tuxedo11gR1` is the correct setting.

2. Your `PATH` environment variable must contain `TUXDIR/bin` for the earlier Oracle Tuxedo version before any entries for `TUXDIR/bin` for Oracle Tuxedo 12cR2.

For example the setting `PATH=/usr/local/bin:/home/psftuser/tuxedo12cR2/bin:/home/oracle/tuxedo11gR1/bin` will cause your pre-8.53 domains to no longer work. You would need to change this to `PATH=/usr/local/bin:/home/oracle/tuxedo11gR1/bin:/home/oracle/tuxedo12cR2/bin` to work with pre-PeopleSoft PeopleTools 8.53 domains.

Note. PeopleSoft PeopleTools 8.44 and later versions do not use environment variables to discover the installation location of Oracle Tuxedo 8.1 and later. The PSADMIN tool retrieves these values from the Microsoft Windows registry.

3. Your library path on UNIX (whichever of the environment variables `LD_LIBRARY_PATH`, `LIBPATH`, or `SHLIB_PATH` is appropriate for your platform) must contain `TUXDIR/lib` for the earlier Oracle Tuxedo version before any entries for Oracle Tuxedo 12cR2.

For example the setting `LD_LIBRARY_PATH=/lib:/usr/lib:/home/user/oracle/tuxedo12cR2/lib:/home/oracle/tuxedo11gR1/lib`, will cause your pre-8.53 domains to no longer work. You would need to change this to `LD_LIBRARY_PATH=/lib:/usr/lib:/home/oracle/tuxedo11gR1/lib:/home/user/Oracle/tuxedo12cR2/lib` for your pre-8.53 domains to work.

Alternatively, you can set the environment variables for a desired release using these steps:

1. Go to the `TUXDIR` directory for the release that you want to run and run the command `./tux.env`.

This command sets the environment variables needed to run Oracle Tuxedo.

2. Verify the correct Oracle Tuxedo version by running this command:

```
tmadmin -v
```

See Verifying the Server Installation on UNIX.

Changing the TListen Port

Installing Oracle Tuxedo 12cR2 and earlier creates a new service known as TListen. In most cases, you can disable this service as it is not required to run PeopleSoft PeopleTools application server domains. However, if you intend to use the Tuxedo Web Monitor you may wish to ensure that there is no port clash with earlier versions. This port is determined at installation and should be changed to a port other than the default 3050 if you intend on using the TListen service for Oracle Tuxedo 12cR2 and earlier Oracle Tuxedo versions concurrently.

Chapter 15A

Configuring the Application Server on Windows

This chapter discusses:

- Understanding the Application Server
- Prerequisites
- Creating a Wallet for the SSL/TLS Setup
- Setting Up COBOL for Remote Call
- Verifying Database Connectivity
- Creating, Configuring, and Starting an Initial Application Server Domain

Understanding the Application Server

The information in this chapter is provided to help you configure your PeopleSoft application server.

Note. COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check the information on My Oracle Support, and your application-specific documentation, for the details on whether your application requires COBOL.

Oracle supports a Microsoft Windows application server to use with any of our supported databases for the PeopleSoft installation. For detailed information, consult the certification information on My Oracle Support. The application server support can be found on the certification pages for PeopleSoft systems.

Application servers are not supported on z/OS because Oracle Tuxedo cannot run on the mainframe. For this reason, you can only install an application server in a "physical" three-tier configuration—with the application server on a machine separate from the database server machine. You cannot run a "logical" three-tier configuration—with the application server on the same machine as the database server.

The configuration and log files for application server domains reside in *PS_CFG_HOME*. If you do not set a *PS_CFG_HOME* environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

```
%USERPROFILE%\psft\pt\<peopletools_version>
```

See "Preparing for Installation," Defining Installation Locations.

Note. You can start application servers as a Windows service, which means that administrators no longer need to manually start each application server that runs on a Windows machine.

See Also

"Preparing for Installation," Understanding PeopleSoft Servers and Clients

"Setting Up Process Scheduler on Windows," Starting Process Scheduler as a Windows Service

PeopleTools: System and Server Administration, "Using PSADMIN Menus"

PeopleTools: Data Management

My Oracle Support, Certifications

"Setting Up the Install Workstation"

"Installing and Compiling COBOL on Windows"

Prerequisites

Before beginning this procedure, you should have completed the following tasks:

- Installed your application server.
See "Using the PeopleSoft Installer," Planning Your Initial Configuration.
- Installed the supported version of Oracle Tuxedo
See "Installing Additional Components."
- Set up SSL/TLS protocol for the workstation connection.
The Secure Socket Layers/Transport Layer Security (SSL/TLS) protocol is supported for Workstation Listener and Jolt Listener ports for the current PeopleSoft PeopleTools release. The application server domain configuration requires a wallet. You can use the delivered wallet or create your own.
See *PeopleTools: Security Administration*, "Installing Web Server-Based Digital Certificates."
- Granted authorization to a PeopleSoft user ID to start the application server.
The database configuration procedure includes a step for setting up the user ID with authorization to start the application server. See the application-specific installation instructions for information on the user IDs for your PeopleSoft application. See the *PeopleTools: Security Administration* product documentation for information on PeopleSoft PeopleTools delivered user profiles.
See "Creating a Database," Creating Data Mover Import Scripts.
- Run the following SQL statements on your database server to review and if needed, update the PSCLASSDEFN table:

```
SELECT CLASSID, STARTAPPSERVER FROM PSCLASSDEFN
WHERE CLASSID IN (SELECT OPRCLASS FROM PSOPRCLS WHERE OPRID='<OPRID>')
UPDATE PSCLASSDEFN SET STARTAPPSERVER=1 WHERE CLASSID='<CLASSID>'
```

Note. Installers typically use VP1 or PS to test the application server. If these users are deleted or their passwords are changed, the application server will no longer be available. To avoid this problem, you can set up a new operator (called PSADMIN or PSASID, for instance) with privileges to start the application server. If you do this, you can use the new operator for your application servers and you won't need to change the password each time VP1 or PS is changed.

Task 15A-1: Creating a Wallet for the SSL/TLS Setup

This section discusses:

- Using the Delivered Wallet
- Creating a Wallet with OpenSSL

Task 15A-1-1: Using the Delivered Wallet

Before you configure the application server to use the SSL/TLS protocol, you need a wallet. Use these instructions to create wallets for the application server and workstation client.

Note. The term "Oracle Wallet" is sometimes used in the software and documentation, for example in PSADMIN custom configuration, to refer to wallets on all RDBMS. In this context it does not refer to an entity specific to an Oracle RDBMS.

You also have the option to use the wallets that are included with the PeopleSoft PeopleTools installation. The default wallet for the application server is named psft and is located in `$PS_SERVDIR/security`. When you configure the application server, define the default wallet as follows:

- `SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security`
- `SEC_PRINCIPAL_NAME=psft`

To specify the default wallet for the workstation client:

- `SEC_PRINCIPAL_LOCATION=PS_HOME\bin\client\winx86\security`
- `SEC_PRINCIPAL_NAME=wscpsft`

The default Keystore file, in PKCS12 format, used for the SSL/TLS configuration for JSL ports is located in `<PIA_HOME>\webserve\<DOMAIN_NAME>\piaconfig\keystore\pskey`. If you change the Keystore password in this file, you must also provide the password in the PIA configuration.properties file at `<PIA_HOME>\webserve\<DOMAIN_NAME>\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps`.

Task 15A-1-2: Creating a Wallet with OpenSSL

This section discusses:

- Defining OpenSSL Options
- Creating a Server Wallet for the Application Server Domain with OpenSSL
- Creating a Client Wallet for the Workstation Client with OpenSSL
- Adding the Server's Certificate to the Client's Trust Store with OpenSSL

Defining OpenSSL Options

An example of an OpenSSL command that can be used to create a wallet is as follows.

For more information, see the OpenSSL documentation.

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in server.crt ->
chain -CAfile caCert.crt -passout pass:<password>
```

- **-export**: indicates that a PKCS 12 file is being created
- **-chain**: specifies that an attempt is made to include the entire certificate chain of the user certificate
- **-inkey**: specifies the private key file
- **-in**: specifies the file that contains the user certificate and any other certificates in the certificate chain
- **-CAfile**: specifies a file containing trusted certificates
- **-out**: specifies the output file name, which must be ewallet.p12 for an Oracle Wallet for PeopleSoft installations.
- **-passin**: specifies the password for the private key file
- **-passout**: specifies the password for the newly created wallet

Creating a Server Wallet for the Application Server Domain with OpenSSL

This section gives an example of creating a wallet for the application server with the open-source tool OpenSSL.

1. Create a directory, for example wallet.server.

For example on Microsoft Windows:

```
mkdir C:\wallet.server
```

2. Change directory to wallet.server.

```
cd wallet.server
```

3. Enter the following command:

```
openssl genrsa -out server.key 4096
```

4. Enter the following command.

```
openssl req -new -key server.key -out server.csr -subj <subject>
```

For example:

```
openssl req -new -key server.key -out server.csr -subj '/C=country/CN=>
commonName'
```

The *<subject>* values in this step and step 7 are used to replace the specified data in an input request, and output a modified request. The format for *<subject>* is *'/type0=value0/type1=value1/type2=...'*. Characters must be escaped with a backslash (\), and no spaces are skipped. Use the following fields:

- */C* — Country
- */CN* — Common name
- */L* — Location
- */O* — Organization
- */OU* — Organizational Unit
- */ST* — State

5. Enter the following command:

```
openssl genrsa -out caCert.key 4096
```

6. Enter the following command,

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj =>
<subject>
```

For example:

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj=>
'/C=US/OU=Class 2 Public Primary Certification Authority/O=My=>
Organization'
```

7. Enter the following command:

```
openssl x509 -req -days 730 -in server.csr -CA caCert.crt -CAkey ca=>
Cert.key -set_serial 01 -out server.crt
```

8. Enter the following command to create the wallet ewallet.p12 and specify the server password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in=>
server.crt -chain -CAfile caCert.crt -passout pass:<server_password>
```

Creating a Client Wallet for the Workstation Client with OpenSSL

This section gives an example of creating a client wallet with the open-source tool OpenSSL.

1. Create a directory, for example wallet.client, and change to that directory.

```
mkdir wallet.client
cd wallet.client
```

2. Copy the server's trust store to the client wallet.

```
cp wallet.server\caCert.crt wallet.client
cp wallet.server\caCert.key wallet.client
```

3. Enter these commands:

```
openssl genrsa -out client.key 4096
```

4. Run this command:

```
openssl req -new -key client.key -out client.csr -subj <subject>
```

For example:

```
openssl req -new -key client.key -out client.csr -subj '/C=country/CN=>
commonName'
```

5. Run this command:

```
openssl x509 -req -days 730 -in client.csr -CA caCert.crt -CAkey ca=>
Cert.key -set_serial 01 -out client.crt
```

6. Enter the following command to create the wallet ewallet.p12 and specify the client password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey client.key -in=>
client.crt -chain -CAfile caCert.crt -passout pass:<client_password>
```

7. Remove the client wallet password:

- a. Make a backup copy of the wallet, ewallet.p12:

On Microsoft Windows:

```
xcopy ewallet.p12 oldwallet.p12
```

- b. Run this command:

```
openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
certificate.crt -password pass:<client_password> -passin pass:⇒
<client_password>
```

- c. Run this command:

```
openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
password pass:C<client_password> -passin pass:<client_password>
```

- d. Run this command:

```
openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
pass:<client_password> -passin pass:<client_password> -passout pass:⇒
temp
```

- e. Run this command:

```
openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
```

- f. Run the command to create the PEM.pem file.

This file is created to copy the public key and root certificates.

On Microsoft Windows:

```
type certificate.crt ca-cert.ca >PEM.pem
```

- g. Run this command:

```
openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
```

Adding the Server's Certificate to the Client's Trust Store with OpenSSL

To complete the setup, add the application server's certificate to the workstation client's trust store:

1. Change directory.

```
cd %ORACLE_HOME%\jdk\bin
```

2. Add the certificate to the trust store found in the web server directory for the application server domain.

```
keytool -import -file <server_wallet>/<certificate> -alias srvcert -⇒
keystore <PIA_HOME>\webserver\<DOMAIN_NAME>\piaconfig\keystore\pskey -⇒
storepass password -noprompt
```

For example, on Microsoft Windows:

```
keytool -import -file wallet.server/caCert.crt -alias srvcert -keystore⇒
C:\user\psft\pt\8.58\webserver\ps\piaconfig\keystore\pskey -storepass⇒
password -noprompt
```


Task 15A-2: Setting Up COBOL for Remote Call

Remote Call is a PeopleCode feature that launches a COBOL program from an application server, PeopleCode program or a batch Application Engine PeopleCode program and waits for it to complete execution before continuing. The execution of a COBOL program via Remote Call is completely independent of the Process Scheduler. You need to set up a COBOL runtime environment and COBOL executables on the application server to support Remote Call.

See "Installing and Compiling COBOL on Windows."

Note. If your application does not contain COBOL programs, you do not need to purchase or compile COBOL.

Task 15A-3: Verifying Database Connectivity

Before continuing, it is critical to verify connectivity to the database that the application server domain will use. To verify connectivity, connect to the database server from the application server using the native SQL tool on the application server.

If you are running DB2 for z/OS, you can issue this command from the UNIX prompt:

```
db2 connect to <database name> user <z/OS ID> using <password>
```

If you are running DB2 for z/OS and are setting up your application server on a Microsoft Windows machine, enter the preceding command at a DB2 Connect command window, or use DB2 Connect's Command Center or Client Configuration Assistant.

See "Installing and Configuring DB2 Connect."

Task 15A-4: Creating, Configuring, and Starting an Initial Application Server Domain

This section discusses:

- Creating, Configuring, and Starting the Application Server Domain
- Testing the Three-Tier Connection
- Importing an Existing Application Server Domain Configuration
- Setting Up a Custom Application Server Domain Configuration
- Troubleshooting Common Errors

Task 15A-4-1: Creating, Configuring, and Starting the Application Server Domain

To create, configure, and start the application server domain:

1. Run the `psadmin` command.

You see the PeopleSoft Server Administration menu, as in this example:

```
-----
```

PeopleSoft Server Administration

```
-----
PS_CFG_HOME:  C:\Users\JSMITH\psft\pt\8.58
PS_HOME:      C:\psft\pt\ps_home8.58
PS_APP_HOME:  C:\psft\pt\hcm_app_home
```

- 1) Application Server
- 2) Process Scheduler
- 3) Search Server
- 4) Web (PIA) Server
- 5) Switch Config Home
- 6) Service Setup
- 7) Replicate Config Home
- 8) Refresh Config Home
- q) Quit

Command to execute (1-8, q): **1**

Note. Make sure you change the directory from the *PS_CFG_HOME* on the file server to the *PS_HOME*, or high-level directory, on the application server.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/peopletools.properties* file with the current *PS_HOME* location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/peopletools.properties* file. Continue with the next step.

3. Specify **1** for Application Server and press ENTER.
4. Specify **2** to Create a domain and press ENTER.

PeopleSoft Application Server Administration

- ```

1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration
q) Quit
```

Command to execute (1-4, q): **2**

5. Specify the domain name.

In this example the domain name is HRDMO:

Please enter name of domain to create : **HRDMO**

Domain names are case sensitive and must be eight US-ASCII characters or less. The domain name is used to create a directory name under the *PS\_CFG\_HOME*\appserv directory.

See the information on *PS\_CFG\_HOME* and server domain configuration in the *PeopleTools: System and Server Administration* product documentation.

6. Specify 4 for small if this is your initial domain installation, press ENTER.

See *PeopleTools: System and Server Administration*.

7. After the system creates the domain, the PeopleSoft Application Server Administration menu appears with a Quick-configure menu similar to this:

```

Quick-configure menu -- domain: HRDMO

```

| Features<br>=====           | Settings<br>=====                 |
|-----------------------------|-----------------------------------|
| 1) Pub/Sub Servers : No     | 17) DBNAME : [HRDMO]              |
| 2) Quick Server : No        | 18) DBTYPE : [DB2ODBC]            |
| 3) Query Servers : No       | 19) UserId : [QEDMO]              |
| 4) Jolt : Yes               | 20) UserPswd : []                 |
| 5) Jolt Relay : No          | 21) DomainID : [TESTSERV]         |
| 6) WSL : No                 | 22) AddToPATH : [ ]               |
| 7) PC Debugger : No         | 23) ConnectID : [people]          |
| 8) Event Notification : Yes | 24) ConnectPswd : []              |
| 9) MCF Servers : No         | 25) DomainConnectPswd: []         |
| 10) Perf Collator : No      | 26) PHC Remote Admin Settings: [] |
| 11) Analytic Servers : Yes  | 27) WSL Port : [7000]             |
| 12) Domains Gateway : No    | 28) WSL SSL Port : [7010]         |
| 13) Push Notifications : No | 29) JSL Port : [9000]             |
|                             | 30) JSL SSL Port : [9010]         |
|                             | 31) JRAD Port : [9100]            |

```

Actions
=====
14) Load config as shown
15) Custom configuration
16) Edit environment settings
h) Help for this menu
q) Return to previous menu

```

HINT: Enter 17 to edit DBNAME, then 14 to load

Enter selection (1-28, h, or q):

---

**Note.** If your installation includes more than one application server domain on a given machine, read the troubleshooting section for more information.

---

See Troubleshooting Common Errors.

8. If you need to modify any of the values for these settings, enter the number next to the parameter name, press ENTER, then type the new value, and press ENTER again.

If you need to change any of the features, type the number next to the feature name and press ENTER.

9. Configure the WSL to boot by changing option 6 to Yes.

Enter 6, and press ENTER.

10. If you intend to use the PeopleSoft Report Distribution system, you must select Yes for feature 8, Event Notification.

This enables the REN server, which is used by the "run to window" functionality of the Report Distribution system. *The Report Distribution system, MultiChannel Framework, and Optimization Framework use REN servers.* You must also remember to enter an Authentication Token Domain when installing the PeopleSoft Pure Internet Architecture (PIA).

11. If you are configuring an application server domain to support applications based on the PeopleSoft MultiChannel Framework (such as PeopleSoft CRM ERMS), select feature 9, MCF Servers.

See the information on configuring REN Servers in the product documentation.

See *PeopleTools: MultiChannel Framework*.

12. Enter the values for the 20) UserPswd and 24) ConnectPswd that you specified during the database configuration.

Reenter each password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

13. If you want to set a Domain Connection password, enter 25 and specify a password of 8 characters or less.

Reenter the password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

The Domain Connection password is optional. You can specify a value or leave it blank. However, if you do specify a value, you must supply the same value when installing the PeopleSoft Pure Internet Architecture, to ensure the connection to the Application Server.

14. Use setting 27) PHC Remote Admin Settings if you want to enable JMX agents for use with PeopleSoft Health Center (PHC).

The remote administration settings are disabled by default. After you select this setting to enable remote administration, you are prompted to supply a port, user name and password.

See *PeopleTools: Performance Monitor, Configuring PeopleSoft Health Center*.

---

**Note.** You can also specify the necessary values using the custom configuration. The Enable Remote Administration parameters are in the PSTOOLS section.

---

- a. Enter 27 to access the PHC Remote Admin Settings.

- b. Accept the value 1 to enable remote administration, or change to 0 to disable.

Enter new value for Enable Remote Administration [1]:

- c. Enter the port number to use for remote administration of domain processes.

All embedded JMX agents will use the port in the JMX service URL.

Enter new value for Remote Administration Port [10100]:

- d. Enter the user name for remote administration connections.

Enter new value for Remote Administration UserId [psftuser]:

- e. Enter a user password two times.

---

**Note.** You do not have to enter an encrypted password. The psadmin utility encrypts the password during configuration.

---

Enter new value for Remote Administration Password []: *password*

Reenter the Remote Administration Password : *password*

f. Continue with the Quick-configure menu.

15. To set up the Workstation Listener for SSL/TLS protocol, enter 28 for WSL SSL Port, and specify an available port number.

The default port number is 7010.

16. To set up the Jolt listener for SSL/TLS protocol, enter 30 for JSL SSL Port, and specify an available port number.

The default port number is 9010.

17. Use the custom configuration menu to specify the settings for SSL/TLS encryption and the wallet location.

See *PeopleTools: Integration Broker*, "Installing Web Server-Based Digital Certificates."

- a. To specify the minimum and maximum encryption for SSL/TLS, select 15 for Custom Configuration.

- b. Reply *y*, and press ENTER, at this prompt:

Do you want to change any config values (y/n) [n]?

- c. Reply *n*, and press ENTER, at this prompt:

Do you want to change any values (y/n) [n]?

Continue to enter *n*, for No, for all sections until you see the Workstation Listener section, and then answer *y*. (Be aware that there are several sections.)

- d. If necessary, change the values for WSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

Values for config section - Workstation Listener

```
Address=%PS_MACH%
Port=7000
SSL Port=7010
WSL Min Encryption=0
WSL Max Encrytion=256
Min Handlers=1
Max Handlers=2
Max Clients per Handler=40
Client Cleanup Timeout=60
Init Timeout=5
Tuxedo Compression Threshold=5000
```

- e. Accept the defaults for the next series of questions until asked if you want Oracle Wallet configured. In this case, answer *y*.

- f. Specify the values for the Oracle Wallet location, name, and password, or accept the defaults.

You can use an existing wallet that you created, or use the default wallet found in the security directory.

Values for config section - Oracle Wallet

```
SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
```

```
SEC_PRINCIPAL_NAME=psft
SEC_PRINCIPAL_PASSWORD=
```

- g. Accept the defaults for the next series of questions until asked if you want the JOLT Listener configured. In this case, answer *y*
- h. If necessary, change the values for JSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

Values for config section - JOLT Listener

```
Address=%PS_MACH%
Port=9000
SSL Port=9010
JSL Min Encryption=0
JSL Max Encrytion=256
Min Handlers=1
Max Handlers=2
Max Clients per Handler=40
Client Cleanup Timeout=10
Init Timeout=5
Client Connection Mode=ANY
Jolt Compression Threshold=1000000
```

- i. Accept the default for the remaining questions; the configuration will load automatically.

18. If you are installing a REN server:

- a. Enter *15* for Custom configuration.
- b. Reply *y*, and press ENTER, at this prompt:  
Do you want to change any config values (y/n) [n]?
- c. Reply *n*, and press ENTER, at this prompt:  
Do you want to change any values (y/n) [n]?

Continue to enter *n*, for No, for all sections until you see the PSRENSRV section, and then answer *y*. (Be aware that there are several sections.)

- d. Leave the defaults for all settings except for default\_auth\_token, which you should set to the domain name for your web server.

---

**Note.** The default\_auth\_token setting should be identical to the Authentication Token Domain that you set during PIA installation.

---

See "Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode."

- e. Accept the defaults for the next series of questions until asked if you want Event Notification configured. In this case, answer *y*.
  - f. Accept the default for the remaining questions; the configuration will load automatically.
19. If you are not installing a REN server, after you update the settings you can load the configuration by entering *14*, for Load config as shown, from the Quick-configure menu.
20. To start the application server (whether you installed a REN server or not), select *1*, Boot this domain, from the PeopleSoft Domain administration menu.
21. Select *1*, Boot (Serial Boot) or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

---

**Note.** The messages you see and the number of processes started will depend on the options you chose during configuration.

---

22. If you plan to continue with PIA installation and testing, do not shut down the application server at this time.
23. If you want to shut down your PeopleSoft application server domain later, follow these simple steps:
  - a. From the PeopleSoft Domain Administration menu, enter 2 for Domain shutdown menu.
  - b. From the PeopleTools Domain Shutdown Menu, enter 1 for Normal shutdown.  
 You see messages about the application server processes being shut down. The number of processes stopped will vary depending on the number of processes that started when you booted the domain.
  - c. Enter *q* to quit the PeopleSoft Domain Administration Menu.

## Task 15A-4-2: Testing the Three-Tier Connection

If you get an error message when you try to sign in to the Application Server in Application Designer (that is, three-tier mode), it may be due to an incorrect server name or port number, because the database server is not running, or because the application server was not booted. To test a three-tier connection from the PeopleTools Development Environment (the Windows-based client):

1. Start Configuration Manager with one of these methods:
  - Locate PeopleTools 8.58, Configuration Manager in the list of programs, for example from the Start menu or the Apps screen.
  - Run `PS_HOME\bin\client\winx86\pscfg.exe`.
2. Select the Profile Tab. Highlight Default and select Edit.
3. On the Edit Profile dialog box, select *Application Server* as the Connection Type.
4. Enter values for these parameters:
  - Application Server Name
  - Machine Name or IP Address
  - Port Number (WSL)  
 Enter the WSL port that you specified when creating the application server domain. If you want to use the SSL/TLS protocol for connection, enter the WSL SSL port number (the default is 7010). If you want to use the LLE protocol, enter the non-SSL WSL port (the default is 7000).
  - Domain Connection Password and Domain Connection Password (confirm)  
 Specify a value for the password, and repeat your entry for confirmation. The password must be 8 characters or less.  
  
 This password is optional. If you did not set the Domain Connection Password in Configuration Manager or in the Application Server configuration, leave it blank. If you specify a password, you must supply the same password during the PeopleSoft Pure Internet Architecture installation for a successful connection between the Application Server and PeopleSoft Pure Internet Architecture.  
  
 See the *PeopleTools: System and Server Administration* product documentation for information on using PeopleSoft Configuration Manager and PSADMIN.
  - Wallet Location  
 Enter the location that you specified for the client wallet. The default location is `%PS_HOME%\bin\client\winx86\security`.
  - Wallet Name

Enter the name for the client wallet that you specified. The default name is wscpsft.

5. Select Set to add the definition to the list and select OK to close the dialog box.
6. On the Configuration Manager dialog box, select the Startup tab.
7. Select *Application Server* from the Database Type list. Your application server name should be displayed.
8. Enter the values for User ID, Connect ID, and password.
9. Click OK.

---

**Note.** Confirm that the application server is running by booting it from PSADMIN. Select *1, Boot* this domain, from the PeopleSoft Domain administration menu. Select option *1, Boot (Serial Boot)* or *2, Parallel Boot*, from the PeopleSoft Domain Boot menu.

---

10. Start Application Designer with one of these methods:
  - Locate PeopleTools 8.58, Application Designer, in the list of programs, for example from the Start menu or the Apps screen.
  - Run `PS_HOME\bin\client\winx86\pside.exe`.
11. In the PeopleSoft Signon dialog box:
  - Select *Application Server* as the Connection Type.
  - Confirm that the Application Server Name is correct.
  - Enter values for User ID and password.
12. Select OK to open Application Designer.

If you see the following error message when you try to sign in to the Application Server in Application Designer:

```
Network API: "Could not connect to application server 'Application Server⇒
Name' Make sure the PeopleTools authentication server (PSAUTH) is booted."
```

This may indicate a problem with the Domain Connection Password. For example, if the password set in the Application Server configuration file does not match the value in Configuration Manager, you may get this error message when you sign in to Application Designer in three-tier mode. Check the Application Server logs for more information.

## Task 15A-4-3: Importing an Existing Application Server Domain Configuration

If you have an existing application server configuration for a previous PeopleSoft PeopleTools release, you can import it to create a new domain. You can import an existing domain configuration by specifying a file or by specifying the path to an existing domain. To import from a file, you must use the `psappsrv.cfg` file found inside an existing application server domain folder (you must specify the full path to `psappsrv.cfg`). This file can be located anywhere in the file system, but must be named `psappsrv.cfg`. To import from an existing domain configuration that you created in the current PeopleSoft PeopleTools release, you must specify `PS_CFG_HOME` and the name of an existing application server domain. (If you are importing a domain from a release before PeopleSoft PeopleTools 8.50, note that the domains were created in `PS_HOME`, and that is the path that you should provide.)

To import an existing application server domain configuration:

1. Go to the `PS_HOME\appserv` directory and run the `psadmin` command.

You see the PeopleSoft Server Administration menu, as in this example:

```

```



# PeopleSoft Server Administration

```

PS_CFG_HOME: C:\Users\JSMITH\psft\pt\8.58
PS_HOME: C:\psft\pt\ps_home8.58
PS_APP_HOME: C:\psft\pt\hcm_app_home

```

- 1) Application Server
- 2) Process Scheduler
- 3) Search Server
- 4) Web (PIA) Server
- 5) Switch Config Home
- 6) Service Setup
- 7) Replicate Config Home
- 8) Refresh Config Home
- q) Quit

Command to execute (1-8, q): **1**

The PS\_CONFIG\_HOME location, also referred to as Config Home, corresponds to the current working directory. For information on how Config Home is set, see the *PeopleTools: System and Server Administration* product documentation.

---

**Note.** Make sure you change the directory from the *PS\_HOME* on the file server to the *PS\_HOME* on the application server.

---

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS\_CFG\_HOME/peopletools.properties* file with the current *PS\_HOME* location:

```

PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...

```

This indicates that one of these situations exists:

- The *PS\_CFG\_HOME* that you are working with was used previously from a different *PS\_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS\_CFG\_HOME*.
  - You configured your environment such that *PS\_CFG\_HOME* is the same as *PS\_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS\_CFG\_HOME/peopletools.properties* file. Continue with the next step.
3. Specify **1** for Application Server.
  4. Specify **4** for Import domain configuration.

## PeopleSoft Application Server Administration

- 1) Administer a domain
- 2) Create a domain

- 3) Delete a domain
- 4) Import domain configuration
- q) Quit

Command to execute (1-4, q): **4**

5. Specify **1** for Import regular domain.

```

PeopleSoft Import Application Server Configuration

```

- 1) Import regular domain
- 2) Import IB Master Configuration
- q) Quit

Command to execute (1-2, q) : **1**

6. Specify whether to import the domain configuration from a file (option 1) or from an existing application domain configuration (option 2).

```

PeopleSoft Import Application Server Configuration

```

- 1) Import from file
- 2) Import from application domain
- q) Quit

Command to execute (1-2, q) :

7. If you selected **1**, provide the full path to the file `psappsrv.cfg`, and then specify the name of the domain you want to create. If you selected **2**, go to the next step.

```
Enter full path to configuration file
:C:\temp\oldconfig\psappsrv.cfg
```

```
Enter domain name to create
:HRDMO
```

8. If you selected **2**, to Import from application domain, provide the full path to the `PS_CFG_HOME` of the existing domain.

If importing from PeopleTools 8.49 or earlier, provide `PS_HOME` for `PS_CFG_HOME`.

```
Enter PS_CFG_HOME of domain you wish to import: C:\Users\JSMITH\psft\pt⇒
\8.58
```

If applicable, choose among the existing application server domains in the specified `PS_CFG_HOME`:

Tuxedo domain list:

- 1) HRDBA
- 2) HRDBB

Select domain number to import: **1**

Enter a name for new domain: **HRDMO**

After you create the domain, continue to the next task to verify that the imported configuration parameters are appropriate for the newly created domain. You may need to change the following values:

- **DBName**  
DBName can be the same or different, depending on which database the application server needs to point to.
- **DBType**  
DBType depends on the database type of DBName.
- **UserId and UserPswd**  
UserId and UserPswd are the user's choice.
- **Workstation Listener Port**  
Workstation Listener Port will need to be modified if the old domain will be up and running in the same machine.
- **Jolt Listener Port**  
Jolt Listener Port will also need a different number if the old domain will be up and running in the same machine.
- **Jolt Relay Adapter Listener Port**  
Jolt Relay Adapter Listener Port will need a different number if the old domain will be up and running in the same machine, and will be using Jolt Relay Adapter.

## Task 15A-4-4: Setting Up a Custom Application Server Domain Configuration

The Quick-configure menu is initially displayed when you choose to configure your domain. This menu is intended for the commonly adjusted parameters—those most likely to change from domain to domain. However, there are additional configuration parameters that are not available through the Quick-configure menu. For such configuration parameters, you must use the Custom Configuration option, which you can access from the Quick-configure menu. Feel free to skip this procedure if you have already created and configured your Application Server using the Quick-configure menu and want to move forward.

The following steps assume you will be using PSADMIN to specify parameter settings.

To reconfigure an application server domain:

1. Go to the *PS\_HOME*\appserv directory and run the `psadmin` command.

---

**Note.** Make sure you change the directory from the *PS\_HOME* on the file server to the *PS\_HOME* on the application server.

---

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS\_CFG\_HOME*/peopletools.properties file with the current *PS\_HOME* location:

```

PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...

```

This indicates that one of these situations exists:

- The *PS\_CFG\_HOME* that you are working with was used previously from a different *PS\_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS\_CFG\_HOME*.
- You configured your environment such that *PS\_CFG\_HOME* is the same as *PS\_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS\_CFG\_HOME/peopletools.properties* file. Continue with the next step.

3. Specify *1* for Application Server and press ENTER.
4. Specify *1* for Administer a domain and press ENTER.
5. Select the domain to administer and press ENTER.
6. Specify *4* for Configure this domain and press ENTER.

The option Configure this domain performs the following tasks:

- Shuts down the application server, if it is running. (Shutdown is required since the binary file PSTUXCFG must be deleted and re-created to enable new configuration values. If there are no processes running when shutdown is attempted, an error will be displayed but the script continues on. This is normal.)
- Initiates an interactive dialog, prompting for configuration parameters.
- Updates psappsrv.cfg, generates psappsrv.ubb, and internally invokes Tuxedo's tmlodcf executable to create binary file PSTUXCFG used during the domain boot process.

7. Specify *15* for Custom Configuration and press ENTER.
8. Respond to this prompt:

Do you want to change any config values (y/n):

- Specify *y* to start an interactive dialog to change or examine parameter values, as described in the next step.

Oracle recommends this option for more experienced users.

- Specify *n* if you have already edited psappsrv.cfg, skip the next step, and continue with the step to select server process options.
9. Complete the interactive dialog to specify configuration parameters.

Configuration parameters are grouped into sections. For each section, you are asked whether you want to change any parameters in that section, as in the following example:

Values for config section - Startup

```
DBName=
DBType=
UserId=
UserPswd=
ConnectId=
ConnectPswd=
ServerName=
StandbyDBName=
StandbyDBType=
StandbyUserId=
StandbyUserPswd=
InMemoryDBName=
InMemoryDBType=
```

Do you want to change any values (y/n)? [n]: y

- Specify *y* to change any parameter values for the current configuration section displayed.

You are prompted for each parameter value. Either specify a new value, or press ENTER to accept the default if applicable. After pressing ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.

- Enter the user ID and user password that has security to start the application server. All application databases are delivered with one or more application server security users, usually PS or VP1.

The password you enter is hidden by masking characters.

- The parameters StandbyDBName, StandbyDBType, StandbyUserId, and StandbyUserPswd, are used for a standby database in an Oracle environment.

See *PeopleTools: Data Management*, "Implementing Oracle Active Data Guard."

- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- The WSL, JSL, and JRAD port numbers, which are found in other sections of the configuration parameters, have default values of 7000, 9000, and 9100, respectively. These values must be unique for each application server domain. You may alter the port values if necessary to ensure that they are unique
- If you do not wish to change any values, specify *n* and you will be prompted for the next configuration section.

---

**Note.** When setting up your application server, make a note of the values you use for Database Name, Application Server Name (the machine name), and JSL Port. You will need to use these same values when installing the PeopleSoft Pure Internet Architecture.

---

See *PeopleTools: System and Server Administration*.

#### 10. Select server process options.

At this point, you will be prompted to select server process options. If this is your initial installation, we suggest you accept the defaults. A message similar to this appears:

```
Setting Log Directory to the default... [PS_SERVDIR\LOGS]
Configuration file successfully created.
Loading new configuration...
```

The message "Loading new configuration" indicates that PSADMIN is generating a binary file named PSTUXCFG, which is used to boot the application server. At this point, your application server should be properly configured.

## Task 15A-4-5: Troubleshooting Common Errors

For troubleshooting help, you can access a log file through the PSADMIN PeopleSoft Domain Administration menu. The following list includes possible errors and troubleshooting tips.

- Use PSADMIN menu option 6 for Edit configuration/log files menu to check for errors in `<PS_CFG_HOME>\appserv\<domain>\LOGS\APPSRV_mmdd.log` and `<PS_CFG_HOME>\appserv\<domain>\LOGS\TUXLOG.mmddyy`.
- If a PeopleSoft server such as PSAPPSRV fails, examine your configuration parameters. The failure of the PSAPPSRV process is often signalled by the message "Assume failed"—which means the process has failed to start. Check the SIGNON section for misspelled or invalid database name, an invalid or unauthorized OprId, or ConnectId or ServerName is missing or invalid. Finally, make sure the database connectivity is set correctly.
- If a WSL (or JSL) fails to start, try specifying another port number (it may be in use already by another application server domain process).

- If you are unable to start the BBL, check that your Tuxedo is installed fully and that the directory really exists.
- If the installation includes more than one application server domain on a single machine, before booting the second domain, adjust the REN server configuration to avoid conflict in one of these ways:
  - Use PSADMIN to disable Event Notification (option 8 on the Quick-configure menu) for the second and subsequent application server domains.
  - Change default\_http\_port to a value other than 7180.

## See Also

*PeopleTools: System and Server Administration*

*PeopleTools: MultiChannel Framework*

## Chapter 15B

# Configuring the Application Server on UNIX

This chapter discusses:

- Understanding the Application Server
- Understanding the Application Server Domain Processes
- Prerequisites
- Creating a Wallet for the SSL/TLS Setup
- Setting Environment Variables
- Setting Up COBOL for Remote Call
- Verifying Database Connectivity
- Creating, Configuring, and Starting an Initial Application Server Domain

## Understanding the Application Server

---

The information in this chapter is provided to help you configure your PeopleSoft application server.

---

**Note.** We do not support application servers on z/OS.

---

**Note.** COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check the information on My Oracle Support, and your application-specific documentation, for the details on whether your application requires COBOL.

---

Oracle supports application servers for the PeopleSoft installation on several UNIX and Linux operating system platforms. For detailed information, consult the certification information on My Oracle Support. The application server support can be found on the certification pages for PeopleSoft systems.

---

**Note.** Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

---

Application servers are not supported on z/OS because Oracle Tuxedo cannot run on the mainframe. For this reason, you can only install an application server in a "physical" three-tier configuration—with the application server on a machine separate from the database server machine. You cannot run a "logical" three-tier configuration—with the application server on the same machine as the database server.

The configuration and log files for application server domains reside in *PS\_CFG\_HOME*. If you do not set a *PS\_CFG\_HOME* environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

```
$HOME/psft/pt/<peopletools_version>
```

See "Preparing for Installation," Defining Installation Locations.

## See Also

"Preparing for Installation," Understanding PeopleSoft Servers and Clients

*PeopleTools: System and Server Administration*, "Using PSADMIN Menus"

*PeopleTools: Data Management*

My Oracle Support, Certifications

"Setting Up the Install Workstation"

"Installing and Compiling COBOL on UNIX"

## Understanding the Application Server Domain Processes

---

On most platforms (IBM AIX, Oracle Solaris, Linux, and HP-UX Itanium) no changes are required from the system defaults, in order to allow the "small" and "development" domains that are shipped with PeopleSoft PeopleTools to boot successfully.

Refer to the performance documentation for guidance in configuring your system to run larger domains. That document describes the suggested minimum kernel settings for running PeopleSoft PeopleTools in a real-world environment.

See PeopleTools Performance Guidelines Red Paper on My Oracle Support (search for the article title).

Permanently changing system-wide parameters generally requires root privileges, and any changes to the kernel configuration of your operating system should be done with care.

## Prerequisites

---

Before beginning this procedure, you should have completed the following tasks:

- Installed your application server.  
See "Using the PeopleSoft Installer," Planning Your Initial Configuration.
- Installed the supported version of Oracle Tuxedo  
See "Installing Additional Components."
- Set up SSL/TLS protocol for the workstation connection.  
The Secure Socket Layers/Transport Layer Security (SSL/TLS) protocol is supported for Workstation Listener and Jolt Listener ports for the current PeopleSoft PeopleTools release. The application server domain configuration requires a wallet. You can use the delivered wallet or create your own.  
See *PeopleTools: Security Administration*, "Installing Web Server-Based Digital Certificates."
- Granted authorization to a PeopleSoft user ID to start the application server.  
The database configuration procedure includes a step for setting up the user ID with authorization to start the application server. See the application-specific installation instructions for information on the user IDs for your PeopleSoft application. See the *PeopleTools: Security Administration* product documentation for information on PeopleSoft PeopleTools delivered user profiles.  
See "Creating a Database," Creating Data Mover Import Scripts.
- Run the following SQL statements on your database server to review and if needed, update the



PSCLASSDEFN table:

```
SELECT CLASSID, STARTAPPSERVER FROM PSCLASSDEFN
WHERE CLASSID IN (SELECT OPRCLASS FROM PSOPRCLS WHERE OPRID='<OPRID>')
UPDATE PSCLASSDEFN SET STARTAPPSERVER=1 WHERE CLASSID='<CLASSID>'
```

---

**Note.** Installers typically use VP1 or PS to test the application server. If these users are deleted or their passwords are changed, the application server will no longer be available. To avoid this problem, you can set up a new operator (called PSADMIN or PSASID, for instance) with privileges to start the application server. If you do this, you can use the new operator for your application servers and you won't need to change the password each time VP1 or PS is changed.

---

## Task 15B-1: Creating a Wallet for the SSL/TLS Setup

---

This section discusses:

- Using the Delivered Wallet
- Creating a Wallet with OpenSSL

### Task 15B-1-1: Using the Delivered Wallet

Before you configure the application server to use the SSL/TLS protocol, you need a wallet. Use these instructions to create wallets for the application server and workstation client.

---

**Note.** The term "Oracle Wallet" is sometimes used in the software and documentation, for example in PSADMIN custom configuration, to refer to wallets on all RDBMS. In this context it does not refer to an entity specific to an Oracle RDBMS.

---

You also have the option to use the wallets that are included with the PeopleSoft PeopleTools installation. The default wallet for the application server is named psft and is located in `$PS_SERVDIR/security`. When you configure the application server, define the default wallet as follows:

- SEC\_PRINCIPAL\_LOCATION=%PS\_SERVDIR%\security
- SEC\_PRINCIPAL\_NAME=psft

To specify the default wallet for the workstation client:

- SEC\_PRINCIPAL\_LOCATION=PS\_HOME\bin\client\winx86\security
- SEC\_PRINCIPAL\_NAME=wscpsft

The default Keystore file, in PKCS12 format, used for the SSL/TLS configuration for JSL ports is located in `<PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey`. If you change the Keystore password in this file, you must also provide the password in the PIA configuration.properties file at `<PIA_HOME>\webserv\<DOMAIN_NAME>\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps`.

### Task 15B-1-2: Creating a Wallet with OpenSSL

This section discusses:

- Defining OpenSSL Options
- Creating a Server Wallet for the Application Server Domain with OpenSSL

- Creating a Client Wallet for the Workstation Client with OpenSSL
- Adding the Server's Certificate to the Client's Trust Store with OpenSSL

## Defining OpenSSL Options

An example of an OpenSSL command that can be used to create a wallet is as follows.

For more information, see the OpenSSL documentation.

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in server.crt ->
chain -CAfile caCert.crt -passout pass:<password>
```

- **-export**: indicates that a PKCS 12 file is being created
- **-chain**: specifies that an attempt is made to include the entire certificate chain of the user certificate
- **-inkey**: specifies the private key file
- **-in**: specifies the file that contains the user certificate and any other certificates in the certificate chain
- **-CAfile**: specifies a file containing trusted certificates
- **-out**: specifies the output file name, which must be ewallet.p12 for an Oracle Wallet for PeopleSoft installations.
- **-passin**: specifies the password for the private key file
- **-passout**: specifies the password for the newly created wallet

## Creating a Server Wallet for the Application Server Domain with OpenSSL

This section gives an example of creating a wallet for the application server with the open-source tool OpenSSL.

1. Create a directory, for example wallet.server.

For example on UNIX:

```
mkdir /home/wallet.server
```

2. Change directory to wallet.server.

```
cd wallet.server
```

3. Enter the following command:

```
openssl genrsa -out server.key 4096
```

4. Enter the following command.

```
openssl req -new -key server.key -out server.csr -subj <subject>
```

For example:

```
openssl req -new -key server.key -out server.csr -subj '/C=country/CN=>
commonName'
```

The *<subject>* values in this step and step 7 are used to replace the specified data in an input request, and output a modified request. The format for *<subject>* is *'/type0=value0/type1=value1/type2=...'*. Characters must be escaped with a backslash (\), and no spaces are skipped. Use the following fields:

- */C* — Country

- /CN — Common name
- /L — Location
- /O — Organization
- /OU — Organizational Unit
- /ST — State

5. Enter the following command:

```
openssl genrsa -out caCert.key 4096
```

6. Enter the following command,

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj =>
<subject>
```

For example:

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj=>
'/C=US/OU=Class 2 Public Primary Certification Authority/O=My=>
Organization'
```

7. Enter the following command:

```
openssl x509 -req -days 730 -in server.csr -CA caCert.crt -CAkey ca=>
Cert.key -set_serial 01 -out server.crt
```

8. Enter the following command to create the wallet ewallet.p12 and specify the server password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in=>
server.crt -chain -CAfile caCert.crt -passout pass:<server_password>
```

## Creating a Client Wallet for the Workstation Client with OpenSSL

This section gives an example of creating a client wallet with the open-source tool OpenSSL.

1. Create a directory, for example wallet.client, and change to that directory.

```
mkdir wallet.client
cd wallet.client
```

2. Copy the server's trust store to the client wallet.

```
cp wallet.server\caCert.crt wallet.client
cp wallet.server\caCert.key wallet.client
```

3. Enter these commands:

```
openssl genrsa -out client.key 4096
```

4. Run this command:

```
openssl req -new -key client.key -out client.csr -subj <subject>
```

For example:

```
openssl req -new -key client.key -out client.csr -subj '/C=country/CN=>
commonName'
```

## 5. Run this command:

```
openssl x509 -req -days 730 -in client.csr -CA caCert.crt -CAkey ca⇒
Cert.key -set_serial 01 -out client.crt
```

## 6. Enter the following command to create the wallet ewallet.p12 and specify the client password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey client.key -in⇒
client.crt -chain -CAfile caCert.crt -passout pass:<client_password>
```

## 7. Remove the client wallet password:

## a. Make a backup copy of the wallet, ewallet.p12:

On UNIX:

```
cp ewallet.p12 oldwallet.p12
```

## b. Run this command:

```
openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
certificate.crt -password pass:<client_password> -passin pass:⇒
<client_password>
```

## c. Run this command:

```
openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
password pass:C<client_password> -passin pass:<client_password>
```

## d. Run this command:

```
openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
pass:<client_password> -passin pass:<client_password> -passout pass:⇒
temp
```

## e. Run this command:

```
openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
```

## f. Run the command to create the PEM.pem file.

This file is created to copy the public key and root certificates.

On UNIX:

```
cat certificate.crt ca-cert.ca >PEM.pem
```

## g. Run this command:

```
openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
```

## Adding the Server's Certificate to the Client's Trust Store with OpenSSL

To complete the setup, add the application server's certificate to the workstation client's trust store:

## 1. Change directory.

```
cd %ORACLE_HOME%\jdk\bin
```

## 2. Add the certificate to the trust store found in the web server directory for the application server domain.

```
keytool -import -file <server_wallet>/<certificate> -alias srvcert ->
keystore <PIA_HOME>\web serv\<DOMAIN_NAME>\piaconfig\keystore\pskey ->
storepass password -noprompt
```

For example, on UNIX:

```
keytool -import -file wallet.server/caCert.crt -alias srvcert -keystore⇒
/home/psft_user/psft/pt/8.58/web serv/ps/piaconfig/keystore/pskey ->
storepass password -noprompt
```

## Task 15B-2: Setting Environment Variables

---

Telnet to your UNIX system. Log in and ensure the following environment variables are set appropriately.

**Note.** The environment variables for Tuxedo must be set explicitly; they are not set by running psconfig.sh. These can be also set using the .profile file in the user's home directory.

---

- Set \$TUXDIR to the correct Oracle Tuxedo installation directory. For example:  
TUXDIR=/home/user/Oracle/tuxedo12cR1; export TUXDIR
- Add \$TUXDIR/lib to the beginning of LD\_LIBRARY\_PATH, LIBPATH, or SHLIB\_PATH, whichever is appropriate for your platform. For example:  
LD\_LIBRARY\_PATH=\$TUXDIR/lib:\$LD\_LIBRARY\_PATH; export LD\_LIBRARY\_PATH
- Add \$TUXDIR/bin to the beginning of PATH. For example:  
PATH=\$TUXDIR/bin:\$PATH; export PATH

One method to ensure that the following PeopleSoft environment variables are set is to source psconfig.sh. Go to the *PS\_HOME* directory, and enter the following command:

```
. ./psconfig.sh
```

---

**Note.** After running psconfig.sh, you can invoke the psadmin utility from any location.

---

## Task 15B-3: Setting Up COBOL for Remote Call

---

Remote Call is a PeopleCode feature that launches a COBOL program from an application server, PeopleCode program or a batch Application Engine PeopleCode program and waits for it to complete execution before continuing. The execution of a COBOL program via Remote Call is completely independent of the Process Scheduler. You need to set up a COBOL runtime environment and COBOL executables on the application server to support Remote Call.

See "Installing and Compiling COBOL on UNIX."

---

**Note.** If your application does not contain COBOL programs, you do not need to purchase or compile COBOL.

---

## Task 15B-4: Verifying Database Connectivity

---

Before continuing, it is critical to verify connectivity to the database that the application server domain will use. To verify connectivity, connect to the database server from the application server using the native SQL tool on the application server.

If you are running DB2 for z/OS, you can issue this command from the UNIX prompt:

```
db2 connect to <database name> user <z/OS ID> using <password>
```

If you are running DB2 for z/OS and are setting up your application server on a Microsoft Windows machine, enter the preceding command at a DB2 Connect command window, or use DB2 Connect's Command Center or Client Configuration Assistant.

See "Installing and Configuring DB2 Connect."

## Task 15B-5: Creating, Configuring, and Starting an Initial Application Server Domain

---

This section discusses:

- Creating, Configuring, and Starting the Application Server Domain
- Testing the Three-Tier Connection
- Importing an Existing Application Server Domain Configuration
- Setting Up a Custom Application Server Domain Configuration
- Troubleshooting Common Errors

### Task 15B-5-1: Creating, Configuring, and Starting the Application Server Domain

To create, configure, and start the application server domain:

1. Run the `psadmin` command.

You see the PeopleSoft Server Administration menu, as in this example:

```

PeopleSoft Server Administration

PS_CFG_HOME: /home/JSMITH/peopletools/8.58
PS_HOME: /opt/psft/pt/ps_home8.58
PS_APP_HOME: /opt/psft/pt/hcm_app_home
```

- ```
1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Replicate Config Home
```

```
7) Refresh Config Home
q) Quit
```

Command to execute (1-7, q): **1**

- Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/peopletools.properties* file with the current *PS_HOME* location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/peopletools.properties* file. Continue with the next step.

- Specify **1** for Application Server and press ENTER.
- Specify **2** to Create a domain and press ENTER.

```
-----
PeopleSoft Application Server Administration
-----
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration
q) Quit
```

Command to execute (1-4, q): **2**

- Specify the domain name.

In this example the domain name is HRDMO:

Please enter name of domain to create : **HRDMO**

Domain names are case sensitive and must be eight characters or less. The domain name is used to create a directory name under the *PS_CFG_HOME/appserv* directory.

See the information on *PS_CFG_HOME* and server domain configuration in the *PeopleTools: System and Server Administration* product documentation.

- Specify **4** for small if this is your initial domain installation, press ENTER.

See *PeopleTools: System and Server Administration*.

- After the system creates the domain, the PeopleSoft Application Server Administration menu appears with a Quick-configure menu similar to this:

```
-----
```

Quick-configure menu -- domain: HRDMO

```

-----
          Features                               Settings
          =====                               =====
1) Pub/Sub Servers      : No                    17) DBNAME           : [HRDMO]
2) Quick Server         : No                    18) DBTYPE           : [DB2ODBC]
3) Query Servers        : No                    19) UserId           : [VP1]
4) Jolt                 : Yes                   20) UserPswd         : []
5) Jolt Relay           : No                    21) DomainID         : [TESTSERV]
6) WSL                  : No                    22) AddToPATH        : [ ]
7) PC Debugger          : No                    23) ConnectID        : [people]
8) Event Notification    : Yes                   24) ConnectPswd      : []
9) MCF Servers          : No                    25) DomainConnectPswd: []
10) Perf Collator       : No                    26) PHC Remote Admin Settings: []
11) Analytic Servers    : Yes                   27) WSL Port         : [7000]
12) Domains Gateway     : No                    28) WSL SSL Port     : [7010]
13) Push Notifications  : No                    29) JSL Port         : [9000]
                                     30) JSL SSL Port     : [9010]
                                     31) JRAD Port        : [9100]

          Actions
          =====
14) Load config as shown
15) Custom configuration
16) Edit environment settings
  h) Help for this menu
  q) Return to previous menu

```

HINT: Enter 17 to edit DBNAME, then 14 to load

Enter selection (1-28, h, or q):

Note. If your installation includes more than one application server domain on a given machine, read the troubleshooting section for more information.

See Troubleshooting Common Errors.

8. If you need to modify any of the values for these settings, enter the number next to the parameter name, press ENTER, then type the new value, and press ENTER again.

If you need to change any of the features, type the number next to the feature name and press ENTER.

9. Configure the WSL to boot by changing option 6 to Yes.

Enter 6, and press ENTER.

10. If you intend to use the PeopleSoft Report Distribution system, you must select Yes for feature 8, Event Notification.

This enables the REN server, which is used by the "run to window" functionality of the Report Distribution system. *The Report Distribution system, MultiChannel Framework, and Optimization Framework use REN servers.* You must also remember to enter an Authentication Token Domain when installing the PeopleSoft Pure Internet Architecture (PIA).

11. If you are configuring an application server domain to support applications based on the PeopleSoft MultiChannel Framework (such as PeopleSoft CRM ERMS), select feature 9, MCF Servers.

See the information on configuring REN Servers in the product documentation.

See *PeopleTools: MultiChannel Framework*.

12. Enter the values for the 20) UserPswd and 24) ConnectPswd that you specified during the database configuration.

Reenter each password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

13. If you want to set a Domain Connection password, enter 25 and specify a password of 8 characters or less.

Reenter the password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

The Domain Connection password is optional. You can specify a value or leave it blank. However, if you do specify a value, you must supply the same value when installing the PeopleSoft Pure Internet Architecture, to ensure the connection to the Application Server.

14. Use setting 27) PHC Remote Admin Settings if you want to enable JMX agents for use with PeopleSoft Health Center (PHC).

The remote administration settings are disabled by default. After you select this setting to enable remote administration, you are prompted to supply a port, user name and password.

See *PeopleTools: Performance Monitor*, Configuring PeopleSoft Health Center.

Note. You can also specify the necessary values using the custom configuration. The Enable Remote Administration parameters are in the PSTOOLS section.

- a. Enter 27 to access the PHC Remote Admin Settings.
- b. Accept the value 1 to enable remote administration, or change to 0 to disable.
Enter new value for Enable Remote Administration [1]:

- c. Enter the port number to use for remote administration of domain processes.
All embedded JMX agents will use the port in the JMX service URL.
Enter new value for Remote Administration Port [10100]:

- d. Enter the user name for remote administration connections.
Enter new value for Remote Administration UserId [psftuser]:

- e. Enter a user password two times.

Note. You do not have to enter an encrypted password. The psadmin utility encrypts the password during configuration.

Enter new value for Remote Administration Password []: *password*

Reenter the Remote Administration Password : *password*

- f. Continue with the Quick-configure menu.

15. To set up the Workstation Listener for SSL/TLS protocol, enter 28 for WSL SSL Port, and specify an available port number.

The default port number is 7010.

16. To set up the Jolt listener for SSL/TLS protocol, enter 30 for JSL SSL Port, and specify an available port number.

The default port number is 9010.

17. Use the custom configuration menu to specify the settings for SSL/TLS encryption and the wallet location.

See *PeopleTools: Integration Broker*, "Installing Web Server-Based Digital Certificates."

- a. To specify the minimum and maximum encryption for SSL/TLS, select 15 for Custom Configuration.

- b. Reply *y*, and press ENTER, at this prompt:

Do you want to change any config values (y/n) [n]?

- c. Reply *n*, and press ENTER, at this prompt:

Do you want to change any values (y/n) [n]?

Continue to enter *n*, for No, for all sections until you see the Workstation Listener section, and then answer *y*. (Be aware that there are several sections.)

- d. If necessary, change the values for WSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

Values for config section - Workstation Listener

```
Address=%PS_MACH%
Port=7000
SSL Port=7010
WSL Min Encryption=0
WSL Max Encrytion=256
Min Handlers=1
Max Handlers=2
Max Clients per Handler=40
Client Cleanup Timeout=60
Init Timeout=5
Tuxedo Compression Threshold=5000
```

- e. Accept the defaults for the next series of questions until asked if you want Oracle Wallet configured. In this case, answer *y*.

- f. Specify the values for the Oracle Wallet location, name, and password, or accept the defaults.

You can use an existing wallet that you created, or use the default wallet found in the security directory.

Values for config section - Oracle Wallet

```
SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
SEC_PRINCIPAL_NAME=psft
SEC_PRINCIPAL_PASSWORD=
```

- g. Accept the defaults for the next series of questions until asked if you want the JOLT Listener configured. In this case, answer *y*

- h. If necessary, change the values for JSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

Values for config section - JOLT Listener

```
Address=%PS_MACH%
Port=9000
SSL Port=9010
JSL Min Encryption=0
JSL Max Encrytion=256
Min Handlers=1
Max Handlers=2
```

```

Max Clients per Handler=40
Client Cleanup Timeout=10
Init Timeout=5
Client Connection Mode=ANY
Jolt Compression Threshold=1000000

```

- i. Accept the default for the remaining questions; the configuration will load automatically.

18. If you are installing a REN server:

- a. Enter *15* for Custom configuration.
- b. Reply *y*, and press ENTER, at this prompt:
Do you want to change any config values (y/n) [n]?

- c. Reply *n*, and press ENTER, at this prompt:
Do you want to change any values (y/n) [n]?

Continue to enter *n*, for No, for all sections until you see the PSRENSRV section, and then answer *y*. (Be aware that there are several sections.)

- d. Leave the defaults for all settings except for default_auth_token, which you should set to the domain name for your web server.

Note. The default_auth_token setting should be identical to the Authentication Token Domain that you set during PIA installation.

See "Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode."

- e. Accept the defaults for the next series of questions until asked if you want Event Notification configured. In this case, answer *y*.
- f. Accept the default for the remaining questions; the configuration will load automatically.

19. If you are not installing a REN server, after you update the settings you can load the configuration by entering *14*, for Load config as shown, from the Quick-configure menu.

20. To start the application server (whether you installed a REN server or not), select *1*, Boot this domain, from the PeopleSoft Domain administration menu.

21. Select *1*, Boot (Serial Boot) or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

22. If you plan to continue with PIA installation and testing, do not shut down the application server at this time.

23. If you want to shut down your PeopleSoft application server domain later, follow these simple steps:

- a. From the PeopleSoft Domain Administration menu, enter *2* for Domain shutdown menu.
- b. From the PeopleTools Domain Shutdown Menu, enter *1* for Normal shutdown.

You see messages about the application server processes being shut down. The number of processes stopped will vary depending on the number of processes that started when you booted the domain.

- c. Enter *q* to quit the PeopleSoft Domain Administration Menu.

Task 15B-5-2: Testing the Three-Tier Connection

If you get an error message when you try to sign in to the Application Server in Application Designer (that is, three-tier mode), it may be due to an incorrect server name or port number, because the database server is not running, or because the application server was not booted. To test a three-tier connection from the PeopleTools Development Environment (the Windows-based client):

1. Start Configuration Manager with one of these methods:
 - Locate PeopleTools 8.58, Configuration Manager in the list of programs, for example from the Start menu or the Apps screen.
 - Run `PS_HOME\bin\client\winx86\pscfg.exe`.
2. Select the Profile Tab. Highlight Default and select Edit.
3. On the Edit Profile dialog box, select *Application Server* as the Connection Type.
4. Enter values for these parameters:
 - Application Server Name
 - Machine Name or IP Address
 - Port Number (WSL)

Enter the WSL port that you specified when creating the application server domain. If you want to use the SSL/TLS protocol for connection, enter the WSL SSL port number (the default is 7010). If you want to use the LLE protocol, enter the non-SSL WSL port (the default is 7000).
 - Domain Connection Password and Domain Connection Password (confirm)

Specify a value for the password, and repeat your entry for confirmation. The password must be 8 characters or less.

This password is optional. If you did not set the Domain Connection Password in Configuration Manager or in the Application Server configuration, leave it blank. If you specify a password, you must supply the same password during the PeopleSoft Pure Internet Architecture installation for a successful connection between the Application Server and PeopleSoft Pure Internet Architecture.

See the *PeopleTools: System and Server Administration* product documentation for information on using PeopleSoft Configuration Manager and PSADMIN.
 - Wallet Location

Enter the location that you specified for the client wallet. The default location is `%PS_HOME%\bin\client\winx86\security`.
 - Wallet Name

Enter the name for the client wallet that you specified. The default name is `wscpsft`.
5. Select Set to add the definition to the list and select OK to close the dialog box.
6. On the Configuration Manager dialog box, select the Startup tab.
7. Select *Application Server* from the Database Type list. Your application server name should be displayed.
8. Enter the values for User ID, Connect ID, and password.
9. Click OK.

Note. Confirm that the application server is running by booting it from PSADMIN. Select *1, Boot* this domain, from the PeopleSoft Domain administration menu. Select option *1, Boot (Serial Boot)* or *2, Parallel Boot*, from the PeopleSoft Domain Boot menu.

10. Start Application Designer with one of these methods:

- Locate PeopleTools 8.58, Application Designer, in the list of programs, for example from the Start menu or the Apps screen.
- Run `PS_HOME\bin\client\winx86\pside.exe`.

11. In the PeopleSoft Signon dialog box:

- Select *Application Server* as the Connection Type.
- Confirm that the Application Server Name is correct.
- Enter values for User ID and password.

12. Select OK to open Application Designer.

If you see the following error message when you try to sign in to the Application Server in Application Designer:

```
Network API: "Could not connect to application server 'Application Server⇒
Name' Make sure the PeopleTools authentication server (PSAUTH) is booted."
```

This may indicate a problem with the Domain Connection Password. For example, if the password set in the Application Server configuration file does not match the value in Configuration Manager, you may get this error message when you sign in to Application Designer in three-tier mode. Check the Application Server logs for more information.

Task 15B-5-3: Importing an Existing Application Server Domain Configuration

If you have an existing application server configuration for a previous PeopleSoft PeopleTools release, you can import it to create a new domain. You can import an existing domain configuration by specifying a file or by specifying the path to an existing domain. To import from a file, you must use the `psappsrv.cfg` file found inside an existing application server domain folder (you must specify the full path to `psappsrv.cfg`). This file can be located anywhere in the file system, but must be named `psappsrv.cfg`. To import from an existing domain configuration that you created in the current PeopleSoft PeopleTools release, you must specify `PS_CFG_HOME` and the name of an existing application server domain. (If you are importing a domain from a release before PeopleSoft PeopleTools 8.50, note that the domains were created in `PS_HOME`, and that is the path that you should provide.)

To import an existing application server domain configuration:

1. Run the `psadmin` command.

You see the PeopleSoft Server Administration menu, as in this example:

```
-----
PeopleSoft Server Administration
-----
PS_CFG_HOME:  /home/JSMITH/peopletools/8.58
PS_HOME:      /opt/psft/pt/ps_home8.58
PS_APP_HOME:  /opt/psft/pt/hcm_app_home

1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Replicate Config Home
```

- 7) Refresh Config Home
- q) Quit

Command to execute (1-7, q): **1**

The PS_CONFIG_HOME location, also referred to as Config Home, corresponds to the current working directory. For information on how Config Home is set, see the *PeopleTools: System and Server Administration* product documentation.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the PS_CFG_HOME/peopletools.properties file with the current PS_HOME location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The PS_CFG_HOME that you are working with was used previously from a different PS_HOME. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this PS_CFG_HOME.
- You configured your environment such that PS_CFG_HOME is the same as PS_HOME. The first time you use PSADMIN to create a domain, it updates the PS_CFG_HOME/peopletools.properties file. Continue with the next step.

3. Specify **1** for Application Server.
4. Specify **4** for Import domain configuration.

```
-----
PeopleSoft Application Server Administration
-----
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration
q) Quit
```

Command to execute (1-4, q): **4**

5. Specify **1** for Import regular domain.

```
-----
PeopleSoft Import Application Server Configuration
-----
1) Import regular domain
2) Import IB Master Configuration
q) Quit
```

Command to execute (1-2, q) : **1**

6. Specify whether to import the domain configuration from a file (option 1) or from an existing application

domain configuration (option 2).

```
-----
PeopleSoft Import Application Server Configuration
-----
```

- 1) Import from file
- 2) Import from application domain
- q) Quit

Command to execute (1-2, q) :

7. If you selected 1, provide the full path to the file `psappsrv.cfg`, and then specify the name of the domain you want to create. If you selected 2, go to the next step.

```
Enter full path to configuration file
:/home/oldconfig/psappsrv.cfg
```

```
Enter domain name to create
:HRDMO
```

8. If you selected 2, to Import from application domain, provide the full path to the *PS_CFG_HOME* of the existing domain.

If importing from PeopleTools 8.49 or earlier, provide *PS_HOME* for *PS_*→*CFG_HOME*.

```
Enter PS_CFG_HOME of domain you wish to import: /home/JSMITH⇒
/peopletools/8.58
```

If applicable, choose among the existing application server domains in the specified *PS_CFG_HOME*:

```
Tuxedo domain list:
```

- 1) HRDBA
- 2) HRDBB

```
Select domain number to import: 1
```

```
Enter a name for new domain: HRDMO
```

After you create the domain, continue to the next task to verify that the imported configuration parameters are appropriate for the newly created domain. You may need to change the following values:

- **DBName**
DBName can be the same or different, depending on which database the application server needs to point to.
- **DBType**
DBType depends on the database type of DBName.
- **UserId and UserPswd**
UserId and UserPswd are the user's choice.
- **Workstation Listener Port**
Workstation Listener Port will need to be modified if the old domain will be up and running in the same machine.
- **Jolt Listener Port**
Jolt Listener Port will also need a different number if the old domain will be up and running in the same

machine.

- Jolt Relay Adapter Listener Port

Jolt Relay Adapter Listener Port will need a different number if the old domain will be up and running in the same machine, and will be using Jolt Relay Adapter.

Task 15B-5-4: Setting Up a Custom Application Server Domain Configuration

The Quick-configure menu is initially displayed when you choose to configure your domain. This menu is intended for the commonly adjusted parameters—those most likely to change from domain to domain. However, there are additional configuration parameters that are not available through the Quick-configure menu. For such configuration parameters, you must use the Custom Configuration option, which you can access from the Quick-configure menu. Feel free to skip this procedure if you have already created and configured your Application Server using the Quick-configure menu and want to move forward.

The following steps assume you will be using PSADMIN to specify parameter settings.

To reconfigure an application server domain:

1. Run the `psadmin` command.
2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the `PS_CFG_HOME/peopletools.properties` file with the current `PS_HOME` location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The `PS_CFG_HOME` that you are working with was used previously from a different `PS_HOME`. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this `PS_CFG_HOME`.
 - You configured your environment such that `PS_CFG_HOME` is the same as `PS_HOME`. The first time you use PSADMIN to create a domain, it updates the `PS_CFG_HOME/peopletools.properties` file. Continue with the next step.
3. Specify `1` for Application Server and press ENTER.
 4. Specify `1` for Administer a domain and press ENTER.
 5. Select the domain to administer and press ENTER.
 6. Specify `4` for Configure this domain and press ENTER.

The option Configure this domain performs the following tasks:

- Shuts down the application server, if it is running. (Shutdown is required since the binary file `PSTUXCFG` must be deleted and re-created to enable new configuration values. If there are no processes running when shutdown is attempted, an error will be displayed but the script continues on. This is normal.)
- Initiates an interactive dialog, prompting for configuration parameters.
- Updates `psappsrv.cfg`, generates `psappsrv.ubb`, and internally invokes Tuxedo's `tmloadcf` executable to create binary file `PSTUXCFG` used during the domain boot process.

7. Specify *15* for Custom Configuration and press ENTER.

8. Respond to this prompt:

Do you want to change any config values (y/n):

- Specify *y* to start an interactive dialog to change or examine parameter values, as described in the next step.

Oracle recommends this option for more experienced users.

- Specify *n* if you have already edited `psappsrv.cfg`, skip the next step, and continue with the step to select server process options.

9. Complete the interactive dialog to specify configuration parameters.

Configuration parameters are grouped into sections. For each section, you are asked whether you want to change any parameters in that section, as in the following example:

Values for config section - Startup

```
DBName=
DBType=
UserId=
UserPswd=
ConnectId=
ConnectPswd=
ServerName=
StandbyDBName=
StandbyDBType=
StandbyUserId=
StandbyUserPswd=
InMemoryDBName=
InMemoryDBType=
```

Do you want to change any values (y/n)? [n]: y

- Specify *y* to change any parameter values for the current configuration section displayed.
You are prompted for each parameter value. Either specify a new value, or press ENTER to accept the default if applicable. After pressing ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
- Enter the user ID and user password that has security to start the application server. All application databases are delivered with one or more application server security users, usually PS or VP1.
The password you enter is hidden by masking characters.
- The parameters `StandbyDBName`, `StandbyDBType`, `StandbyUserId`, and `StandbyUserPswd`, are used for a standby database in an Oracle environment.
See *PeopleTools: Data Management*, "Implementing Oracle Active Data Guard."
- The parameters `InMemoryDBName` and `InMemoryDBType` are reserved for internal use.
- The WSL, JSL, and JRAD port numbers, which are found in other sections of the configuration parameters, have default values of 7000, 9000, and 9100, respectively. These values must be unique for each application server domain. You may alter the port values if necessary to ensure that they are unique.
- If you do not wish to change any values, specify *n* and you will be prompted for the next configuration section.

Note. When setting up your application server, make a note of the values you use for Database Name, Application Server Name (the machine name), and JSL Port. You will need to use these same values when installing the PeopleSoft Pure Internet Architecture.

See *PeopleTools: System and Server Administration*.

10. Select server process options.

At this point, you will be prompted to select server process options. If this is your initial installation, we suggest you accept the defaults. A message similar to this appears:

```
Setting Log Directory to the default... [PS_SERVDIR/LOGS]
Configuration file successfully created.
Loading new configuration...
```

The message "Loading new configuration" indicates that PSADMIN is generating a binary file named PSTUXCFG, which is used to boot the application server. At this point, your application server should be properly configured.

Task 15B-5-5: Troubleshooting Common Errors

For troubleshooting help, you can access a log file through the PSADMIN PeopleSoft Domain Administration menu. The following list includes possible errors and troubleshooting tips.

- Use the PSADMIN PeopleSoft Domain Administration menu option 6 for Edit configuration/log files menu to check for errors in `<PS_CFG_HOME>/appserv/<domain>/LOGS/APPSRV_mmdd.LOG` and `<PS_CFG_HOME>/appserv/<domain>/LOGS/TUXLOG.mmddyy`.
- If a PeopleSoft server such as PSAPPSRV fails, examine your configuration parameters. The failure of the PSAPPSRV process is often signalled by the message "Assume failed"—which means the process has failed to start. Check the SIGNON section for misspelled or invalid database name, an invalid or unauthorized OprId, or ConnectId or ServerName is missing or invalid. Finally, make sure the database connectivity is set correctly.
- If a WSL (or JSL) fails to start, try specifying another port number (it may be in use already by another application server domain process).
- If you are unable to start the BBL, check that your Tuxedo is installed fully and that the directory really exists.
- If the installation includes more than one application server domain on a single machine, before booting the second domain, adjust the REN server configuration to avoid conflict in one of these ways:
 - Use PSADMIN to disable Event Notification (option 8 on the Quick-configure menu) for the second and subsequent application server domains.
 - Change default_http_port to a value other than 7180.
- Check that you do not have environment variables for older Tuxedo releases set at the beginning of your PATH or runtime library variables (LIBPATH, SHLIB_PATH or LD_LIBRARY_PATH, depending on the UNIX operating system).

See Also

PeopleTools: System and Server Administration

PeopleTools: MultiChannel Framework

Chapter 16

Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode

This chapter discusses:

- Understanding PeopleSoft Pure Internet Architecture
- Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation
- Installing the PeopleSoft Pure Internet Architecture in Silent Mode
- Configuring the SSL/TLS Port for JSL
- Testing and Administering the PeopleSoft Pure Internet Architecture Installation
- Completing Post-Installation Steps

Understanding PeopleSoft Pure Internet Architecture

Use the silent mode installation described in this chapter to install and configure a web server domain. This is an optional installation. You may choose to use the silent mode installation for situations that are not covered by the DPK setup.

See "Preparing for Installation," Planning Your Initial Configuration.

- The files needed for the PIA silent-mode installation are included as part of the PeopleTools installation, in *PS_HOME/setup/PsMpPIAInstall/scripts*.

You must use the DPK setup script to install at least *PS_HOME*.

- You must install the Oracle WebLogic software before you install the PeopleSoft Pure Internet Architecture. Oracle WebLogic is the certified web server for the current PeopleSoft PeopleTools release. If you did not install the Oracle WebLogic software using the DPK setup script, see the chapter "Installing Web Server Products."
- Before you install the PeopleSoft Pure Internet Architecture, you must also have configured an application server, either with the DPK setup script or with PSADMIN.

See "Configuring the Application Server on UNIX."

See "Configuring the Application Server on Windows."

- If your web server is on a different machine than your application server, make sure you have a supported version of JRE installed on your web server to run the PeopleSoft Pure Internet Architecture installation, and that its path is in the system's environment variable PATH.
- If you want to connect between multiple application databases, you need to implement single signon. See *PeopleTools: Security Administration*, "Understanding Single Signon."
- You must use the silent mode installation to create a multi-server domain. You cannot use the DPK setup script or PSADMIN.

- The URL that you use to invoke the PeopleSoft Pure Internet Architecture must conform to ASN.1 specifications.

That is, it may contain only alphanumeric characters, dots ("."), or dashes ("-"). The URL must not begin or end with a dot or dash, or contain consecutive dots (".."). If the URL includes more than one portion, separated by dots, do not use a number to begin a segment if the other segments contain letters. For example, "mycompany.second.country.com" is correct, but "mycompany.2nd.country.com" is wrong.

- If you are setting up the PeopleSoft Pure Internet Architecture on a Microsoft Windows platform, the directory and path that you specify for *PIA_HOME* may include spaces. However, parentheses in the directory name (for example, "C:\Program Files (x86)") are *not* allowed for *PIA_HOME*.

The location where you install the PeopleSoft Pure Internet Architecture is referred to in this documentation as *PIA_HOME*. You can specify different locations for *PS_HOME* and *PIA_HOME*. After you complete the PeopleSoft Pure Internet Architecture installation, you can locate the installation files in the directory *PIA_HOME/webserv*.

The initial PeopleSoft Pure Internet Architecture setup automatically creates the default PeopleSoft site named *ps*. In subsequent PeopleSoft Pure Internet Architecture setups, change the site name from *ps* to a unique value. We recommend using the database name. This is handy for easy identification and ensures that the database web server files are installed in a unique web site.

The PeopleSoft Pure Internet Architecture installation includes the following products:

- *PeopleSoft Pure Internet Architecture*. This product is the centerpiece of the PeopleSoft architecture that enables users to work on a machine with only a supported browser installed. This option installs the servlets required for deploying PeopleSoft Applications and for the PeopleSoft portal. The portal packs and PeopleSoft Portal Solutions have their own installation instructions, which are available on My Oracle Support. For an overview of the various types of portals, consult the *PeopleTools: Portal Technology* product documentation.
- *PeopleSoft Report Repository*. This product works in conjunction with Process Scheduler to allow report distribution over the web.
- *PeopleSoft Integration Gateway*. This product is the entry and exit point for all messages to and from the Integration Broker. Its Java-based Connector architecture allows asynchronous and synchronous messages to be sent over a variety of standard protocols, many that are delivered at install, or through custom connectors.

Important! For PeopleSoft PeopleTools 8.50 and later, review the product documentation concerning security properties for Integration Gateway. When setting the properties in the *integrationGateways.properties* file, the property *secureFileKeystorePasswd* must be encrypted, and the *secureFileKeystorePath* must be set.

See *PeopleTools: Integration Broker Administration*.

- *PeopleSoft CTI Console*. This product works in conjunction with CTI vendor software to enable call center agents to take advantage of browser-based teleset management and automatic population of application pages with relevant data associated with incoming calls, such as customer or case details.

See *PeopleTools: MultiChannel Framework*.

- *Environment Management Hub*. The Environment Management hub is a web application that is installed with the PeopleSoft Pure Internet Architecture and portal. It is started along with the rest of the web applications when the user boots the web server. You cannot start the Environment Management Hub on a server that is configured to run HTTPS; in other words, if you plan to run Environment Management, your PIA server needs to be configured in HTTP mode.

See *PeopleTools: Change Assistant and Update Manager*.

See Also

PeopleTools: Security Administration

PeopleTools: System and Server Administration

Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation

You have the option to specify an authentication domain when you install the PeopleSoft Pure Internet Architecture on Oracle WebLogic.

Note. The authentication domain was referred to as the Authentication Token Domain in previous releases, and that term is still seen in the software.

When an authentication domain is specified during the PeopleSoft Pure Internet Architecture installation, that value gets used as the Cookie domain in the web server configuration. The main requirements when setting a cookie domain are:

- The cookie domain value being set must begin with a dot (.ps.com is valid, ps.com is NOT valid).
- The cookie domain value being set must contain at least 1 embedded dot (.ps.com is valid, .corp.ps.com is valid, .com is NOT valid).
- The cookie domain value can only be a single domain name. It cannot be a delimiter-separated list of domains.

By default, the browser only sends cookies back to the machine that set the cookie. So if web server `crm.yourdomain.com` sets a cookie, the browser will only send it back there. You can make the browser send the single signon cookie to all servers at `yourdomain.com` by typing your domain name in the Authentication Token Domain list box of web server `crm`.

Specifying the authentication domain may be necessary in certain cases. For example, if you plan to use the PeopleSoft portal technology, be sure to read the supporting documentation on configuring the portal environment, to determine whether setting the authentication domain is required for correct operation.

See *PeopleTools: Portal Technology*.

Specify an authentication domain if you plan to run a REN Server. REN Servers are required for PeopleSoft MultiChannel Framework, Reporting, and some PeopleSoft CRM applications supported by PeopleSoft MultiChannel Framework.

See *PeopleTools: MultiChannel Framework*.

If you use the PeopleSoft Mobile Application Platform (MAP), you must specify the same authentication domain during the PeopleSoft Pure Internet Architecture installation, for MAP, and for Integration Broker and integration hubs.

See *PeopleTools: Mobile Application Platform*.

See *PeopleTools: Integration Broker*.

Task 16-1: Installing the PeopleSoft Pure Internet Architecture in Silent Mode

This section discusses:

- Understanding the Silent Installation and the Response File
- Editing the Response File

- Running the Silent Mode Installation

Understanding the Silent Installation and the Response File

You can carry out a silent installation of the PeopleSoft Pure Internet Architecture by providing all the required settings in a response file. With silent installation there is no user interaction. Silent mode installation of PeopleSoft Pure Internet Architecture is supported for both Microsoft Windows and UNIX operating systems platforms.

Task 16-1-1: Editing the Response File

You need a response file to start the installer in silent mode. The PeopleSoft Pure Internet Architecture installer comes with a response file template (`resp_file.txt`) that can be found under `PS_HOME\setup\PsmPPIAInstall\`. Modify the values in the response file according to your installation requirements. To exclude sections that are not needed, begin the line with a pound sign (`#`).

Note. When specifying paths on Microsoft Windows operating systems, use forward slashes (`/`), as shown in the examples in the response file.

The response file should contain all the input parameters that are needed for deploying PeopleSoft Pure Internet Architecture. Modify the following sections in the response file for your environment:

- The location where you want to install the PeopleSoft Pure Internet Architecture.
`PS_CFG_HOME=<Specify PS Config Home Location>`
 - The default is the same as the same as the `PS_CFG_HOME`.
 - You can specify any directory on your machine, including `PS_HOME`.
 - To specify the path on both Microsoft Windows and UNIX operating systems, use a forward slash (`/`), not a back slash (`\`).
- The PIA Domain name, for example *peoplesoft*.
`DOMAIN_NAME=peoplesoft`
- Enter *weblogic* for the Web server type.
`SERVER_TYPE=weblogic`
- Enter the Oracle WebLogic installation location for the `BEA_HOME` parameter.
`BEA_HOME=<Specify Weblogic Home>`
- Specify the login ID for the Oracle WebLogic administration console, such as *system*, and the administration console password.

```
# Specify WebLogic administration console credential
USER_ID=<Specify User Name e.g. system>
USER_PWD=<Specify password>
USER_PWD_RETYPE=<Specify password>
```
- Enter one of the installation actions listed for the `INSTALL_ACTION` parameter.

```
# Install action to specify the core task that installer should perform.
# For creating new PIA domain - CREATE_NEW_DOMAIN.
# For redeploying PIA - REDEPLOY_PSAPP.
# For recreating PIA domain - REBUILD_DOMAIN.
```

```
# For installing additional PSFT site - ADD_SITE
# For installing Extensions - ADD_PSAPP_EXT
INSTALL_ACTION=CREATE_NEW_DOMAIN
```

- **CREATE_NEW_DOMAIN**

Create a new PeopleSoft Pure Internet Architecture domain.

- **REDEPLOY_PSAPP**

On an Oracle WebLogic web server, this option affects all of the PeopleSoft Pure Internet Architecture web applications installed to the local Oracle WebLogic domain. Select this option to redeploy all of the web components of the PeopleSoft Pure Internet Architecture. The redeployment process updates all of the web components of the PeopleSoft Pure Internet Architecture, without modifying the configuration files or scripts that belong to the Oracle WebLogic server domain.

- **REBUILD_DOMAIN**

This option affects Oracle WebLogic Server domain configuration and all of the PeopleSoft Pure Internet Architecture web applications installed to the local Oracle WebLogic domain. Select this option to completely remove an existing Oracle WebLogic domain and deploy the PeopleSoft Pure Internet Architecture components to create the newly specified PeopleSoft site.

Warning! Re-creating an existing domain will delete everything previously installed into that domain.

- **ADD_SITE**

This option is relevant only to the PeopleSoft PORTAL web application, and does not modify or revert any other configuration settings. Select this option to install only the necessary files for defining an additional PeopleSoft site onto an existing Oracle WebLogic configuration. The new site will be accessed using its name in the URL. A site named "CRM" would be accessed using a URL similar to `http://mywebserver_machine/CRM`. To reset or re-create an existing PeopleSoft site, simply enter that site's name as the site to create. On your web server, a PeopleSoft site is comprised of the following directories within the PORTAL web application:

```
<WEBLOGIC_DOMAIN>\applications\peoplesoft\PORTAL\<site>\*
```

```
<WEBLOGIC_DOMAIN>\applications\peoplesoft\PORTAL\WEB-INF\psftdocs\<site>\*
```

- **ADD_PSAPP_EXT**

This option is solely for use with PeopleSoft applications. PeopleSoft application extensions are provided with certain PeopleSoft applications, and this option allows you to deploy those extensions. Consult the installation documentation for your PeopleSoft application to see if this option is appropriate. PeopleSoft PeopleTools does not use application extensions.

- For the **DOMAIN_TYPE** parameter, enter **NEW_DOMAIN** to create a new domain or **EXISTING_DOMAIN** to modify an existing domain.

```
DOMAIN_TYPE=NEW_DOMAIN
```

- Specify the installation location for the PeopleSoft application software, **PS_APP_HOME**.

Specify the **PS_APP_HOME** location only when you are installing extensions for a PeopleSoft application. If you are not installing PeopleSoft application extensions, do not remove the comment character. The silent installer can detect any deployable application extensions present in the **PS_APP_HOME**.

```
# PS_APP_HOME=<Specify PS_APP_HOME location>
```

- Enter one of the following parameters for **INSTALL_TYPE** to specify whether the installation is a single server, multi-server, or distributed server installation.

```
INSTALL_TYPE=SINGLE_SERVER_INSTALLATION
```

- **SINGLE_SERVER_INSTALLATION**

The single server domain configuration contains one server named PIA, and the entire PeopleSoft application is deployed to it. This configuration is intended for single user or very small scale, non-production environments.

- **MULTI_SERVER_INSTALLATION**

The multi-server domain configuration contains seven unique server definitions, an Oracle WebLogic cluster, and the PeopleSoft application split across multiple servers. This configuration is intended for a production environment.

- **DISTRIBUTED_SERVER_INSTALLATION**

The distributed server option is an extension of the Multi-Server Domain selection and installs the necessary files to boot a managed server.

This option requires a Multi Server installation to be performed to some other location, which will contain the configuration for this managed server.

- The PeopleSoft web site name.

Warning! Warning! The site name can include underscores (_), but an underscore cannot be followed by a numeric character or the string "newwin" (for example, my_site_3 or my_newwin_site).

```
WEBSITE_NAME=<Specify web site name>
```

- Use the optional PSSERVER parameter to enable Jolt failover and load balancing.

For information on the optional PSSERVER parameter, see the information on configuring Jolt failover and load balancing in the *PeopleTools: System and Server Administration* production documentation.

```
# To enable jolt failover and load balancing, provide a list
# of application server domains in the format of; PSSERVER=AppSrvr:⇒
JSLport,...
# For example: PSSERVER=SERVER1:9000,SERVER2:9010,SERVER3:9020
# PSSERVER is optional, but if set will have precedence
# over APPSERVER_NAME & JSL_PORT.
PSSERVER=
```

- Specify the application server name, its JSL (Jolt Station Listener) port number, its HTTP and HTTPS port numbers, the Authentication Token Domain (optional).

```
# AppServer Name
APPSERVER_NAME=<Specify Application Server name e.g. HOSTNAME.DOMAIN⇒
NAME>
```

```
# Appserver JSL Port
JSL_PORT=9020
```

```
# HTTP Port
HTTP_PORT=8060
```

```
# HTTPS Port
HTTPS_PORT=4433
```

```
# Authentication Domain (optional)
AUTH_DOMAIN=
```


- APPSERVER_NAME — the name of your application server
- JSL_PORT — the JSL port number you specified when setting up your application server.
- HTTP_PORT — the port to access the software in a browser using HTTP.
- HTTPS_PORT — the port to access the software in a browser using HTTPS.
- AUTH_DOMAIN

This is optional. The value you enter for Authentication Token Domain must match the value you specify when configuring your application server, as described earlier in this book. In addition, certain installation configurations require that you specify an authentication domain.

If you enter a value for Authentication Token Domain, the URL to invoke PeopleSoft Pure Internet Architecture must include the network domain name in the URL. For example, if you do not enter an authentication domain, the URL to invoke PeopleSoft Pure Internet Architecture is `http://MachineName/ps/signon.html`. If you do enter a value for the authentication domain (for example, `.myCompany.com`), the URL to invoke PeopleSoft Pure Internet Architecture is `http://MachineName.myCompany.com/ps/signon.html`. In addition, if the web server for the database is using an http port other than the default port of 80, the URL must include the port number, for example `http://MachineName:8080/ps/signon.html` if there is no authentication domain, or `http://MachineName.myCompany.com:8080/ps/signon.html` if there is an authentication domain. The URL must also comply with the naming rules given earlier in this chapter.

See *Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation*.

- Web profile name and password

Enter a Web Profile Name, and enter the password two times. The example below shows the default web profile name, PROD, and default user ID, PTWEBSEVER. The web profile name will be used to configure this web site. You can specify one of the other delivered web profiles, DEV, TEST, or KIOSK, or enter a different name. If you intend to use a Web Profile User ID other than the default, PTWEBSEVER, be sure to review the information on web profile configuration and security in the *PeopleTools: Portal Technology* product documentation.

```
# Web Profile Name Possible Values are "DEV", "TEST", "PROD", "KIOSK"
WEB_PROF_NAME=PROD
```

```
# Web Profile password for User "PTWEBSEVER"
WEB_PROF_PWD=<Specify password>
WEB_PROF_PWD_RETYPE=<Specify password>
```

- Enter the Integration Gateway user name and password.

The default user name is administrator.

See *PeopleTools: Integration Broker Administration*.

```
# Integration Gateway user profile.
IGW_USERID=administrator
IGW_PWD=<Specify password>
IGW_PWD_RETYPE=<Specify password>
```

- AppServer Domain Connection password (optional).

If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank as shown in this example. This password will be propagated to the Integration Gateway. For more information about Application Server domain configuration and setting domain parameters, see the product documentation *PeopleTools: System and Server Administration*.

```
# AppServer connection user profile
```

```
APPSRVR_CONN_PWD=
APPSRVR_CONN_PWD_RETYPE=
```

- The root directory for the Report Repository

Make sure that the report repository directory is shared. You must have write access to the Report Repository directory.

Note. In setting up the Process Scheduler to transfer reports, if you choose the FTP transfer protocol, use the same directory for the Home Directory as you use here for the report repository.

See *PeopleTools: Portal Technology*.

See "Setting Up Process Scheduler on Windows," Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository.

```
# Directory path for reports
REPORTS_DIR=<Specify Reports storage location>
```

- If you want to deploy additional PeopleSoft application packages, remove the comment character (#) and enter the PS_APP_HOME path.

Remove the comment character in front of the desired the package.

```
#For Deploying additional Application packages give the path of PS_APP_⇒
HOME and name of the packages.
#PS_APP_HOME=<Specify PS_APP_HOME location>
#APP Package to deploy: to deploy uncomment the line
#APP_PKG=CRM PeopleSoft CTI Integration
#APP_PKG=CRM PeopleSoft Order Capture
#APP_PKG=CRM PeopleSoft Order Capture Self Service
#APP_PKG=CRM PeopleSoft PSFT CRM PIM Server Sync
```

Task 16-1-2: Running the Silent Mode Installation

Use the response file that you modified for your configuration. Substitute the location where you saved the response file for *<path_to_response_file>* in the following procedures.

To install the PeopleSoft Pure Internet Architecture in silent mode on Microsoft Windows:

1. In a command prompt, go to *PS_HOME\setup\PsmPPIAInstall*.
2. Run the following command, using forward slashes (/) to specify the path:

```
setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
```

For example:

```
setup.bat -i silent -DRES_FILE_PATH=C:/psft/ps_home8.58/setup/PsmP⇒
PIAInstall/resp_file.txt
```

To install the PeopleSoft Pure Internet Architecture in silent mode on UNIX:

1. Go to *PS_HOME/setup/PsmPPIAInstall*.
2. Run the following command, using forward slashes (/) to specify the path:

```
setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
```

For example:

```
setup.sh -i silent -DRES_FILE_PATH=/opt/psft/ps_home8.58/setup/PsMp⇒
PIAInstall/resp_file.txt
```

Task 16-2: Configuring the SSL/TLS Port for JSL

Supply the SSL/TLS port for JSL in the configuration.properties file for the web server.

See *PeopleTools: Integration Broker*, "Installing Web Server-Based Digital Certificates."

1. Using a text editor, open the configuration.properties file in the web server deployment folder located here:
`<PIA_HOME>\webserv\<DOMAIN_NAME>\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps.`
2. Locate the psserver section and enter the application server name and the SSL/TLS port.

Enter the SSL/TLS port that you specified for the JSL SSL Port when setting up the application server domain.

See *Creating, Configuring, and Starting an Initial Application Server Domain*.

```
psserver=<machine_name>:<SSL_port_for_JSL>
```

3. Locate the section Keystore password for ssl connection.

If you reset the SSL/TLS Java Keystore password, enter it here. Otherwise, accept the default value. The default Java Keystore file is located in `<PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey`.

```
#Keystore password for ssl connection
KeyStorePwd=={V1.1}encrypted password==
```

4. Save and close the file.

If the JDK used for your web server does not support the algorithm used for SSL connection, you may see an error similar to the following when you sign in to the PeopleSoft Pure Internet Architecture through an SSL port:
 "Cannot support TLS_RSA_WITH_AES_256_CBC_SHA with currently installed providers"

This applies to the Oracle JDK for Linux, Microsoft Windows, or Oracle Solaris for SPARC operating systems.

See "Installing Web Server Products," Installing JDK.

To resolve the issue, use the following steps to upgrade the JDK with Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files:

1. Download the file jce_policy-8.zip from this site to a convenient directory:
<http://www.oracle.com/technetwork/java/javase/downloads/jce8-download-2133166.html>
2. Unzip the file jce_policy-8.zip.
3. Copy the files local_policy.jar and US_export_policy.jar from jce_policy-8\UnlimitedJCEPolicyJDK8.
4. Paste the two files into the `<JAVA_HOME>\jre\lib\security` folder, and replace the existing files.

Task 16-3: Testing and Administering the PeopleSoft Pure Internet Architecture Installation

This section discusses:

- Verifying the PeopleSoft Pure Internet Architecture Installation

- Starting and Stopping Oracle WebLogic
- Using PSADMIN to Start and Stop Web Servers
- Accessing the PeopleSoft Signon

Verifying the PeopleSoft Pure Internet Architecture Installation

After installing the PeopleSoft Pure Internet Architecture, you should make sure that your configuration is functional. You can test this by signing on to PeopleSoft, navigating within the menu structure, and accessing pages. (Make sure the application server is configured and booted.) This section includes procedures to start and stop the Oracle WebLogic web server whenever necessary.

Task 16-3-1: Starting and Stopping Oracle WebLogic

When using the Oracle WebLogic web server, you need to sign on to Oracle WebLogic before using these commands. Use the following commands in the Oracle WebLogic domain directory.

Note. Starting from Oracle WebLogic 9.2 and later releases, all the Life-cycle management scripts and other batch scripts for the PIA server on Oracle WebLogic are located in `<PIA_HOME>\webserv\<domain_name>\bin` folder.

- To start Oracle WebLogic Server as a foreground process on a single server, use the following commands:
On Microsoft Windows:
`startPIA.cmd`
On UNIX:
`startPIA.sh`
- To start Oracle WebLogic Server as a foreground process on multiple-servers or distributed servers, use the following commands:
 1. Execute the following command:
On Microsoft Windows:
`startWebLogicAdmin.cmd`
On UNIX:
`startWebLogicAdmin.sh`
 2. Then execute:
On Microsoft Windows:
`startManagedWebLogic.cmd ManagedServerName`
On UNIX:
`startManagedWebLogic.sh ManagedServerName`
- To stop the server, use the following commands:
 - Single Server on Microsoft Windows:
`stopPIA.cmd`
 - Single Server on UNIX:

```
stopPIA.sh
```

- Multiple Servers or Distributed Servers on Microsoft Windows:

```
stopWebLogic.cmd ManagedServerName
```

Single Server on UNIX:

```
stopWebLogic.sh ManagedServerName
```

For more information on working with Oracle WebLogic multiple servers or distributed servers, see the *PeopleTools: System and Server Administration* product documentation.

Note. For more information on working with Oracle WebLogic multiple or distributed servers, search My Oracle Support.

Task 16-3-2: Using PSADMIN to Start and Stop Web Servers

In addition to the methods given in the previous sections for starting and stopping Oracle WebLogic web servers, in PeopleSoft PeopleTools 8.52 and later releases you can use PSADMIN to administer a web server domain.

See *PeopleTools: System and Server Administration*.

To start and stop web servers:

1. Specify 4 for Web (PIA) Server.

The location of Config Home is the current working directory. The PSADMIN utility determines the Config Home directory by checking for the PS_CFG_HOME environment variable. If that is not set, it checks for the presence of domains in the default PS_CFG_HOME location. If none exists, it uses the PS_HOME location from which it was launched.

See "Preparing for Installation," Defining Installation Locations.

2. Select 1 for Administer a domain.

The PSADMIN utility determines the PIA Home location displayed here by first checking for a PIA_HOME environment variable. If none is set, it checks for the PS_CFG_HOME environment variable. If neither is set, it uses the default PS_CFG_HOME directory.

3. Select the domain you want to administer by entering the appropriate number.

```
-----
PeopleSoft PIA Domain Administration - Choose a Domain
-----
1) psftTST
2) peoplesoft

q) Quit
```

Command to execute: 2

4. To start a web server domain, enter 1, Boot this domain.

```
Starting the domain.....
...
Verifying domain status..
The domain has started.
```

5. To stop a web server domain, select 2, Shutdown this domain.

```
Stopping the domain.....  
.....  
Verifying domain status.....  
The domain has stopped.
```

6. Select 1 to install a service, or 2 to remove it.

This command invokes the `installNTservice` script, and creates a service named *WebLogicDomain-WebLogicServer*.

```
-----  
Windows Service Setup  
-----  
  
PIA Home:      C:\psft_websrv  
PIA Domain:    peoplesoft  
Domain status: started  
  
1) Install Service  
2) Uninstall Service  
  
q) Quit
```

Command to execute:

Task 16-3-3: Accessing the PeopleSoft Signon

To access the PeopleSoft signon:

1. Open your web browser.

2. Enter the name of the site you want to access—for example (the default value for `<site_name>` is ps):

`http://<machine_name>:<http_port>/<site_name>/signon.html`

This will take you to the sign-in window corresponding to your browser's language preference, as shown in this example:



Oracle PeopleSoft Enterprise Sign in window

Note. If you do not see the signon screen, check that you supplied all the correct variables and that your application server and the database server are running.

3. Sign in to the PeopleSoft system by entering a valid user ID and password.

The user ID and password are case sensitive.

Note. The user ID and password were set during the database configuration and also used to boot the application server.

The PeopleSoft PeopleTools and PeopleSoft applications include various default user IDs. For information on using the user IDs delivered with your PeopleSoft application demo database, see the application-specific

installation instructions. For information on using and securing PeopleSoft PeopleTools default user IDs, see the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

Task 16-4: Completing Post-Installation Steps

This section discusses:

- Using Fluid User Interface
- Updating the Installation Table
- Setting Options for Multilingual Databases
- Updating PeopleTools Options
- Updating Time Zone Information
- Updating Database Information
- Building a New Encryption Key and Re-encrypting Passwords

Task 16-4-1: Using Fluid User Interface

When you sign in to your PeopleSoft application, you may see the PeopleSoft Fluid User Interface by default. To access the menu items, as seen in the classic user interface, from the PeopleSoft Fluid User Interface:

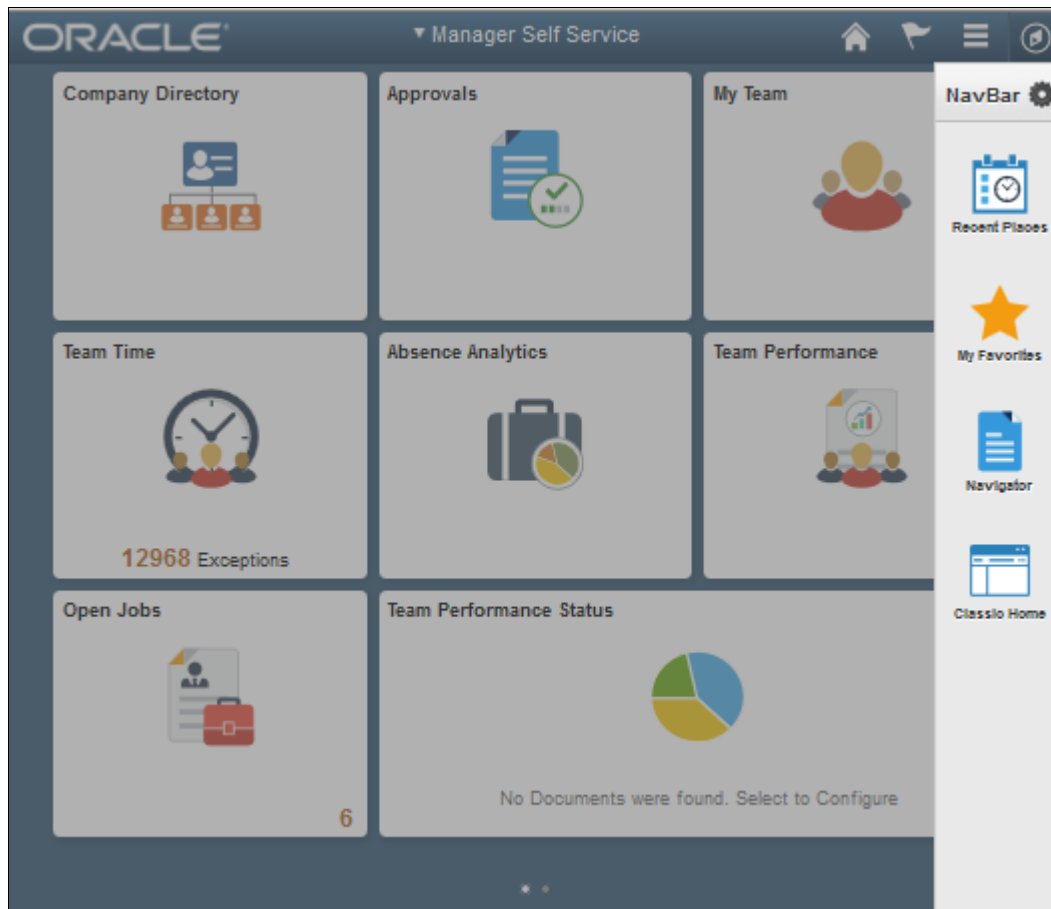
1. On the PeopleSoft Fluid User Interface, shown in this example, select (press) the NavBar button at the top right (diamond inside a circle).



PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

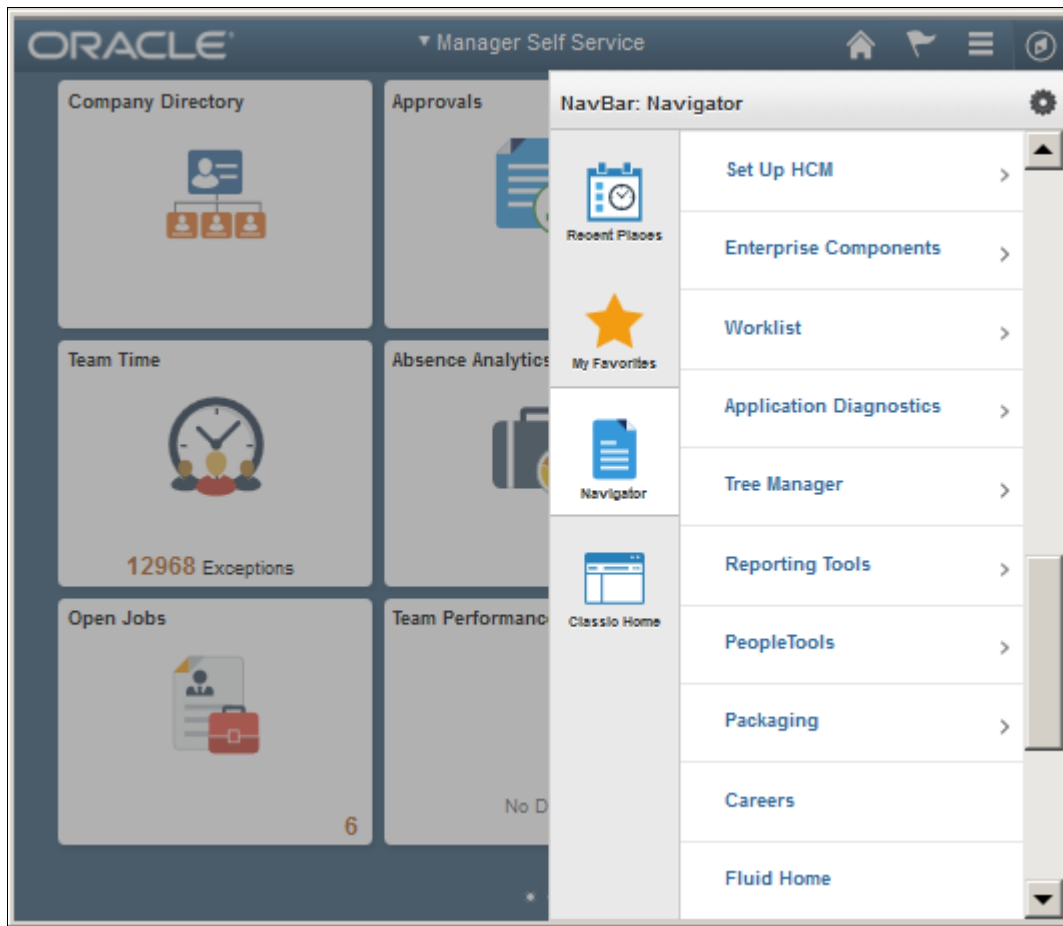
2. Select (press) Navigator.



NavBar side page

The menu structure appears.

3. Navigate to the desired item, such as Set Up HCM or PeopleTools.



Navigator side page with PeopleSoft menu items

See Also

PeopleTools: Applications User's Guide, "Working With Fluid Homepages"

PeopleTools: Fluid User Interface Developer's Guide

Task 16-4-2: Updating the Installation Table

After you complete the installation process, creating the database, installing the Application Server, and installing the PeopleSoft Pure Internet Architecture, you must complete this additional step. This post-installation step ensures that only the products you are entitled to use are active in the installation. The location of the installation table in the PeopleSoft system varies depending upon the PeopleSoft application that you installed.

Note. For information on the products you are entitled to use, contact your Oracle Support representative.

1. Sign on to the PeopleSoft system in a browser.
2. Select Set Up *Application_name* (where *Application_name* is the PeopleSoft application you installed), Install, Installation Table.
3. Select the Products tab.

4. Clear the check boxes for the products that you are not entitled to use.

Task 16-4-3: Setting Options for Multilingual Databases

Setting the Data Field Length Checking Option

The value to specify data field length checking must be set correctly in order for PeopleSoft applications to perform correctly in a browser. Use one of these methods to set the data field length checking option:

- Select PeopleTools > Utilities > Administration > PeopleTools Options, and select the Data Field Length Checking option from the drop-down list.

Verify that the option is set to Others, the default setting.

Note. The MBCS option is not supported for DB2 z/OS.

- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

Verify that the option is set to N, the default setting.

Note. The option M, for MBCS, is not supported for DB2 z/OS.

See *PeopleTools: Global Technology*, "Setting Data Field Length Checking."

See *PeopleTools: Global Technology*, "Selecting Character Sets."

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODE_ENABLED parameter in the PSSTATUS table is set correctly. For example:

- For non-Unicode databases, including those using the Shift-JIS character set for Japanese, set UNICODE_ENABLED=0.
- For Unicode databases, set UNICODE_ENABLED=1.

See the information on converting to Unicode in the *PeopleTools: Global Technology* product documentation.

Task 16-4-4: Updating PeopleTools Options

You can set the following options on the PeopleTools Options page:

- Multi-Currency — Select this check box if you plan to use currency conversion.

See *PeopleTools: Global Technology*, "Using System-Wide Multicurrency Settings."

- Base Time Zone — Enter a value for the base time zone for your PeopleTools database.

See *PeopleTools: Global Technology*, "Setting the Base Time Zone."

- Sort Order Option — If you specified a non-binary sort order for your database, choose the Sort Order Option that most closely approximates your database sort order.

See *PeopleTools: Global Technology*, "Setting the Sort Order."

Task 16-4-5: Updating Time Zone Information

Additional steps may be required to configure your time zone after you complete the installation.

See *PeopleTools: Global Technology*, "Maintaining Time Zones."

Task 16-4-6: Updating Database Information

The database information updated in this procedure is used by the PeopleSoft software update tools to identify your PeopleSoft database when searching for updates. These steps should be followed for all additional databases that you create to enable the accurate identification of your databases.

1. Sign on to your PeopleSoft database.
2. Navigate to PeopleTools, Utilities, Administration, PeopleTools Options.
3. Specify long and short names for your environment. For example:
 - Environment Long Name — Customer HR Demo Database
 - Environment Short Name — HR Demo DB
4. Select a system type from the drop-down list. For example, Demo Database.
5. Save your changes.

Task 16-4-7: Building a New Encryption Key and Re-encrypting Passwords

The PeopleTools installation includes a default encryption key (psvault), which is used to encrypt the passwords that you enter during the installation. For security reasons, create a new key after you complete the installation and use the new key to re-encrypt passwords included in your PeopleSoft environment files.

1. Use the PSCipher utility to build a new key.

See *PeopleTools: Security Administration*, "Generating a Unique Encryption Key."

For example, run the following command from `<PIA_HOME>/webserv/<DOMAIN_NAME>/piabin`:

Microsoft Windows

```
pscipher.bat -buildkey
```

```
Your environment has been set.
```

```
A new key of version {V2.2} is generated successfully
```

UNIX

```
./PSCipher.sh -buildkey
```

```
Your environment has been set.
```

```
A new key of version {V2.2} is generated successfully
```

2. Use the new key from step 1 to re-encrypt passwords that you supply as plain text.

See *PeopleTools: Security Administration*, "Using the PSCipher Utility."

3. Replace the existing encrypted values for the passwords in web server files with the newly created encrypted passwords.

Ensure that the password values begin with {V2.2}, which indicates the AES implementation. This table lists web server files and passwords to check.

See *PeopleTools: Security Administration*, "Understanding the Advanced Encryption Standard (AES) Implementation."

Location	File	Examples of Password Text
<PIA_HOME>\webserv\ <DOMAIN_NAME>\applications\peoplesoft\PSIGW.war\WEB-INF	integrationGateway.properties	- ig.isc.NODE_NAME.password={V2.2}XXXXXX - ig.isc.NODE_NAME.DomainConnectionPwd={V2.2}XXXXXX - Others as needed. There are several sections including passwords. Be sure to update all that apply to your environment.
<PIA_HOME>\webserv\ <DOMAIN_NAME>\applications\peoplesoft\PSIGW.war\WEB-INF	gatewayUserProfile.xml	<password>{V2.2}XXXXXX</password>
<PIA_HOME>\webserv\ <DOMAIN_NAME>\applications\peoplesoft\PORTAL.war\WEB-INF\psftdocs\<SITE_NAME>	configuration.properties	- KeyStorePwd={V2.2}XXXXXX - DomainConnectionPwd={V2.2}XXXXXX - WebUserId={V2.2}XXXXXX - WebPassword={V2.2}XXXXXX

4. After building the new key, copy psvault from the web server location to the application server location.

Copy from <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\properties.

Copy to <PS_HOME>\secvault.

Chapter 17A

Setting Up Process Scheduler on Windows

This chapter discusses:

- Prerequisites
- Setting Up Process Scheduler Security
- Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository
- Setting Environment Variables
- Setting Up Process Scheduler Server Agent
- Starting Process Scheduler as a Windows Service (Optional)
- Configuring the Process Scheduler for Microsoft Word (Optional)
- Configuring Setup Manager
- Installing Products for PS/nVision

Prerequisites

Before setting up your Process Scheduler, you must:

- Install Tuxedo.
See "Installing Additional Components."
- Install database connectivity to be able to communicate with your database server (Process Scheduler requires a direct connection to the database).
See "Preparing for Installation."
- Set up the web server with the PeopleSoft Pure Internet Architecture, as described in the previous chapter. This is required to set up the Process Scheduler to transfer reports or log files to the Report Repository.
- Set up your COBOL batch environment if you need to run COBOL processes through Process Scheduler. If the PeopleSoft modules purchased do not contain any COBOL modules, the COBOL run time libraries are not required. Also, COBOL is not required for applications that contain no COBOL programs. Consult My Oracle Support for the details on whether your application requires COBOL.
See "Preparing for Installation," Planning Your Initial Configuration.
- Install the Microsoft Office products Microsoft Word and Microsoft Excel.
- Have both your application server and the PeopleSoft Pure Internet Architecture started. In this chapter, you must modify security options of the designated PeopleSoft user ID that will be used to boot up Process Scheduler. This requires that the user ID's profile be modified through the User Security component. Please refer to earlier chapters for the details on starting the application server and the PeopleSoft Pure Internet Architecture.

In PeopleSoft PeopleTools 8.50 and later, the configuration and log files for Process Scheduler server domains reside in *PS_CFG_HOME*. If you do not set a *PS_CFG_HOME* environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

%USERPROFILE%\psft\pt\<peopletools_version>

See "Preparing for Installation," Defining Installation Locations.

See the product documentation *PeopleTools: System and Server Administration* for more information on the *PS_CFG_HOME* environment variable and working with server domain configuration.

See Also

PeopleTools: Process Scheduler

My Oracle Support, Certifications

Task 17A-1: Setting Up Process Scheduler Security

This section discusses:

- Understanding Process Scheduler Security
- Changing User Account to Start ORACLE ProcMGR V12.2.2.0.0_VS2017
- Granting Process Scheduler Administrative Rights

Understanding Process Scheduler Security

This task—in which you set up the PeopleSoft User ID that will be used to boot Process Scheduler server so it has administrative rights to both Process Scheduler and Report Manager—guarantees that security is set up properly both in Microsoft Windows and within your PeopleSoft database.

You must carry out this task to start Process Scheduler successfully.

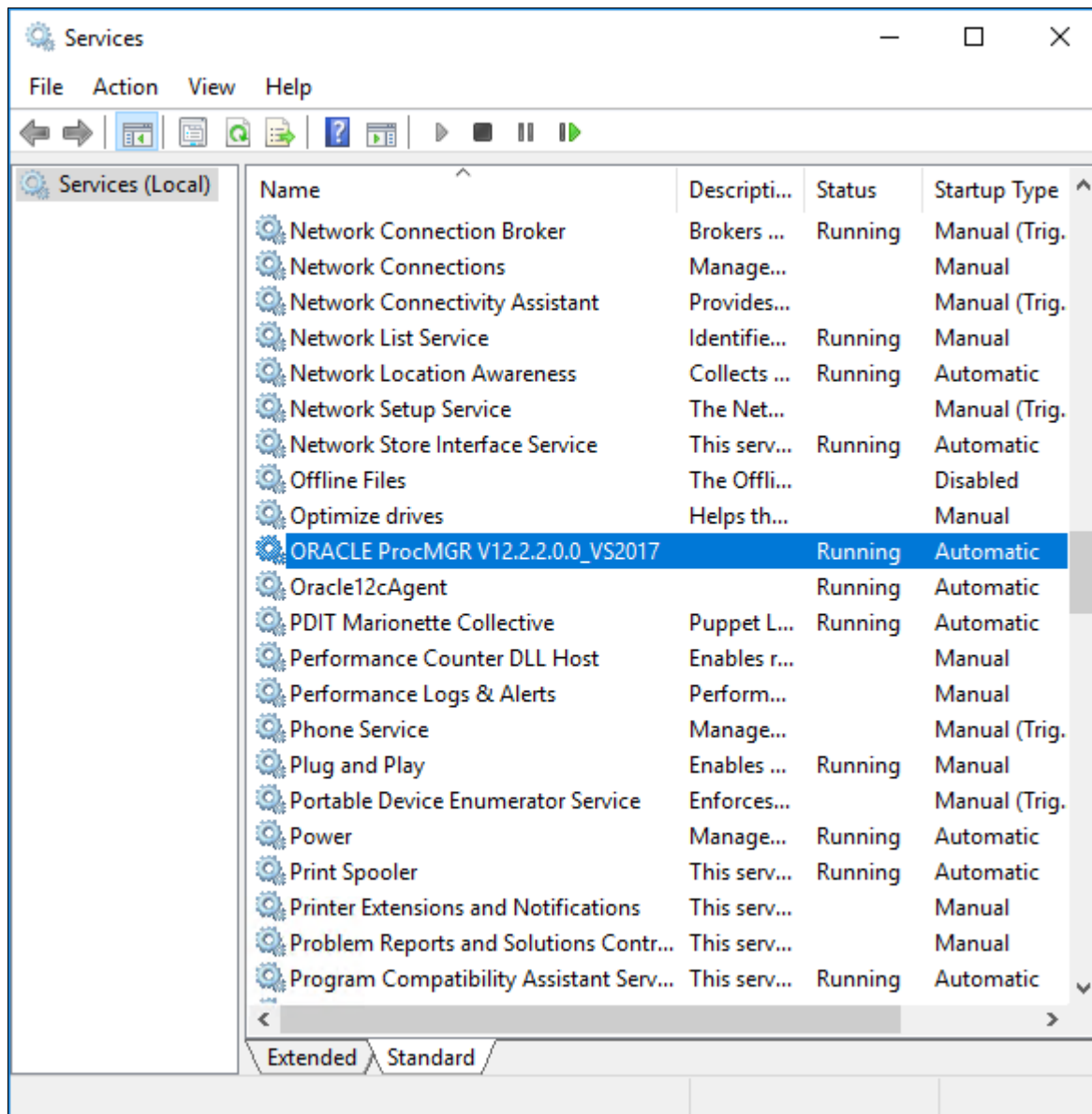
In the next section you set up ORACLE ProcMGR V12.2.2.0.0_VS2017 with a network user ID. When you install Oracle Tuxedo, the ORACLE ProcMGR V12.2.2.0.0_VS2017 service is set up by default to be started by local system account—a user account that does not have access to the Windows network. If the Process Scheduler server or processes initiated through Process Scheduler will be using a network printer, accessing files from a network drive, or using Microsoft Windows utilities such as XCOPY that may access UNC paths, you need to change the user account used to start ORACLE ProcMGR V12.2.2.0.0_VS2017 with a network user account.

Task 17A-1-1: Changing User Account to Start ORACLE ProcMGR V12.2.2.0.0_VS2017

To change User Account to start ORACLE ProcMGR V12.2.2.0.0_VS2017:

1. Launch the Services dialog box; for example, select Administrative Tools, Services.

In the Services dialog box, find the service labeled *ORACLE ProcMGR V12.2.2.0.0_VS2017*. This service is installed automatically when you install Tuxedo, and is highlighted in this example.

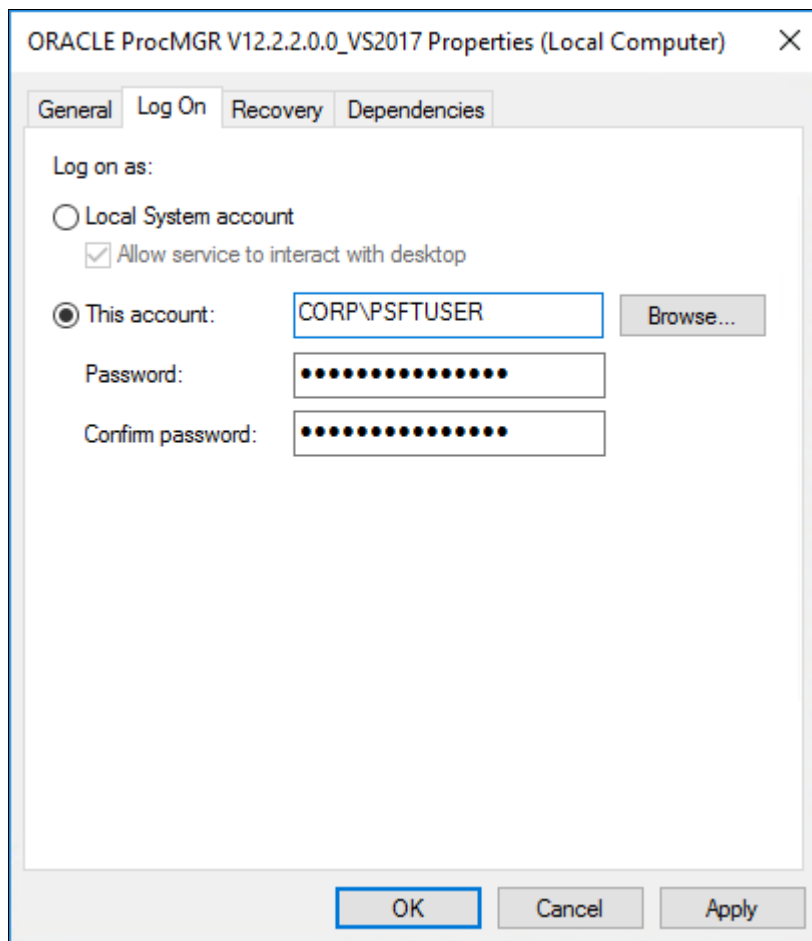


Microsoft Windows Services dialog box with ORACLE ProcMGR service highlighted

2. If the Stop button is enabled, click it to stop the current ORACLE ProcMGR V12.2.2.0.0_VS2017 process.
 - a. Click Yes when a message informs you of the status change.
 - b. Double-click ORACLE ProcMGR V12.2.2.0.0_VS2017.
The Properties dialog box appears.

3. Select the option This account on the Log On tab.

Enter an account name and password. In this example, the account name is CORP\PSFTUSER.

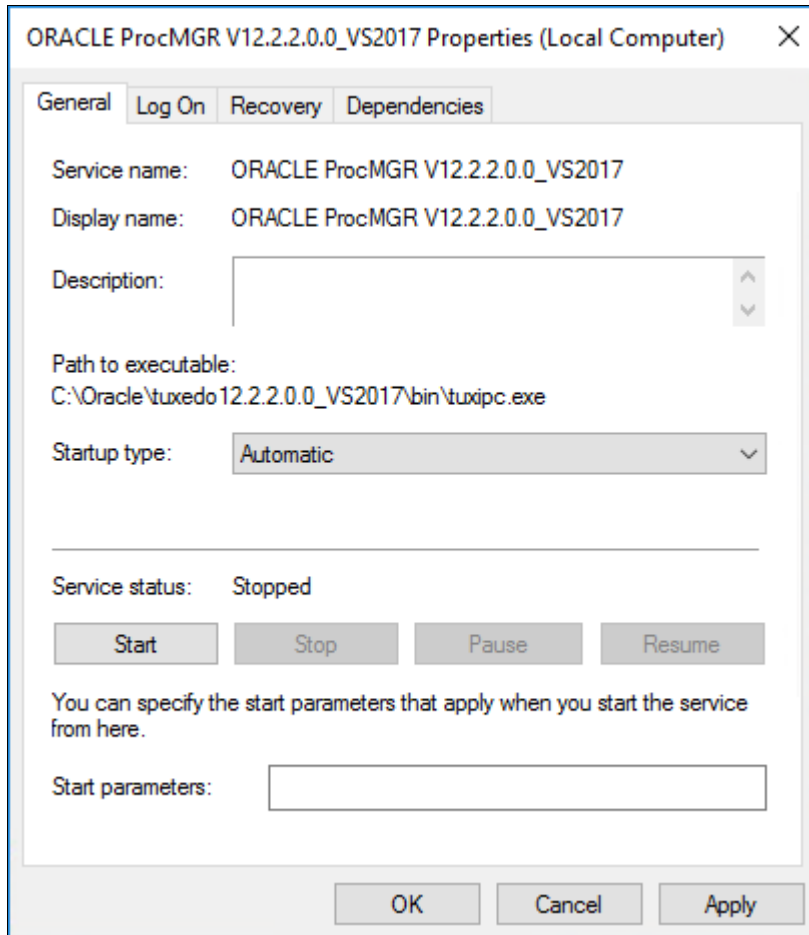


ORACLE ProcMGR V12.2.2.0.0_VS2017 Properties dialog box: Log On tab

Note. When you configure your Oracle Tuxedo server as outlined in the chapter, "Configuring the Application Server on Windows," the user ID designated to be the Application Server Administrator must have read/write permissions to the PeopleSoft file directory and read permission to the %TUXDIR% directory, such as C:\oracle\tuxedo12.2.2.0.0_VS2017.

4. Select the General tab.

Make sure that Startup Type is set to Automatic, as shown in this example, and click OK.



ORACLE ProcMGR V12.2.2.0.0_VS2017 Properties dialog box: General tab

5. Click Start.

A message in the Properties dialog box will indicate the "Started" status. You also see the status in the Services dialog box. Click OK to close the dialog box.

Task 17A-1-2: Granting Process Scheduler Administrative Rights

To grant Process Scheduler administrative rights:

1. Log onto your PeopleSoft database through the PeopleSoft Pure Internet Architecture.
2. Select PeopleTools > Security > User Profiles.
3. Select the User Profiles component. Use the Search dialog to select the PeopleSoft User ID you plan to use to boot the Process Scheduler server.

- Click the Roles tab, click the plus icon to insert a new row, and there enter the *ProcessSchedulerAdmin* role to grant the user ID with administrative rights in the Process Scheduler components.

ORACLE

Home | Worklist | MultiChannel Console | Add to Favorites | Sign

Favorites | Main Menu > PeopleTools > Security > User Profiles > User Profiles

New Window | Personalize Page | http

General | ID | **Roles** | Workflow | Audit | Links | User ID Queries

User ID: QEDMO
Description: QE User

Dynamic Role Rule

Execute on Server:

Test Rule(s) Refresh

Execute Rule(s)

[Process Monitor](#)
[Service Monitor](#)

User Roles Personalize | Find | View All | | | First 2-11 of 18 Last

Role Name	Description	Dynamic	View Definition	
PTF Administrator	PTF Administrator	☐	Route Control	View Definition + -
PeopleSoft Administrator	PeopleSoft Admin Privileges	☐	Route Control	View Definition + -
PeopleSoft User	PeopleSoft User	☐	Route Control	View Definition + -
Portal Administrator	Portal Administrator	☐	Route Control	View Definition + -
Portal Manager	Portal Manager	☐	Route Control	View Definition + -
ProcessSchedulerAdmin	Process Scheduler Admin	☐	Route Control	View Definition + -
QE Role	QE Role	☐	Route Control	View Definition + -
Search Administrator	Search Administrator	☐	Route Control	View Definition + -
Search Developer	Search Developer	☐	Route Control	View Definition + -
ReportDistAdmin	Report Distribution Admin	☐	Route Control	View Definition + -

Save Return to Search Previous in List Next in List Add Update/Display

General | ID | **Roles** | Workflow | Audit | Links | User ID Queries

Process Scheduler window: Roles tab

- Repeat the instructions in step 4 to add the role *ReportDistAdmin*.
This will grant the user ID administrative rights to the Report Manager component. Carry out this step only if the same user is also responsible for maintaining the content of Report Manager.
- Click Save to save your changes.
- Select the General tab and jot down the Permission List name assigned to the Process Profile field.
- From the Portal menu, choose PeopleTools, Security, Permissions & Roles, Permission Lists.
- In the Search dialog, enter the Permission List you noted in step 7.
- Select the Can Start Application Server check box.
- Click Save to save your changes.

Task 17A-2: Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository

This section discusses:

- Understanding Report Distribution

- Setting Up Single Signon to Navigate from PIA to Report Repository
- Determining the Transfer Protocol
- Starting the Distribution Agent
- Setting Up the Report Repository
- Setting Up the Distribution for Your Process Scheduler Server
- Setting Up Sending and Receiving of Report Folders in the Report Manager

Understanding Report Distribution

The PeopleSoft PeopleTools Report Distribution lets you access reports and log files generated from process requests run by a Process Scheduler Server Agent. Using the PeopleSoft Pure Internet Architecture, you can view reports and log files from the web browser through the Report Manager or Process Monitor Detail page. Report Distribution enables you to restrict access to these reports to authorized users based either on user ID or role ID.

This product also includes the Distribution Agent component, which runs on the same server as the Process Scheduler Server Agent. The Distribution Agent, a process that runs concurrently with the Process Scheduler Server Agent, transfers to the Report Repository files generated by process requests initiated by the Process Scheduler Server Agent.

The Distribution Agent transfers files to the Report Repository when one of these criteria is true:

- The Process Scheduler Server Agent is set up in the *Server Definition* to transfer all log files to the Report Repository.
- The process request output destination type is *Web/Window*.

In either case, the Process Scheduler Server Agent inserts a row in the Report List table (PS_CDM_LIST). The server agent then updates the distribution status for a process request to *Posting* upon completion of the program associated with the process request. The distribution status of *Posting* signals that the files for the process request are ready for transfer to the Report Repository. The Distribution Agent is notified by Process Scheduler for any process requests that are ready for transferring. As part of the process to transfer files to the Report Repository, the Distribution Agent performs the following steps:

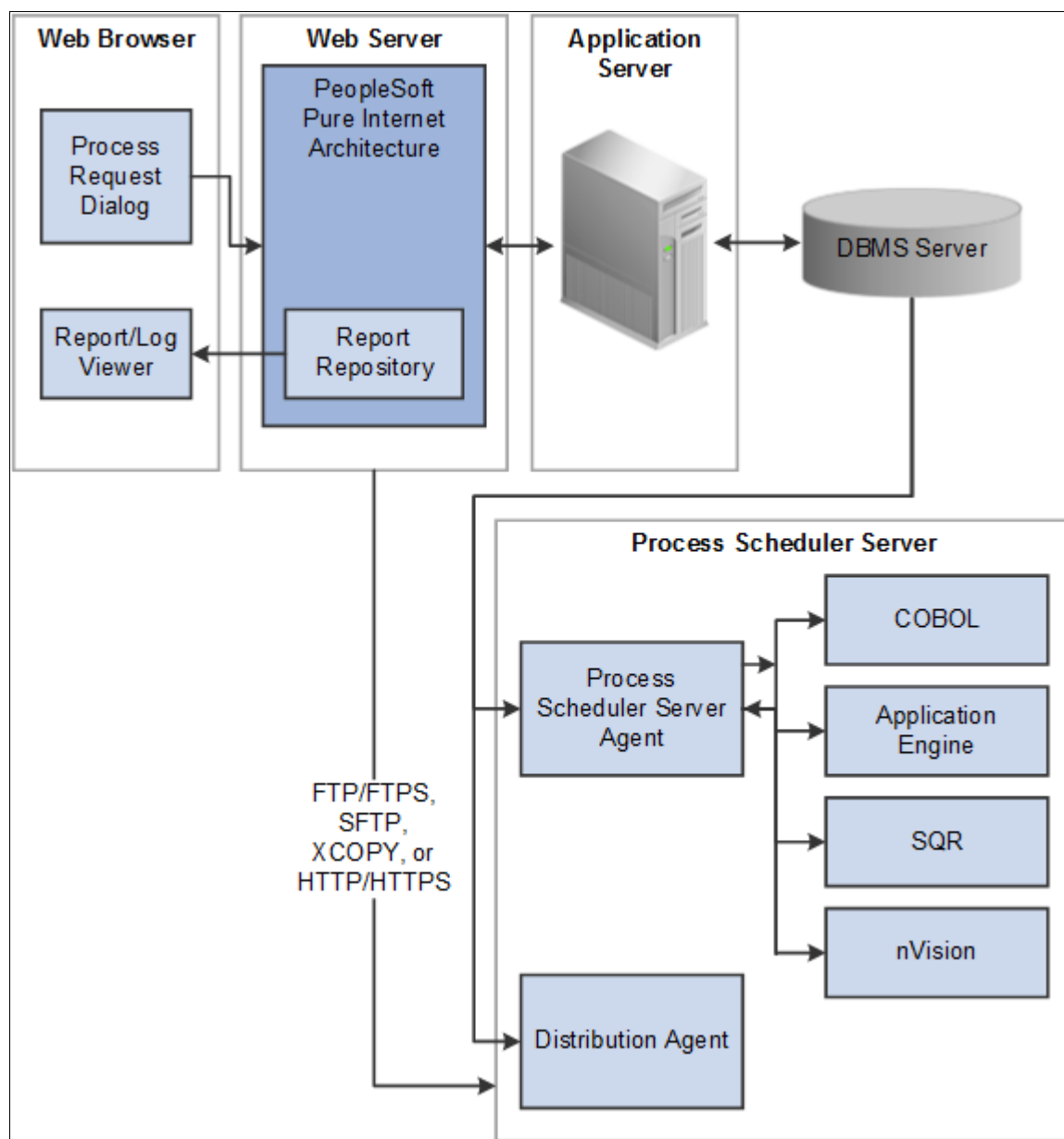
- *Transfer files to the Report Repository.* All the report and log files are transferred to the Report Repository. For each process request transferred, a directory is created in the Report Repository using the following format: \<database name>\<date yyyymmdd>\<report id>. All the files for a process request are stored in this directory.
- *Delete the directory from the Process Scheduler Agent's Log/Output directory.* When the output destination type specified for a process request is *Web/Window*, all the files and directory associated with the process request are deleted from the Process Scheduler Log/Output directory after the files are transferred to the Report Repository.

The following diagram illustrates the Process Scheduler and Report Repository architecture. The diagram includes the following items:

- The web browser gives access to the Process Request dialog and the Report or Log Viewer.
- The Report Repository is part of the PeopleSoft Pure Internet Architecture.

Note. The PeopleSoft Pure Internet Architecture must be installed for Process Scheduler to be able to transfer reports to the Report Repository.

- The Process Scheduler Server includes the Process Scheduler Server Agent and the Distribution Agent.
- The transfer protocol between Process Scheduler and the Report Repository may be FTP/FTPS, XCOPY, HTTP/HTTPS, or SFTP.



Process Scheduler and Report Repository Architecture

Before users can view a report, they are authenticated against the PeopleSoft database.

You should set up single signon if you do not want users to have to log on an additional time to view reports in the Report Repository. For the details on setting up single signon, consult the security documentation.

See *PeopleTools: Security Administration*.

Task 17A-2-1: Setting Up Single Signon to Navigate from PIA to Report Repository

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PeopleSoft Pure Internet Architecture (PIA) to Report Repository, you need to set up single signon to avoid getting a prompt for a second signon. This section includes some considerations for setting up single signon to navigate from PIA to Report Repository.

If Report Repository resides on the same web server as PIA, make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.

If Report Repository resides on a different web server than PIA, do the following:

- Make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.
- Use a fully qualified domain name when addressing the web server for both PIA and Report Repository. For example, enter `http://<machineName>.peoplesoft.com/<site_name>/signon.html` instead of `http://<machineName>/<site_name>/signon.html`.
- Specify the Authentication Domain for your application during installation. If you have multiple applications, and you want them to employ single signon, it is important to specify the same Authentication Domain for all applications.

See the information on implementing single signon in the *PeopleTools: Security Administration* product documentation.

- Set up single signon with a password, like this:
 - Choose PeopleTools, Integration Broker, Integration Setup, Nodes.
 - Click Search and then select the node marked as Default Local Node.
 - Select *Password* for the Authentication Option.
 - Enter a password of your choice.
 - Enter the password again in the Confirm Password field.
 - Enter the user ID for which you are setting up single signon in the Default User ID field.
 - Save the Node Definition.
 - Sign out from the PeopleSoft application.
 - Reboot your application server.

See Also

PeopleTools: Security Administration

Task 17A-2-2: Determining the Transfer Protocol

We recommend using HTTP as your transfer protocol.

Before transferring the files to the Report Repository, you need to determine which transfer protocol to use. The following table lists the allowed transfer protocol based on the Process Scheduler and web server operating systems.

Process Scheduler Operating System	Web Server Operating System	Transfer Protocol
Microsoft Windows	Microsoft Windows	• XCOPY • FTP/FTPS • SFTP • HTTP/HTTPS Note. If FTP information is not specified, Process Scheduler will perform an XCOPY.
Microsoft Windows	UNIX	• FTP/FTPS • SFTP • HTTP/HTTPS
UNIX	Any	• FTP/FTPS • SFTP • HTTP/HTTPS
DB2 z/OS	Any	FTP/FTPS or HTTP/HTTPS

Note. If you are using FTP/FTPS or SFTP, the corresponding service must be set up in your web server.

Note. If you are on DB2 z/OS, you need to have JRE set up on your Process Scheduler server.

Task 17A-2-3: Starting the Distribution Agent

The Distribution Agent is automatically started as another Oracle Tuxedo server when a Process Scheduler Server is booted. If a Process Scheduler Server was set up without specifying a Distribution Node in the *Server Definition* page, the Process Scheduler server will have a status in Process Monitor of "Running with No Report Node." After a node is defined for the Process Scheduler server, in the next cycle the Process Scheduler server checks the state of the system, and the Distribution Agent dynamically sets up its environment.

Task 17A-2-4: Setting Up the Report Repository

This section discusses:

- Defining ReportRepositoryPath
- Defining the Report Node to Use HTTP/HTTPS
- Defining the Report Node to Use XCOPY
- Defining the Report Node to Use FTP
- Defining the Report Node to Use FTPS

- Defining the Report Node to Use SFTP

Defining ReportRepositoryPath

The ReportRepositoryPath specifies the location of a directory for the Report Repository. You can specify the location for the Report Repository Path on the General page of the Web Profile during installation. If you do not set the location in the Web Profile, the location given by ReportRepositoryPath in the configuration.properties file is used for the default location. Note that the value entered for Report Repository Path in the Web Profile overrides any entry in the configuration.properties file.

See *PeopleTools: Portal Technology*, "Configuring Web Profiles."

Use the following formats to enter the name for the directory that you want to use for the ReportRepositoryPath. The examples below give the default values. Note that you must use a forward slash ("/") in both cases:

- *Microsoft Windows*: ReportRepositoryPath=c:/psreports
- *UNIX*: ReportRepositoryPath=<user_home>/PeopleSoft Internet Architecture/psreports

For <user_home> substitute the home directory for the current user.

Defining the Report Node to Use HTTP/HTTPS

To define the report node to use HTTP/HTTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select the Add a New Value link and enter the Report node name.

- On the Report Node Definition page, select HTTP or HTTPS from the Protocol drop-down list.

Select the HTTP option if you are *not* using SSL. Select the HTTPS option if you are using SSL. The pages for HTTP and HTTPS have the same fields. These examples show HTTP.

Note that if you are using SSL you need to have Client Certificates installed on your web server.

The screenshot shows the 'Report Node Definition' page in the Oracle PeopleTools interface. The breadcrumb trail at the top indicates the path: Favorites > Main Menu > PeopleTools > Process Scheduler > Report Nodes. The page title is 'Report Node Definition'. The 'Node Name' is set to 'HTTP'. The '*Protocol' dropdown is also set to 'HTTP'. A 'Validate' button is present. The 'Distribution Node Details' section includes a 'URLID' field with a placeholder 'http://<machine_name>:<port_number>/psreports/<site_name>', a 'Description' field, and an 'Operating System' dropdown set to 'Windows'. The 'Login Details' section has 'Login ID', 'Password', and 'Confirm Password' fields. The 'URL Details' section includes 'URI Host' (placeholder '<machine_name>'), 'URI Port' (set to '80'), and 'URI Resource' (placeholder 'SchedulerTransfer/<site_name>'). At the bottom, there are buttons for 'Save', 'Return to Search', 'Notify', and 'Refresh'.

Report Node Definition page for the HTTP protocol

- Enter the following information in the Distribution Node Details area:

- URLID:** Enter the URL of the web server using the following format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace `<machine_name>` with the name of your machine. Use the fully qualified host name for your web server. If you are using an HTTP or HTTPS port other than the defaults, you need to specify the port number.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

- Description:** Enter a description of the server (optional).
- Operating System:** Select the web server operating system, Windows or UNIX.

- Enter the following information in the Login Details area:

- *Login ID*: Enter the Login ID. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.
- *Password and Confirm Password*: Enter the password, and confirm it, for the user ID specified in the Login ID field. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.

Note. The setup of authentication is optional, but is recommended for security of the Report Repository when using the HTTP to transfer files. For information on setting up authentication on the web server where the Report Repository resides, refer to the *PeopleTools: Security Administration* product documentation.

6. Enter the following information in the URI Details area:

- *URI Host*: Enter the machine name for the report repository.

Note. In a basic setup, the machine name for the report repository will match the machine name of the web server URL. However, under certain circumstances—for example, if you are using a reverse proxy server—the URL and URI Host may have different machine names.

- *URI Port*: Enter the port number, which must match the port number of your web server (defaults are HTTP = 80, HTTPS = 443). If you change a port number you will lose the default values for both protocols.
- *URI Resource*: Enter SchedulerTransfer/<site name>.

7. Click Save to save your entries.

8. Click Validate to confirm that your entries are complete and correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

9. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use XCOPY

Both the Process Scheduler machine and the Report Repository machine must be Microsoft Windows machines for XCOPY to be used.

To define the report node to use XCOPY:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

- On the Report Node Definition page, select XCOPY from the Protocol drop-down list.

The screenshot shows the Oracle Report Node Definition page. The breadcrumb trail at the top is: Favorites > Main Menu > PeopleTools > Process Scheduler > Report Nodes. The Oracle logo is on the left, and a search bar is in the center. On the right, there are links for New Window, Help, Personalize Page, and a Home icon. The main heading is "Report Node Definition". Below it, the "Node Name" is "XCOPY" and the "*Protocol" is "XCOPY". A "Validate" button is to the right. A section titled "Distribution Node Details" contains the following fields: "URLID" with the value "http://<machine_name>:<port_number>/psreports/<site_name>", "Description" (empty), "Operating System" set to "Windows", and "Network Path" with the value "\\<machine_name>\psreports". At the bottom of this section are three buttons: "Save", "Notify", and "Refresh".

Report Node Definition page for the XCOPY protocol

- Enter the following information in the Distribution Node Details area:

- URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. Replace *<site name>* with the directory where you installed the PIA files.

If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- Description:** Enter an optional description for the node.
- Network Path:** Enter the path that points to your Report Repository share, using this format (where *<machine_name>* refers to the web server machine):

`\\<machine_name>\psreports`

Make sure that this directory is shared with the login accounts used to start Process Scheduler. Use UNC format instead of mapped drive format.

- Select Save to save your entries.
- Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

- To add additional report nodes, select Add to return to the Search page.

Defining the Report Node to Use FTP

If you use the FTP report node protocol, note that:

- If your FTP server is a Microsoft Windows server, you may have to set up the FTP service.
- The Distribution Agent will perform a validation after FTP has transferred files into the Report Repository by sending a query request to the web server. For this task to be completed, it is critical that the value entered in the URL is accurate. Verify that the machine name, port number, and site number that you specify are correct.

If this setup is not completed, the process request will get a status of NOT POSTED in the Process Monitor Detail page and will log the message "Unable to verify files posted."

To define the report node to use FTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTP from the Protocol drop-down list.

The screenshot shows the Oracle Report Node Definition page for the FTP protocol. The page is titled "Report Node Definition" and includes a navigation bar with "Favorites", "Main Menu", "PeopleTools", "Process Scheduler", and "Report Nodes". The "Report Nodes" link is active. The page contains several sections for configuring the report node:

- Node Name:** FTP
- *Protocol:** FTP (selected from a dropdown menu)
- Validate:** A button to validate the configuration.
- Distribution Node Details:**
 - URLID:** http://<machine_name>:<port_number>/psreports/<site_name>
 - Description:** FTP sample
 - Operating System:** Windows (selected from a dropdown menu)
 - Network Path:** (empty field)
- Login Details:**
 - Login ID:** <user_id>
 - Password:** (masked with dots)
 - Confirm Password:** (masked with dots)
- File Transfer Details:**
 - Home Directory:** \\<machine_name>\psreports
 - FTP Address:** <machine_name>
 - SSL Mode:** EXPLICIT (selected from a dropdown menu)
- Connection Properties:**
 - Property Name:** (empty field)
 - Property Value:** (empty field)
- Password Encryption:**
 - Password:** (empty field)
 - Confirm Password:** (empty field)
 - Encrypt:** A button to encrypt the password.
 - Encrypted Password:** (empty field)

At the bottom of the page, there are buttons for "Save", "Return to Search", "Notify", and "Refresh".

Report Node Definition page for the FTP protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the FTP protocol
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the FTP User ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.
- For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.
- *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. If you need to specify additional properties, use the Connection Properties area. Specifying the Connection Properties is optional.

Click the lookup button (magnifying glass) and select one of the properties in the following table. Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to Y. The default FTP connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: <i>10.176.147.111:10000-13000</i>
ENABLEEPRPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPRT is set to N, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	0: Disable EPSV 1: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) path.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
 - a. In the Password field, enter a password.
 - b. In the Confirm Password field, enter the password again.
 - c. Click Encrypt.
The encrypted password is displayed in the Encrypted Password field.
 - d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.
The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTPS

To define the report node to use FTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTPS from the Protocol drop-down list.

The screenshot shows the Oracle Report Node Definition page for the FTPS protocol. The page is titled "Report Node Definition" and includes a navigation bar with "Favorites", "Main Menu", "PeopleTools", "Process Scheduler", and "Report Nodes". The Oracle logo is visible in the top left. The page contains several sections for configuring the report node:

- Node Name:** FTPS
- *Protocol:** FTPS (selected from a dropdown)
- Validate:** A button to validate the configuration.
- Distribution Node Details:**
 - URLID:** `http://<machine_name>:<port_number>/psreports/<site_name>`
 - Description:** FTPS sample
 - Operating System:** Windows (selected from a dropdown)
 - Network Path:** (empty field)
- Login Details:**
 - Login ID:** <user_id>
 - Password:** (masked with dots)
 - Confirm Password:** (masked with dots)
- File Transfer Details:**
 - Home Directory:** \\<machine_name>\psreports
 - FTP Address:** <machine_name>
 - SSL Mode:** EXPLICIT (selected from a dropdown)
- Connection Properties:** A table with columns for Property Name and Property Value.
- Password Encryption:**
 - Password:** (empty field)
 - Confirm Password:** (empty field)
 - Encrypt:** A button to encrypt the password.
 - Encrypted Password:** (empty field)

At the bottom of the page, there are buttons for "Save", "Notify", and "Refresh".

Report Node Definition page for the FTPS protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the FTPS protocol.
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.

- *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
- *SSL Mode:* Select Explicit or Implicit from the drop-down list.

These are two separate methods developed to invoke the client security for use with FTP clients. With the explicit mode, FTPS-aware clients can invoke security with an FTPS-aware server without breaking overall FTP functionality with non-FTPS-aware clients. The implicit method requires that all clients of the FTPS server be aware that SSL is to be used on the session, and thus is incompatible with non-FTPS-aware clients.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table:

Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to Y. The default FTPS connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: <i>10.176.147.111:10000-13000</i>
CERTALIAS	Certificate Alias: The Certificate Alias must be an alias name of a certificate stored in the database (using the PeopleSoft PeopleTools Digital Certificates page). Note. Currently, only PEM certificates are supported for FTPS.
ENABLEEPRPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPRT is set to N, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	0: Disable EPSV 1: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) user.

Property Name	Property Value
KEYSTOREPASSWORD	This property is required for FTPS and HTTPS repositories. For attachments transferred from the PeopleSoft system to the FTPS or HTTPS repository, the system retrieves the key pair for the client certificate from the digital certificate store and writes the pair to a file in PKCS12 format with password protection. The value of this property will be used as the password for the PKCS12 file. The PKCS12 file enables connection and file transfer, and it exists only temporarily in <PS_SERVDIR>\files\<CERT ALIAS NAME> for the duration of the file transfer. The system deletes the file after the file transfer transaction. Note. If the system fails to delete the certificate alias file, a message will be written to the application server log. The maximum number of files that can exist at any time is equal to the total number of FTPS and HTTPS URL identifiers defined in the system. For information on setting the PS_SERVDIR environment variable, see the <i>PeopleTools: Integration Broker</i> product documentation.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
SSLUAGELLEVEL	0 - <i>No SSL</i>: No SSL will be used. 1 - <i>Try SSL</i>: Try using SSL, but proceed as normal otherwise. 2 - <i>Control</i>: Require SSL for the control connection. 3 - <i>SSL Only</i>: (Default) Require SSL for all communication.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.
VERIFYHOST	0: Do not verify the server for host name. 1: Check if there exists any value in the common name field in the server certificate. This check does not verify if it matches with what the client specifies. 2: (Default) Check for a match with the host name in the URL with the common name or Subject Alternate field in the server certificate.
VERIFYPEER	<i>False</i>: Do not verify the peer. <i>True</i>: (Default) Verify the peer by authenticating the certificate sent by the server.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:

- a. In the Password field, enter a password.
- b. In the Confirm Password field, enter the password again.
- c. Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

- d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
 10. Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use SFTP

To define the report node to use SFTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select SFTP from the Protocol drop-down list.

The screenshot shows the Oracle Report Node Definition page for the SFTP protocol. The page is titled "Report Node Definition" and includes a navigation bar with "Favorites", "Main Menu", "PeopleTools", "Process Scheduler", and "Report Nodes". The Oracle logo is visible in the top left. The page contains several sections for configuring the report node:

- Node Name:** SFTP
- *Protocol:** SFTP (selected from a dropdown menu)
- Validate:** A button to validate the configuration.
- Distribution Node Details:**
 - URLID:** `http://<machine_name>:<port_number>/psreports/<site_name>`
 - Description:** SFTP sample
 - Operating System:** Windows (selected from a dropdown menu)
- Login Details:**
 - Login ID:** <user_id>
 - Password:** (masked with dots)
 - Confirm Password:** (masked with dots)
- File Transfer Details:**
 - Home Directory:** \\<machine_name>\psreports
 - FTP Address:** <machine_name>
- Connection Properties:** A table with columns for Property Name and Property Value.
- Password Encryption:**
 - Password:** (input field)
 - Confirm Password:** (input field)
 - Encrypt:** A button to encrypt the password.
 - Encrypted Password:** (input field)

At the bottom of the page, there are buttons for "Save", "Notify", and "Refresh".

Report Node Definition page for the SFTP protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the SFTP protocol.
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.
- For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.
- *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table.

Click the plus sign to add additional connection properties.

Property Name	Property Value
AUTHTYPE	Select one of the following the authentication types: • <i>PUBLICKEY</i> • <i>PASSWORD</i> • <i>ANY</i>
PASSWORD	Specify the user password. You can enter the password in the Password Encryption box, click Encrypt, and then copy the encrypted value to the Password property.
PASSWORDKEY	Enter the password for the private key.
PRIVATEKEY	Select the private key.
PUBLICKEY	Select the public key.
SSHKEYALIAS	Select the SSH certificate saved to the database using the PeopleTools Security, Digital Certificates page (select PeopleTools, Security, Security Objects, Digital Certificates). The SSH certificate added through the Digital Certificates page contains both the public and private key data, identified by the Alias column value on the Digital Certificates page. If using the SSHKEYALIAS URL property, the Property Value prompt displays only the list of SSH certificates that have been added to the Digital Certificates page. If you have added the SSH certificate using the Digital Certificates page, and you have assigned an SSH certificate to the SSHKEYALIAS URL property, the system ignores the PUBLICKEY and PRIVATEKEY properties, regardless of whether they refer to valid key files in the file system. If you provided a password (or passphrase) when generating your SSH certificate, specify that value using the PASSWORDKEY URL property. See <i>PeopleTools: Security Administration</i>, "Configuring Digital Certificates."
USER	Specify the user ID to be authenticated.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
- In the Password field, enter a password.
 - In the Confirm Password field, enter the password again.
 - Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

- d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

11. To add additional report nodes, click Add to return to the Search page.

Task 17A-2-5: Setting Up the Distribution for Your Process Scheduler Server

To set up the Distribution Settings for your Process Scheduler Server:

1. Select PeopleTools, Process Scheduler, Servers.
2. Enter the Server Name (such as PSNT). The Server Definition page appears.
3. Select the Distribution tab.

The screenshot shows the Oracle PeopleTools interface. The breadcrumb trail at the top reads: Favorites > Main Menu > PeopleTools > Process Scheduler > Servers. The Oracle logo is on the left, and a search bar is in the center. On the right, there are links for 'Advanced Search' and 'Last Search Results'. Below the breadcrumb trail, there are links for 'New Window', 'Help', and 'Personalize Page'. The main content area has five tabs: 'Server Definition', 'Distribution' (which is selected), 'Operation', 'Notification', and 'Daemon'. Under the 'Distribution' tab, the 'Server Name' is set to 'PSNT'. Below this is a section titled 'Server Distribution Details' with a search icon. It contains four fields: 'Distribution Node Name' (with a search icon), 'Maximum Transfer Retries' (with a numeric input field), 'Interval for Transfer Attempt' (with a numeric input field and the unit 'seconds'), and 'Transfer System Files to Report Repository' (with a checkbox). At the bottom of the form, there are five buttons: 'Save', 'Return to Search', 'Notify', 'Add', and 'Update/Display'. Below the buttons, there is a link to 'Server Definition' and a breadcrumb trail: 'Server Definition | Distribution | Operation | Notification | Daemon'.

Server Definition page for PSNT: Distribution tab

4. Click the lookup button for Distribution Node Name to display the report node names and select the name of the required report node.
5. Enter a number for the Maximum Transfer Retries. This is the maximum number of times the server can try to send a report before it errors out.
6. Enter the number of seconds for the Interval for Transfer Attempt field. This is the interval between attempts to send the report.

7. Select the check box Transfer Log Files to Report Repository if you want to transfer all log and trace files from processes that do not generate reports.
8. Click Save to save your entries.
9. If Process Scheduler is running, you must reboot for any new settings to take effect.

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PIA to Report Repository, you need to set up single signon in order to avoid getting a prompt for a second signon.

Task 17A-2-6: Setting Up Sending and Receiving of Report Folders in the Report Manager

To be able to view reports in the Report Manager Explorer and List pages, you need to set up the sending and receiving of report folders in the Report Manager by activating the domain on which a sending and receiving server resides. Consult the documentation covering the PeopleSoft Integration Broker to learn how to activate the sending and receiving server domain.

See *PeopleTools: Integration Broker*.

See *PeopleTools: Integration Broker Service Operations Monitor*.

Task 17A-3: Setting Environment Variables

To set the appropriate Tuxedo environment variables, carry out these steps. (If you have already set these variables on the machine you are using as your Process Scheduler Server, you can skip this task.)

See "Installing Additional Components," Installing Oracle Tuxedo on Microsoft Windows.

To set the variables:

1. Choose Start, Settings, Control Panel.
2. Double-click the System icon.
3. Make sure that the NLSPATH environment variable is set.

NLSPATH does not need to be explicitly set since Oracle Tuxedo sets NLSPATH in its own registry tree. This value can be displayed using Control Panel, Tuxedo, on the Environment tab. However, the installation of certain products, such as IBM DB2 connectivity (for Db2 for z/OS) sets NLSPATH to a value that causes Oracle Tuxedo to fail. The solution is to either set NLSPATH=c:\tuxedo\locale\c, or to delete it entirely and let Oracle Tuxedo pick up the value from its registry tree.

Search the Oracle Tuxedo documentation for additional information on NLSPATH.

Task 17A-4: Setting Up Process Scheduler Server Agent

This section discusses:

- Understanding Process Scheduler Server Agent
- Creating and Configuring a Process Scheduler Server
- Reconfiguring a Process Scheduler Server
- Verifying the Process Scheduler Server Status

Understanding Process Scheduler Server Agent

For installation purposes, you can use predefined server names and other definitions. The predefined name that you might use is as follows:

Server Name	Operating System
PSNT	Microsoft Windows

To test this, use processes already defined in your PeopleSoft database. To set up a new server definition in your PeopleSoft database, refer to the *PeopleTools: Process Scheduler* product documentation.

Note. When creating multiple Process Scheduler Servers for the same database, each server must have a unique server name. For example, two Process Scheduler Servers, both named PSNT, cannot run against the same database.

Task 17A-4-1: Creating and Configuring a Process Scheduler Server

This section describes how to create and configure a Process Scheduler server.

You can set Process Scheduler configuration parameters either by using PSADMIN, which provides an interactive dialog, or by editing the configuration file `psprcs.cfg` located in the `PS_CFG_HOME\appserv\prcs\database name` directory. The following steps assume you are using PSADMIN to specify parameter settings.

Note. For Cube Builder users, if Essbase Server is installed on a different machine than the Process Scheduler, you must install Essbase Client 11.1.2.1 on the process scheduler server machine. You must also ensure that the `%ESSBASEPATH%` and `%ARBORPATH%` environmental variables are properly set in the Process Scheduler.

Note. If you use the configuration file `psprcs.cfg`, be aware that in the PeopleSoft PeopleTools 8.49 release and later, the section [Output Dest Exceptions] has been modified to trap metastring exceptions not only in the output destination but in other process parameters as well. In this section the entry `OUTDEST_EXCEPT01=%ANYMETASTRING%` has been changed to `PARAMETER_EXCEPT01=%ANYMETASTRING%`.

To create and configure a Process Scheduler Server:

1. From `PS_HOME\appserv` on the batch server, type `psadmin`.

You see the PeopleSoft Server Administration menu, as in this example:

```

-----
PeopleSoft Server Administration
-----
PS_CONFIG_HOME      C:\User\JSMITH\psft\pt\8.58
PS_HOME              C:\psft\pt\ps_home8.58
PS_APP_HOME          C:\psft\pt\hcm_app_home

1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Service Setup

```

- 7) Replicate Config Home
- 8) Refresh Config Home
- q) Quit

Command to execute (1-8 q):

2. Depending on your environment, you may see a message after the menu selection, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME*/peopletools.properties file. Continue with the next step.

3. Select 2 to access the Process Scheduler submenus.
4. Select 2 for Create a domain from the PeopleSoft Process Scheduler Administration menu.

```
-----
PeopleSoft Process Scheduler Administration
-----
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration

q) Quit
```

Command to execute (1-4, q) : 2

5. Enter the name of the domain at the following prompt, such as HRDMO in this example, and press ENTER:

Please enter name of domain to create : **HRDMO**

6. Specify 1 for *nt* for the configuration templates.

The *nt* configuration is based on the operating system Process Scheduler server will be booted from.

Process Scheduler Configuration templates:

- 1) nt
- 2) os390

Select config template number:

7. After the system creates the domain, the Quick-configure menu appears:

```
-----
Quick-configure menu -- domain: HRDMO
-----
```

Features =====	Settings =====
1) App Engine : Yes	9) DBNAME : [HRDMO]
2) Master Scheduler : Yes	10) DBTYPE : [DB2ODBC]
3) Perf Collator : No	11) PrcsServer : [PSNT]
4) Domains Gateway : No	12) UserId : [PS]
5) Push Notifications: No	13) UserPswd : []
	14) ConnectID : [people]
	15) ConnectPswd: []
	16) Log/Output Dir: [%PS_SERVDIR%\log_⇒
output]	
\binw]	17) SQRBIN : [%PS_HOME%\bin\sqr\ODB⇒
\SYSTEM32]	18) AddToPATH : [%WINDIR%;%WINDIR%⇒
directory>]	19) DBBIN : [C:\<connectivity⇒
	20) PHC Remote Admin Settings: []
Actions =====	
6) Load config as shown	
7) Custom configuration	
8) Edit environment settings	
h) Help for this menu	
q) Return to previous menu	

HINT: Enter 9 to edit DBNAME, then 6 to load

Enter selection (1-20, h, or q):

8. If you need to modify any of these settings, enter the number next to the parameter name, type the new value, and press ENTER. This table lists the parameters and gives brief descriptions.

Parameter	Description
Master Scheduler	Select this option to enable the Master Scheduler Server (PSMSTPRC). The default is to enable the server. <i>See PeopleTools: Process Scheduler.</i>
App Engine	Select this option to initiate Application Engine programs through the AE Tuxedo Server (PSAESRV). The default is set to run AE using PSAESRV. <i>See PeopleTools: Process Scheduler.</i>
Perf Collator	Select this option to enable the PSPPMMSRV server process. <i>See PeopleTools: Performance Monitor, "Enabling the Required Elements on the Monitoring System."</i>
Domain Gateways	Select this option to enables inter domain communication, for example between Application Server and Process Scheduler domains. <i>See PeopleTools: Fluid User Interface Developer's Guide, "Configuring the System for Push Notifications."</i>
Push Notifications	Select this option to enables pushing server events from PeopleSoft PeopleTools server runtime, such as Application Server and Process Scheduler, to browser clients and other PeopleSoft PeopleTools server runtime components. <i>See PeopleTools: Fluid User Interface Developer's Guide, "Configuring the System for Push Notifications."</i>
Load config as shown	Load the selections you made in the Quick Configure menu.
Custom configuration	Make custom selections in PSADMIN, using options that are not available in the Quick Configure menu.
Edit environment settings	Edit, add, remove, comment out, and review domain-level environment variables.
DBNAME	Specify the database name that is associated with a PeopleSoft Process Scheduler Server Agent, such as HRDMO, FSDMO, CSDMO, and so on.
DBTYPE	Specify the database type: DB2ODBC (for DB2 for z/OS).
PrcsServer	Specify the process server name. This must match the name defined in the Server Definition table, such as PSNT or PSUNX.

Parameter	Description
UserId	Enter the user ID, such as VP1 or PS.
UserPswd	Enter the password for the user ID, as you specified during the database configuration. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
ConnectID	Enter the connect ID. This value is required.
ConnectPswd	Enter the connect password, as you specified during the database configuration. This value is required. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
Log/Output Dir	Specify the directory in which files that are generated by the program are written. When PeopleSoft Process Scheduler initiates a process request, it creates a subdirectory in the format <Process Type ID>_<Program Name>_<Process Instance> that contains the generated files. For instance, the SQR program XRFWIN that ran with process instance 20 has all reports, trace, and log files in the subdirectory SQR_XRFWIN_20. It is also the optional directory used with the Output Destination field when scheduling a request. This variable (%%OutputDirectory%%) can be used in the File/Printer field of the Process Scheduler Request dialog box.
SQRBIN	Enter the path to the SQR executables.
AddToPATH	(Optional for Tuxedo) Specify an additional directory that is appended to the PATH environment variable.
DBBIN	Enter the path to the database drivers; that is, your connectivity software.
DomainConnectPswd	If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank. The password is hidden by masking characters as you type, and in the Quick-configure menu after entry. See the information on setting Application Server Domain Parameters in the <i>PeopleTools: System and Server Administration</i> product documentation.

Parameter	Description
PHC Remote Admin Settings	Use this setting to enable embedded JMX Agents for use with PeopleSoft Health Center (PHC). Change the value to <i>1</i> to enable, and <i>0</i> to disable. The setting is disabled by default. When you enter <i>1</i> to enable Remote Administration, you see prompts for the Remote Administration Port, Remote Administration UserID, and Remote Administration Password.

For descriptions of the PSADMIN options that do not appear in the Quick-configure menu, see the information on using PSADMIN in the *PeopleTools: Process Scheduler* product documentation. For a basic installation, in most cases you can accept the defaults.

9. When you have updated the settings as needed, choose *5, Load config as shown*, from the Quick-Configure menu to save your settings to the Process Scheduler configuration file, `pstuxcfg`.
10. To start Process Scheduler, choose *1*, for Administer Domain.
11. On the PeopleSoft Process Scheduler Administration menu, choose *1* for Boot this domain.

```
-----
PeopleSoft Process Scheduler Administration
-----
```

Domain Name: HRDMO

```
1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit
```

Command to execute (1-7, q) :

12. Choose *1*, Boot (Serial Boot), or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

13. If you want to stop Process Scheduler Server, from the PeopleSoft Domain Administration menu, choose *2*, for Domain Shutdown menu, and then enter the number corresponding to the name of the appropriate database.

Note. If you see the following message, then the server is already down:

```
Command to execute (1-2, q) [q]: 1 Loading command line administration
utility ... tadmin - Copyright (c) 2007-2008, Oracle. Portions *
Copyright 1986-1997 RSA Data Security, Inc. All Rights Reserved.
Distributed under license by Oracle. Tuxedo is a registered trademark. No
bulletin board exists. Entering boot mode. > TMADMIN_CAT:111: ERROR: No
such command.
```

Task 17A-4-2: Reconfiguring a Process Scheduler Server

If you create and then immediately configure a Process Scheduler server, you can use the Quick-configure menu. Alternatively, you can use PSADMIN as described in this section. Feel free to skip this procedure if you have already created and configured your Process Scheduler Server using the Quick-configure menu and want to move forward with your installation.

Note. If you want to configure the Process Scheduler Server while it is running, you need to stop and restart the server to load the new settings.

To reconfigure a Process Scheduler Server:

1. Go to *PS_HOME*\appserv and enter:

```
psadmin
```

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
 - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME*/peopletools.properties file. Continue with the next step.
3. Select 2 for Process Scheduler in the PeopleSoft Server Administration menu.
 4. In the PeopleSoft Process Scheduler Administration menu, select 1 for Administer a domain.
 5. Select the database for which the Process Scheduler needs to be configured.
 6. You see the following prompt:
Do you want to change any config values (y/n)? [n]:

Specify y to start an interactive dialog that lets you examine or change parameter values.
 7. Specify the configuration parameters one by one.

Configuration parameters are grouped into sections. At each section, you are asked whether to change any parameters—for example:

```
Values for config section - Startup
DBName=
DBType=
UserId=
UserPswd=
ConnectId=
ConnectPswd=
ServerName=
StandbyDBName=
StandbyDBType=
StandbyUserId=
StandbyUserPswd=
InMemoryDBName=
InMemoryDBType=
Do you want to change any values (y/n)? [n]:
```

- Specify *y* to change any parameter values for the current section. You are prompted for each parameter value. Either specify a new value or press ENTER to accept the default. After you press ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
- The parameters StandbyDBName, StandbyDBType, StandbyUserID, and StandbyUserPswd are used for a standby database in an Oracle database environment.

See the information on implementing Oracle Active Data Guard in the *PeopleTools: Data Management*, product documentation.

- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- If you do not want to change any values, specify *n* and you are prompted for the next configuration section.

8. After you have selected all your parameters, you see this message:

```
You will need to shut down and start up the server to read the new⇒
settings.
```

For descriptions of the Process Scheduler options in the PSADMIN, see the *PeopleTools: Process Scheduler* product documentation. In most cases you can accept the defaults.

Task 17A-4-3: Verifying the Process Scheduler Server Status

At this stage it is a good idea to verify the Process Scheduler Server status.

To verify the Process Scheduler Server status:

1. From the PeopleSoft Process Scheduler Administration menu, choose option 3, for Domain status menu.

```
-----
PeopleSoft Process Scheduler Administration
-----

Domain Name: HRDMO

1) Boot this domain
```

- 2) Domain shutdown menu
- 3) Domain status menu
- 4) Configure this domain
- 5) TUXEDO command line (tmadmin)
- 6) Edit configuration/log files menu
- 7) Clean IPC resources of this domain
- q) Quit

Command to execute (1-7, q) : **3**

2. To verify the status of the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

For example:

Database list:

- 1) HRDMO

Select item number to start: **1**

Loading command line administration utility ...
 tmadmin - Copyright (c) 2007-2008 Oracle.
 Portions * Copyright 1986-1997 RSA Data Security, Inc.
 All Rights Reserved.
 Distributed under license by Oracle.
 Tuxedo is a registered trademark.

> Prog Name Service	Queue Name	Grp Name	ID	RqDone	Load	Done	Current⇒
-----	-----	-----	--	-----	-----	-----	-----→

BBL.exe	46845	PSSERVER+	0	9	450	(IDLE)	
PSMONITORSRV.e	MONITOR	MONITOR	1	0	0	(IDLE)	
PSAESRV.exe	00101.00001	AESRV	1	0	0	(IDLE)	
PSAESRV.exe	00101.00002	AESRV	2	0	0	(IDLE)	
PSAESRV.exe	00101.00003	AESRV	3	0	0	(IDLE)	
PSPRCRV.exe	SCHEDQ	BASE	101	0	0	(IDLE)	
PSMSTPRC.exe	MSTRSCHQ	BASE	102	0	0	(IDLE)	
PSDSTSRV.exe	DSTQ	BASE	103	0	0	(IDLE)	

>

You can also verify the status of the Process Scheduler Server from Process Monitor in PeopleSoft Pure Internet Architecture. To verify the Process Scheduler Server status from the Process Monitor page, go to PeopleTools, Process Scheduler, Process Monitor, and select *Server List*.

If the user has the process security rights to update the server status, the *Refresh* button can be used to refresh the screen, too.

See Setting Up Process Scheduler Security.

This example of the Server List page shows two Process Scheduler servers with status Down, and one with status Running.

Process List

Server List

Refresh

Server	Hostname	Last Update Date/Time	Dist Node	Master	CPU (%)	Memory (%)	Active	Status	Details
PSNT	PTLAB95	10/28/2003 9:53:33AM	https	N	1	29	0	Down	Details
QEPSNT2	PTLAB95	10/28/2003 9:53:45AM	https	N	1	29	0	Down	Details
QE_HPX1	pt-hp07	10/28/2003 10:05:47AM	https	Y	21	34	1	Running	Details

Process Monitor page: Server List tab

Task 17A-5: Starting Process Scheduler as a Windows Service (Optional)

You can start the Process Scheduler server as a Windows service. This means that administrators do not need to manually boot each Process Scheduler server that runs on a Microsoft Windows machine. Instead, each time you boot the Microsoft Windows server where the Process Scheduler server resides, the Process Scheduler Server will boot automatically. You can also still manually boot Process Scheduler Servers on your Microsoft Windows server.

Note. If you have set up TUXDIR and TEMP as new SYSTEM variables, you need to reboot your machine before any Windows services will pick up the value of these environment variables.

Note. You can also set up application servers and search servers as a Windows service using the instructions provided here.

The following directions assume that the Process Scheduler is already configured on the Microsoft Windows server.

To set up the Windows Service for a Process Scheduler Server:

1. Open the System utility within the Control Panel, and set the variables, listed with a brief explanation in the following table, in the System Variables section of the Environment tab.

Note. Even if the following variables are in the User Variables section, they must also be in the System Variables section because the Windows service will be started under the System Account.

Variable	Value
TEMP	Specify the location of the TEMP directory on the Windows server, as in C:\TEMP.
TUXDIR	Specify the location of the Tuxedo directory on the Windows server, as in C:\tuxedo.

2. Reboot the Windows computer if any changes or additions were made for the system variables.
3. Run the PeopleSoft PSADMIN utility (psadmin.exe in the *PS_HOME*\appserv directory), and press ENTER.

4. Select 6 for Service Setup from the PeopleSoft Server Administration menu.

```

-----
PeopleSoft Server Administration
-----
PS_CFG_HOME           C:\Users\JSMITH\psftuser\psft\pt\8.58
PS_HOME               C:\psft\pt\ps_home8.58
PS_APP_HOME           C:\psft\pt\hcm_app_home

1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Service Setup
7) Replicate Config Home
8) Refresh Config Home
q) Quit

```

Command to execute (1-8, q): **6**

5. Select 1 from the PeopleSoft Services Administration menu.

```

-----
PeopleSoft Services Administration
-----
1) Configure Windows Service
2) Install Windows Service
3) Delete Windows Service
4) Edit Service Configuration File
q) Quit

```

Command to execute (1-4, q) : **1**

When asked if you want to change configuration values, enter y.

6. Enter the name of the Process Scheduler databases that you intend to include as part of the Windows service.

```

Values for config section - NT Services
Service Start Delay=60
Application Server Domains=HRDMO
Process Scheduler Databases=HRDMO
Search Server Domains=HRDMO

```

Do you want to change any values (y/n)? [n]:

If you specify more than one Process Scheduler database, separate each entry with a comma.

Note. You can use PSADMIN to set up Process Scheduler Servers, application servers, or search servers as a Windows service. The Windows Service psntrsv.exe automatically starts application servers, Process Scheduler servers, and search servers that reside on the same Microsoft Windows machine. Occasionally, psntrsv.exe would attempt to initiate a connection between an application server, Process Scheduler server, or search server and a database on the same machine that was not ready to receive requests. As a result the connection would fail. When you set up these servers as a Windows Service, you can specify a Service Start Delay, in seconds, that elapses before a service attempts to start any application server domains, Process Scheduler servers, or search servers. This allows the RDBMS to boot and become available to accept requests. The default setting for the Service Start Delay parameter is 60 seconds.

Note. The NT Services section of the PSADMIN modifies the psntrsv.cfg file located in the *PS_CFG_HOME\appserv* directory. You can edit this file manually by selecting *4, Edit Service Configuration File* from the PeopleSoft Services Administration menu. If you edit it, you need to delete and then install the service again.

7. Select option 2 from the PeopleSoft Services Administration menu.

```

-----
PeopleSoft Services Administration
-----
1) Configure Windows Service
2) Install Windows Service
3) Delete Windows Service
4) Edit Service Configuration File
q) Quit

```

Command to execute (1-4, q) : **2**

8. Return to the Control Panel, choose *Administrative Tools*, and launch the Services utility.
9. On the Services dialog, scroll to find the entry that adheres to the following naming convention, and select it:

PeopleSoft <PS_CFG_HOME>

For example:

PeopleSoft C:\Users\JSMITH\psftuser\psft\pt\8.58

Note. The default Startup mode is Manual.

10. Click *Startup*.
11. On the Service dialog in the Startup Type group, select *Automatic*, and in the Log On As group, select *Local System Account*. Then click OK.

Note. The *Log On As* setting needs to reflect that which you set for your ORACLE ProcMGR V12.2.2.0.0_VS2017 and Tlisten processes. Oracle recommends that you set these services to *Local System Account* when you install Tuxedo. The *Log On As* value only affects the application server because Process Scheduler runs independently from Tuxedo. See the chapter "Installing Additional Components" for more information on installing Tuxedo, and refer to the chapter "Configuring the Application Server on Windows" for the details on configuring the application server.

12. On the Services dialog, make sure the PeopleSoft service is selected, and click Start.
13. Use the Process Monitor to verify that the Process Scheduler Server is running. You can also use Task Manager to verify that the executables involved with the service are running.

For the Process Scheduler, make sure that the `psprcsrv.exe` is running. If you have customized the name of `psprcsrv.exe`, make sure the appropriate executable is running.

Task 17A-6: Configuring the Process Scheduler for Microsoft Word (Optional)

This section discusses:

- Configuring Process Scheduler
- Executing Winword on Mapped Drive

Task 17A-6-1: Configuring Process Scheduler

Some applications process documents using Microsoft Word. Here is how to configure Microsoft Word to work with the Process Scheduler.

Note. Microsoft Word must already be installed on the server; it is not included with the PeopleSoft PeopleTools install.

To configure Process Scheduler for Microsoft Word:

1. Log in to the PeopleSoft application in a browser and select PeopleTools, Process Scheduler, Processes.
2. Search for Process Type *Winword* and select a process.
3. On the Process Definition page, select Override Options, as shown in this example.

The screenshot displays the Oracle PeopleSoft interface for configuring process override options. The breadcrumb trail indicates the path: Home > Worklist > MultiChannel Console > Add to Favorites > Sign out > Favorites > Main Menu > PeopleTools > Process Scheduler > Processes. The active tab is 'Override Options'. The process type is 'Winword' and the name is 'WORDSAMP'. The 'Override Options' section includes a 'Parameters' field with the value '%%PS_HOME%%\WINWORD\WORDSAMP.DOCX /mWORDSAMP'. Below this are three rows for configuration: '*Parameter List' with a dropdown set to 'Append', '*Command Line' with a dropdown set to 'None', and '*Working Directory' with a dropdown set to 'None'. At the bottom, there are buttons for 'Save', 'Return to Search', 'Notify', 'Add', and 'Update/Display'. A footer navigation bar contains links for 'Process Definition', 'Process Definition Options', 'Override Options', 'Destination', 'Page Transfer', 'Notification', 'Message', and 'Run'.

Process Definition page: Override Options

4. In the Parameter List field, enter %%PS_HOME%%\WINWORD\WORDSAMP.DOCX/mWORDSAMP and save.
5. Locate the Process Scheduler configuration file psprcs.cfg in *PS_CFG_HOME*\appserv\prcs*<database_name>* directory and open it for editing.
6. In the [Process Scheduler] section, edit the WINWORD entry so that it points to the directory where winword.exe is installed—for example, "WINWORD=C:\Program Files\Microsoft Office\OFFICE 12" (include the quotes in the entry).
7. If spaces exist in the WINWORD path in the Process Scheduler configuration file (psprcs.cfg), Microsoft Word reports will fail. You will need to modify the Process Type Definition and add quotes around the entry in the Command Line field, for example " %%WINWORD%%\winword.exe".
8. Change the Microsoft Word macro security to allow macros to be run.
Start Microsoft Word and select Tools, Macro, Security. Select the *Low* security setting and click OK.
9. If you are running on Microsoft Windows, modify your macros to include the following line:
`Application.AutomationSecurity=msoAutomationSecurityLow`

You can see an example by viewing the macros in *PS_HOME*\winword\Wordsamp.doc.
10. Make sure that all the servers (that is, Application Server and Process Scheduler servers) are running in the context of the logged-in user, as WinWord is executed in the same context.

Task 17A-6-2: Executing Winword on Mapped Drive

If you encounter a problem in executing the WinWord process on a mapped drive, there are a couple of solutions to try. If the first solution does not work, try the second one. Try the following workaround suggestions in the order given.

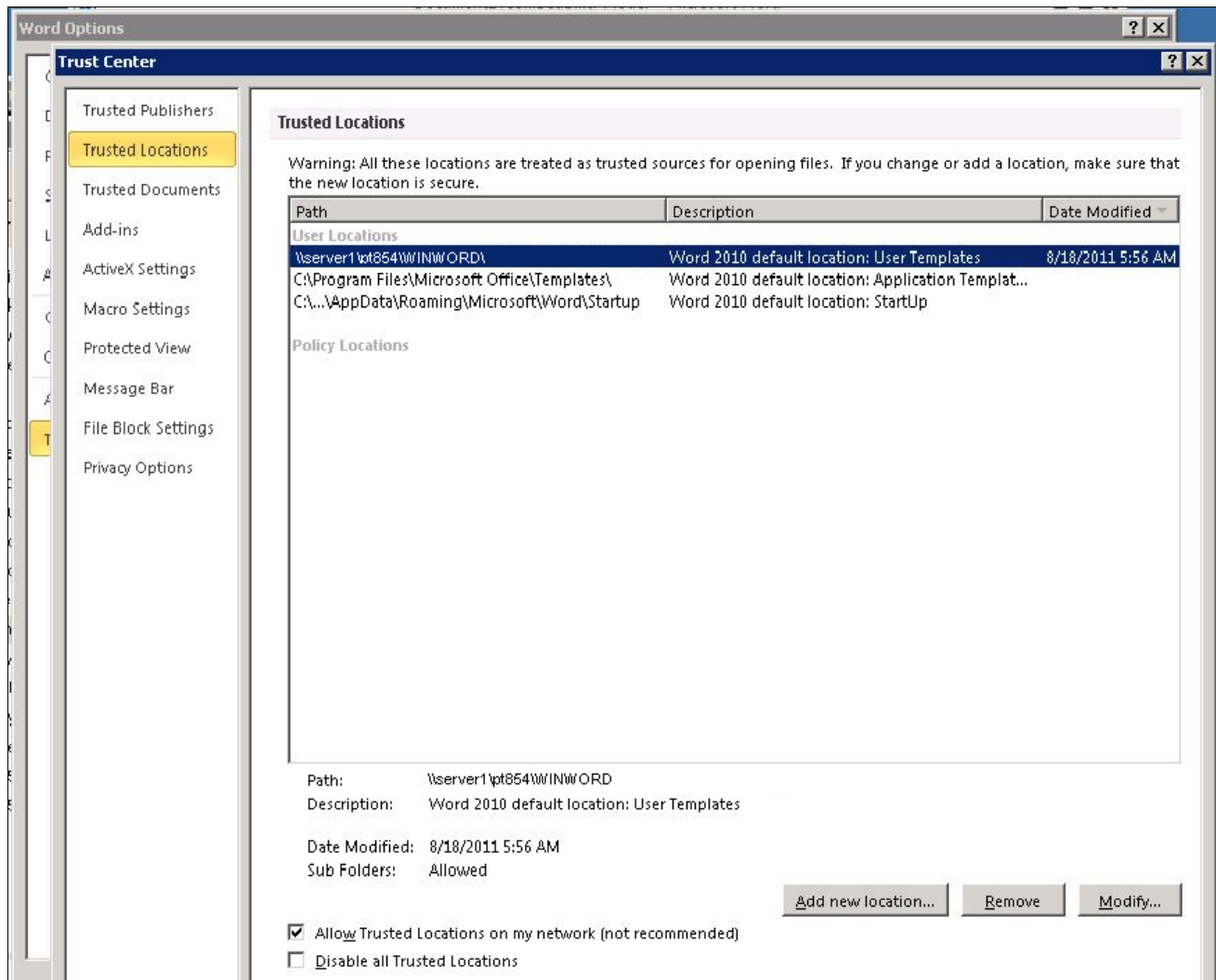
To perform the first workaround:

1. Copy the file WORDSAMP.dotm from *PS_HOME*\WINWORD\.
2. Locate the WinWord templates folder and place the file WORDSAMP.dotm there.
In general, you can find the templates folder under the logged-in user's directory. For example, for user psftuser, this would be:
`C:\Users\psftuser\Microsoft\Templates`
3. Open the WinWord.docx file under *PS_HOME*\WINWORD folder and verify macro is present.
4. Sign in to the PeopleSoft application to execute the WinWord process and verify its status in Process Monitor.

To perform the second workaround:

1. In Microsoft Word, click the Microsoft Office button, and click Word Options.
2. Select Trust Center, and then click Trust Center Settings, Trusted Locations.
3. Select the check box for Allow Trusted Locations on my network, and clear the check box Disable all Trusted Locations.

4. Create a new trusted location with path pointing to the *PS_HOME\WINWORD* folder on your mapped drive. In this example, the trusted location is *\\server1\pt854\WINWORD*:



Microsoft Word Trusted Locations window

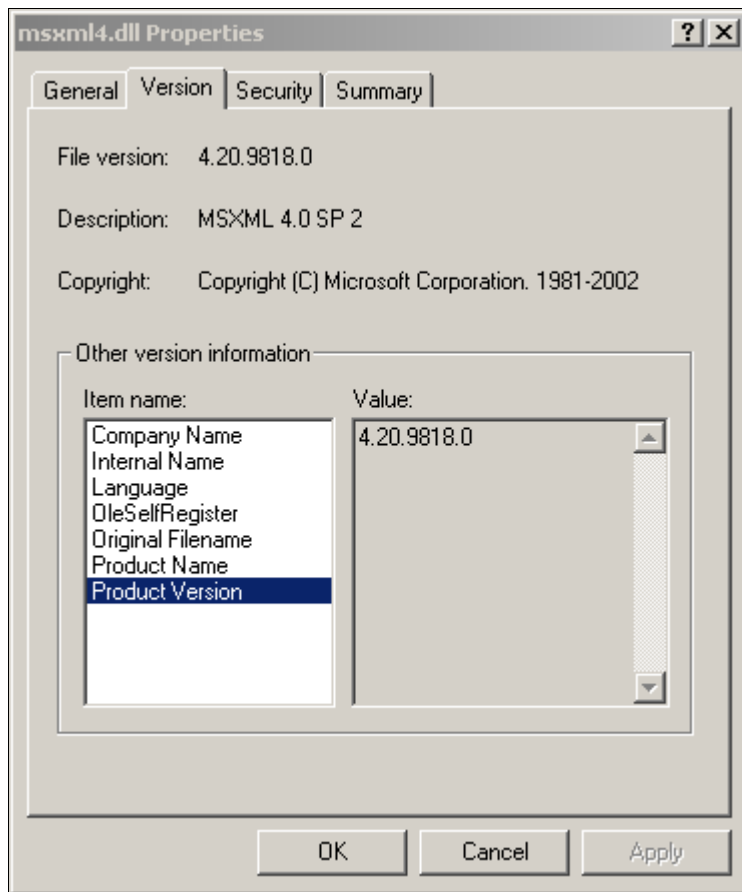
Task 17A-7: Configuring Setup Manager

Before you can use Setup Manager, you must fulfill these requirements:

- To use the Excel to CI template-generation feature of Setup manager, the Process Scheduler must be PSNT. That is, Process Scheduler must be installed on a Microsoft Windows machine.
- Process Scheduler must be running.
- Any Process Scheduler environment variables (especially %PS_FILEDIR%) must be specified.
- A supported version Microsoft Office must be present on the process scheduler server, and Microsoft Excel must be installed.
- The MSXML COM object for Microsoft Excel, msxml4.dll, must be present on the system.

For confirmation, navigate to %SystemRoot%\system32\msxml4.dll. Right-click and select Properties. On the

msxml4.dll Properties dialog box, select the Version tab, and then Product Version. As shown on this example of the msxml4.dll Properties dialog box, the version number must be 4.20 or above.



msxml4.dll Properties dialog box: Version tab

See Also

PeopleTools: Setup Manager

Microsoft support, support.microsoft.com

Task 17A-8: Installing Products for PS/nVision

This section discusses:

- Understanding the PS/nVision Setup
- Installing Products for PS/nVision in Excel Automation Mode
- Installing Microsoft .NET Framework 4.6.1
- Installing Microsoft Open XML SDK for PS/nVision

Understanding the PS/nVision Setup

PS/nVision can operate in the following three modes for PS/nVision:

- OpenXML mode

OpenXML is the default mode for PeopleSoft PeopleTools.

- Excel automation mode
- Cross-platform mode

Cross Platform is the only supported mode on the UNIX platforms that are certified for executing PS/nVision Reports on the web.

See "Setting Up Process Scheduler on UNIX," Using PS/nVision in Cross-Platform Mode on UNIX.

The different modes of executing PS/nVision are enabled by setting the UseExcelAutomation parameter in the Process Scheduler configuration file (psprcs.cfg) as follows:

- 0 - OpenXML mode
- 1 - Excel Automation mode
- 2 - Cross Platform mode

See Also

PeopleTools: PS/nVision

PeopleTools: Process Scheduler

Task 17A-8-1: Installing Products for PS/nVision in Excel Automation Mode

To set up PS/nVision in Excel automation mode:

- For all batch servers, install Microsoft Excel on the batch server. PeopleSoft PeopleTools supports 64-bit versions of Microsoft Excel 2010, Excel 2013, and Excel 2016.

Note. The 32-bit version of Microsoft Excel should not be installed on the machine where PS/nVision needs to run in Excel Automation Mode, as that would cause issues with running PS/nVision with 64-bit Microsoft Excel.

- If the batch server is on a 64-bit Microsoft Windows machine, create an empty "Desktop" folder with this path:
C:\Windows\System32\config\systemprofile\Desktop

Task 17A-8-2: Installing Microsoft .NET Framework 4.6.1

Before setting up PS/nVision in OpenXML mode, use these instructions to install Microsoft .NET Framework. Microsoft Open XML SDK 2.0 requires Microsoft .NET Framework versions 4.6.1.

Note. Microsoft .NET Framework 4.6.1 may be included as a feature on your operating system. See your operating system instructions to verify whether it is installed and enabled.

To install Microsoft .NET Framework 4.6.1:

1. If there is an existing installation of Microsoft .NET Framework 4.0 or 4.6 installed on your computer:

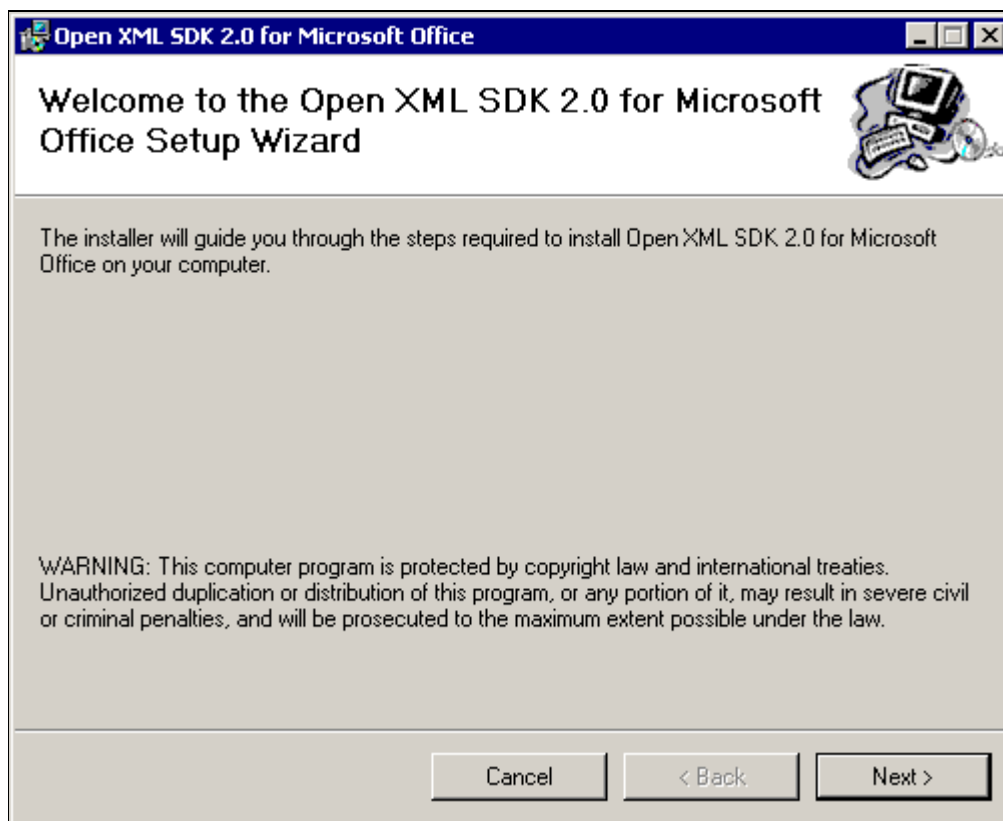
- a. Select Start, Programs, Control Panel, Add/Remove Programs
- b. Locate the existing Microsoft .NET Framework installation and remove it.
2. Go to *PS_HOME*\setup\dotnetredist.
3. Run the dotNetFx461_Full_x86_x64.exe file.
4. Review the license agreement, select the option I have read and accept the license terms, and then click Install.
A progress indicator appears.
5. Click Finish when the installation is complete.

Task 17A-8-3: Installing Microsoft Open XML SDK for PS/nVision

As described in the previous section, you must have installed Microsoft .NET Framework versions 4.6.1 before beginning this installation.

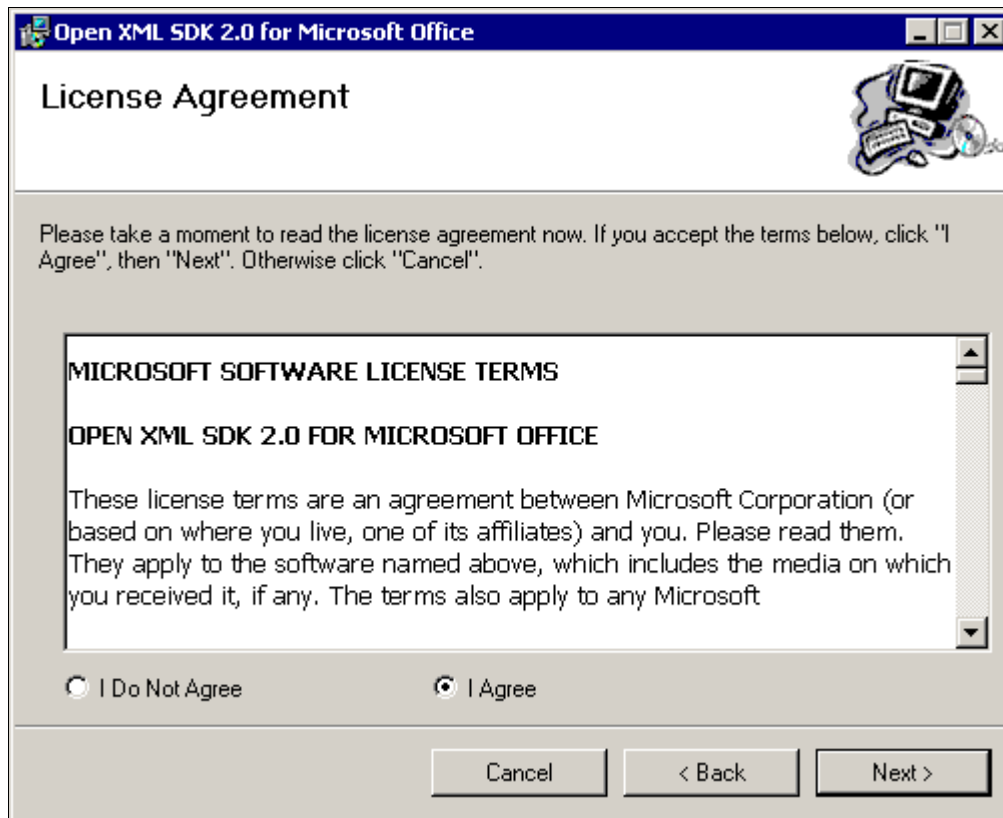
To install Microsoft Open XML SDK V2.0:

1. Go to *PS_HOME*\setup\OpenXmlSDK.
2. Run the OpenXMLSDKv2.msi file.
3. Click Next on the welcome window.



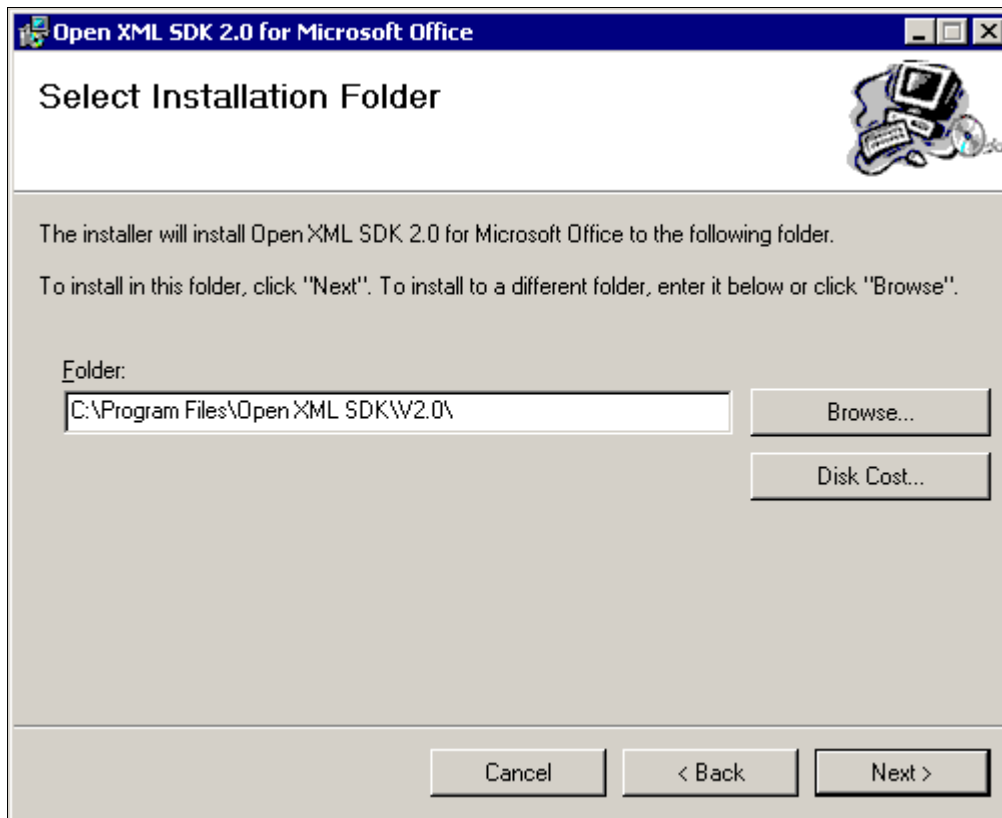
Microsoft Open XML SDK 2.0 welcome window

4. Review the license agreement, select the option I agree, and then click Next.



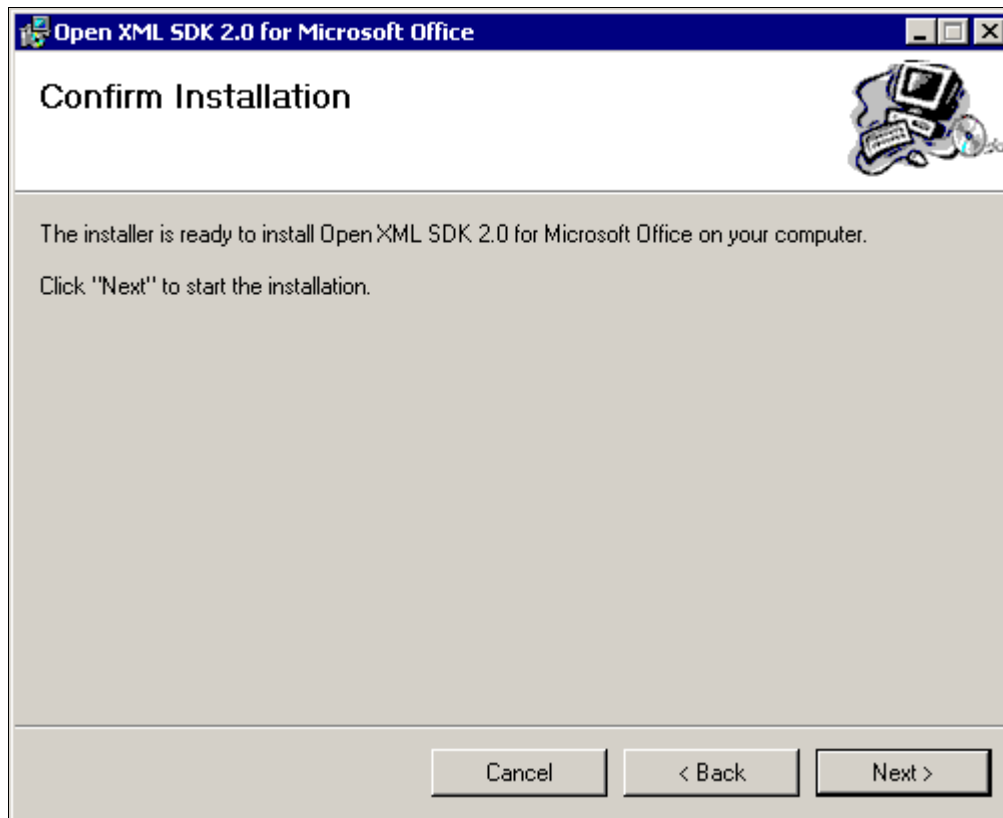
Microsoft Open XML SDK 2.0 License Agreement window

5. Accept the default location for the installation, C:\Program Files\Open XML SDK\V2.0, and then click Next.



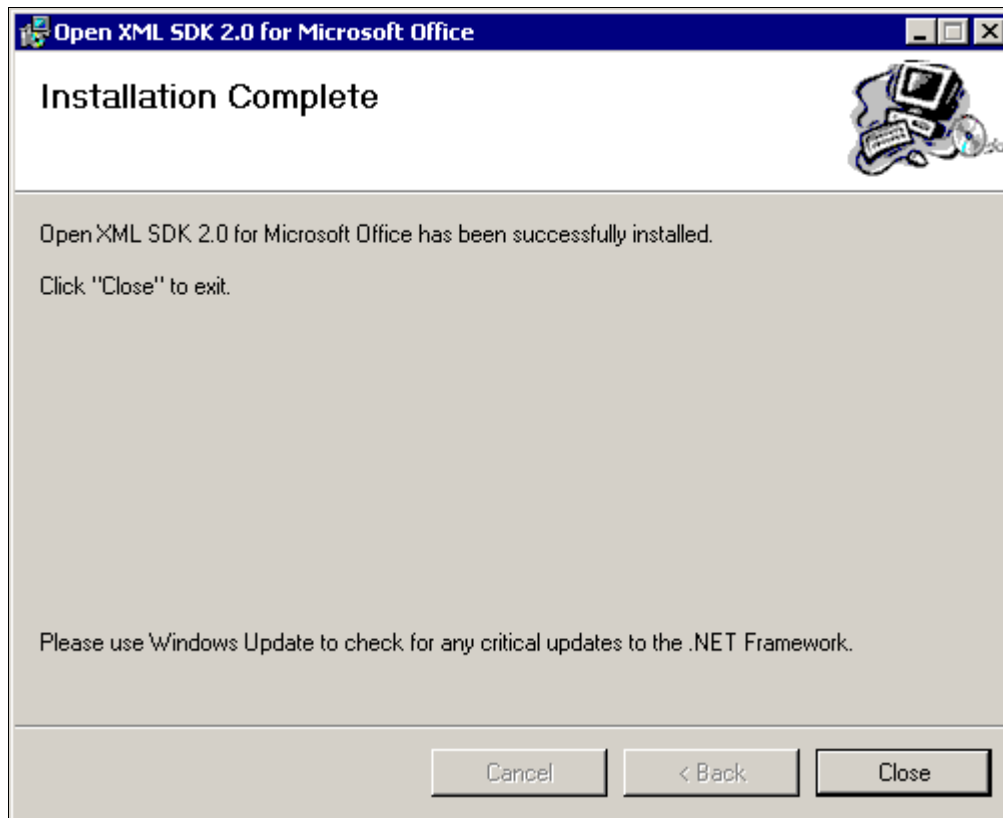
Microsoft Open XML SDK 2.0 Select Installation Folder window

6. Click Next on the Confirm Installation window to begin the installation.



Microsoft Open XML SDK 2.0 Confirm Installation window

7. Click Close when the installation is complete.



Microsoft Open XML SDK 2.0 Installation Complete window

Chapter 17B

Setting Up Process Scheduler on UNIX

This chapter discusses:

- Prerequisites
- Setting Up Process Scheduler Security
- Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository
- Setting Up Process Scheduler Server Agent

Prerequisites

If your database runs on z/OS, you need to set up a Microsoft Windows batch environment on a Microsoft Windows application server or on a dedicated Microsoft Windows workstation for Microsoft Windows-specific batch processes, such as nVision reports, Cube Builder, or Microsoft Word. These processes are Microsoft Windows-specific applications that cannot be executed by the Process Scheduler on z/OS.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

Before setting up your Process Scheduler, you must:

- Install Tuxedo.
See "Installing Additional Components."
- Install database connectivity to be able to communicate with your database server (Process Scheduler requires a direct connection to the database).
See "Preparing for Installation."
- Set up the web server with the PeopleSoft Pure Internet Architecture, as described in the previous chapter. This is required to set up the Process Scheduler to transfer reports or log files to the Report Repository.
- Have both your application server and the PeopleSoft Pure Internet Architecture started. In this chapter, you must modify security options of the designated PeopleSoft user ID that will be used to boot up Process Scheduler. This requires that the user ID's profile be modified through the User Security component. Please refer to earlier chapters for the details on starting the application server and the PeopleSoft Pure Internet Architecture.

In PeopleSoft PeopleTools 8.50 and later, the configuration and log files for Process Scheduler server domains reside in `PS_CFG_HOME`. If you do not set a `PS_CFG_HOME` environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

```
$HOME/psft/pt/<peopletools_version>
```

See "Preparing for Installation," Defining Installation Locations.

See the product documentation *PeopleTools: System and Server Administration* for more information on the PS_CFG_HOME environment variable and working with server domain configuration.

See Also

PeopleTools: Process Scheduler

My Oracle Support, Certifications

Task 17B-1: Setting Up Process Scheduler Security

This section discusses:

- Understanding Process Scheduler Security
- Granting Process Scheduler Administrative Rights

Understanding Process Scheduler Security

This task—in which you set up the PeopleSoft User ID that will be used to boot Process Scheduler server so it has administrative rights to both Process Scheduler and Report Manager—guarantees that security is set up properly within your PeopleSoft database.

You must carry out this task to start Process Scheduler successfully.

Task 17B-1-1: Granting Process Scheduler Administrative Rights

To grant Process Scheduler administrative rights:

1. Log onto your PeopleSoft database through the PeopleSoft Pure Internet Architecture.
2. Select PeopleTools > Security > User Profiles.
3. Select the User Profiles component. Use the Search dialog to select the PeopleSoft User ID you plan to use to boot the Process Scheduler server.

- Click the Roles tab, click the plus icon to insert a new row, and there enter the *ProcessSchedulerAdmin* role to grant the user ID with administrative rights in the Process Scheduler components.

Oracle Process Scheduler Roles tab interface. The 'Roles' tab is selected, showing a list of roles. The 'ProcessSchedulerAdmin' role is highlighted. The 'Dynamic Role Rule' section on the left shows 'Execute on Server' with buttons for 'Test Rule(s)', 'Refresh', and 'Execute Rule(s)'. The bottom navigation bar includes 'General', 'ID', 'Roles', 'Workflow', 'Audit', 'Links', and 'User ID Queries'.

Process Scheduler window: Roles tab

- Repeat the instructions in step 4 to add the role *ReportDistAdmin*.
This will grant the user ID administrative rights to the Report Manager component. Carry out this step only if the same user is also responsible for maintaining the content of Report Manager.
- Click Save to save your changes.
- Select the General tab and jot down the Permission List name assigned to the Process Profile field.
- From the Portal menu, choose PeopleTools, Security, Permissions & Roles, Permission Lists.
- In the Search dialog, enter the Permission List you noted in step 7.
- Select the Can Start Application Server check box.
- Click Save to save your changes.

Task 17B-2: Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository

This section discusses:

- Understanding Report Distribution

- Setting Up Single Signon to Navigate from PIA to Report Repository
- Determining the Transfer Protocol
- Starting the Distribution Agent
- Setting Up the Report Repository
- Setting Up the Distribution for Your Process Scheduler Server
- Setting Up Sending and Receiving of Report Folders in the Report Manager

Understanding Report Distribution

The PeopleSoft PeopleTools Report Distribution lets you access reports and log files generated from process requests run by a Process Scheduler Server Agent. Using the PeopleSoft Pure Internet Architecture, you can view reports and log files from the web browser through the Report Manager or Process Monitor Detail page. Report Distribution enables you to restrict access to these reports to authorized users based either on user ID or role ID.

This product also includes the Distribution Agent component, which runs on the same server as the Process Scheduler Server Agent. The Distribution Agent, a process that runs concurrently with the Process Scheduler Server Agent, transfers to the Report Repository files generated by process requests initiated by the Process Scheduler Server Agent.

The Distribution Agent transfers files to the Report Repository when one of these criteria is true:

- The Process Scheduler Server Agent is set up in the *Server Definition* to transfer all log files to the Report Repository.
- The process request output destination type is *Web/Window*.

In either case, the Process Scheduler Server Agent inserts a row in the Report List table (PS_CDM_LIST). The server agent then updates the distribution status for a process request to *Posting* upon completion of the program associated with the process request. The distribution status of *Posting* signals that the files for the process request are ready for transfer to the Report Repository. The Distribution Agent is notified by Process Scheduler for any process requests that are ready for transferring. As part of the process to transfer files to the Report Repository, the Distribution Agent performs the following steps:

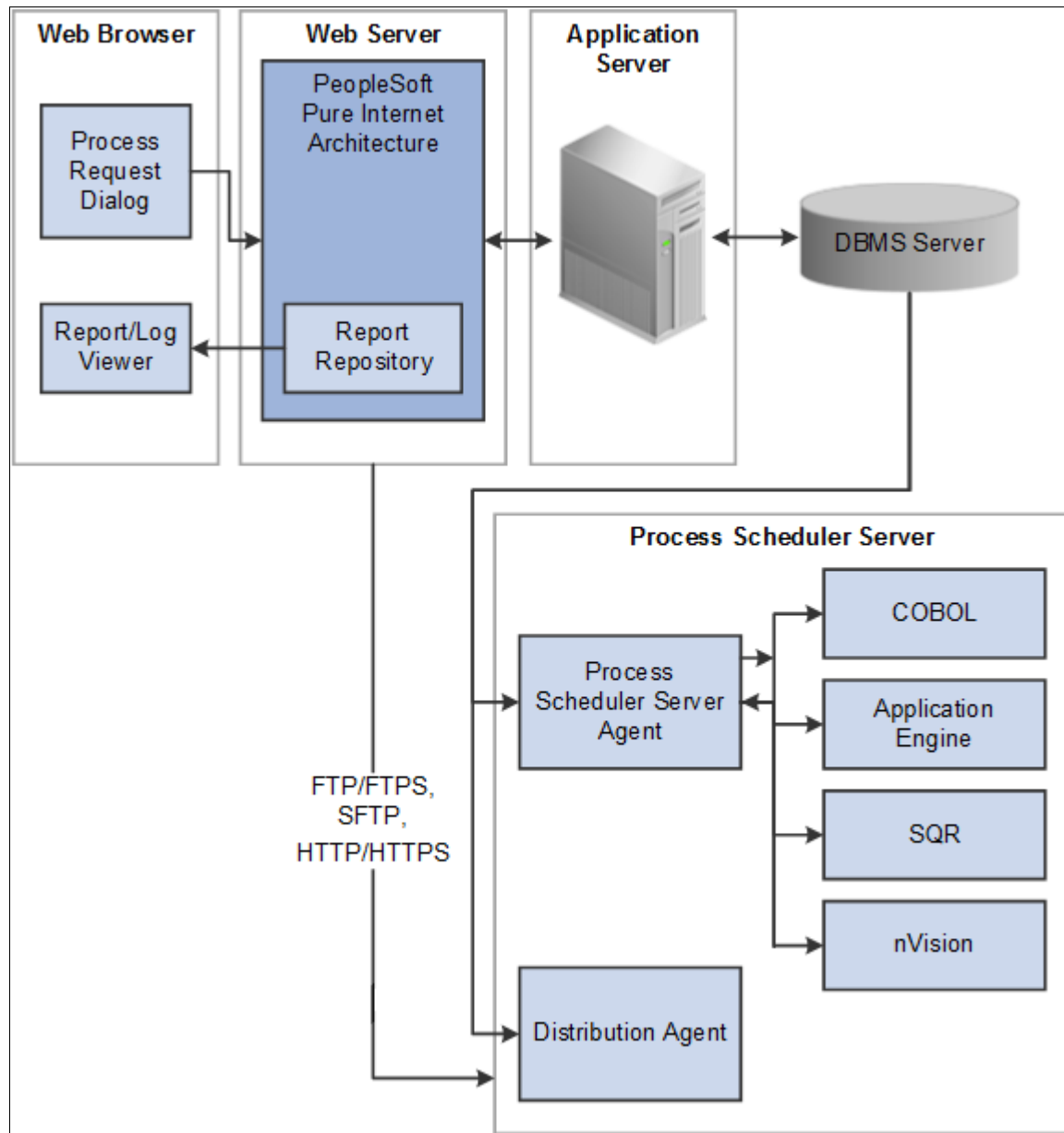
- *Transfer files to the Report Repository.* All the report and log files are transferred to the Report Repository. For each process request transferred, a directory is created in the Report Repository using the following format: \<database name>\<date yyyymmdd>\<report id>. All the files for a process request are stored in this directory.
- *Delete the directory from the Process Scheduler Agent's Log/Output directory.* When the output destination type specified for a process request is *Web/Window*, all the files and directory associated with the process request are deleted from the Process Scheduler Log/Output directory after the files are transferred to the Report Repository.

The following diagram illustrates the Process Scheduler and Report Repository architecture. The diagram includes the following items:

- The web browser gives access to the Process Request dialog and the Report or Log Viewer.
- The Report Repository is part of the PeopleSoft Pure Internet Architecture.

Note. The PeopleSoft Pure Internet Architecture must be installed for Process Scheduler to be able to transfer reports to the Report Repository.

- The Process Scheduler Server includes the Process Scheduler Server Agent and the Distribution Agent.
- The transfer protocol between Process Scheduler and the Report Repository may be FTP/FTPS, HTTP/HTTPS, or SFTP.



Process Scheduler and Report Repository Architecture

Before users can view a report, they are authenticated against the PeopleSoft database.

You should set up single signon if you do not want users to have to log on an additional time to view reports in the Report Repository. For the details on setting up single signon, consult the security documentation.

See *PeopleTools: Security Administration*.

Task 17B-2-1: Setting Up Single Signon to Navigate from PIA to Report Repository

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PeopleSoft Pure Internet Architecture (PIA) to Report Repository, you need to set up single signon to avoid getting a prompt for a second signon. This section includes some considerations for setting up single signon to navigate from PIA to Report Repository.

If Report Repository resides on the same web server as PIA, make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.

If Report Repository resides on a different web server than PIA, do the following:

- Make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.
- Use a fully qualified domain name when addressing the web server for both PIA and Report Repository. For example, enter `http://<machineName>.peoplesoft.com/<site_name>/signon.html` instead of `http://<machineName>/<site_name>/signon.html`.
- Specify the Authentication Domain for your application during installation. If you have multiple applications, and you want them to employ single signon, it is important to specify the same Authentication Domain for all applications.

See the information on implementing single signon in the *PeopleTools: Security Administration* product documentation.

- Set up single signon with a password, like this:
 - Choose PeopleTools, Integration Broker, Integration Setup, Nodes.
 - Click Search and then select the node marked as Default Local Node.
 - Select *Password* for the Authentication Option.
 - Enter a password of your choice.
 - Enter the password again in the Confirm Password field.
 - Enter the user ID for which you are setting up single signon in the Default User ID field.
 - Save the Node Definition.
 - Sign out from the PeopleSoft application.
 - Reboot your application server.

See Also

PeopleTools: Security Administration

Task 17B-2-2: Determining the Transfer Protocol

We recommend using HTTP as your transfer protocol.

Before transferring the files to the Report Repository, you need to determine which transfer protocol to use. The following table lists the allowed transfer protocol based on the Process Scheduler and web server operating systems.

Process Scheduler Operating System	Web Server Operating System	Transfer Protocol
Microsoft Windows	Microsoft Windows	• XCOPY • FTP/FTPS • SFTP • HTTP/HTTPS Note. If FTP information is not specified, Process Scheduler will perform an XCOPY.
Microsoft Windows	UNIX	• FTP/FTPS • SFTP • HTTP/HTTPS
UNIX	Any	• FTP/FTPS • SFTP • HTTP/HTTPS
DB2 z/OS	Any	FTP/FTPS or HTTP/HTTPS

Note. If you are using FTP/FTPS or SFTP, the corresponding daemon must be set up in your web server.

Note. If you are on DB2 z/OS, you need to have JRE set up on your Process Scheduler server.

Task 17B-2-3: Starting the Distribution Agent

The Distribution Agent is automatically started as another Oracle Tuxedo server when a Process Scheduler Server is booted. If a Process Scheduler Server was set up without specifying a Distribution Node in the *Server Definition* page, the Process Scheduler server will have a status in Process Monitor of "Running with No Report Node." After a node is defined for the Process Scheduler server, in the next cycle the Process Scheduler server checks the state of the system, and the Distribution Agent dynamically sets up its environment.

Task 17B-2-4: Setting Up the Report Repository

This section discusses:

- Defining ReportRepositoryPath
- Defining the Report Node to Use HTTP/HTTPS
- Defining the Report Node to Use FTP
- Defining the Report Node to Use FTPS
- Defining the Report Node to Use SFTP

Defining ReportRepositoryPath

The ReportRepositoryPath specifies the location of a directory for the Report Repository. You can specify the location for the Report Repository Path on the General page of the Web Profile during installation. If you do not set the location in the Web Profile, the location given by ReportRepositoryPath in the configuration.properties file is used for the default location. Note that the value entered for Report Repository Path in the Web Profile overrides any entry in the configuration.properties file.

See *PeopleTools: Portal Technology*, "Configuring Web Profiles."

Use the following formats to enter the name for the directory that you want to use for the ReportRepositoryPath. The examples below give the default values. Note that you must use a forward slash ("/") in both cases:

- *Microsoft Windows*: ReportRepositoryPath=c:/psreports
- *UNIX*: ReportRepositoryPath=<user_home>/PeopleSoft Internet Architecture/psreports

For <user_home> substitute the home directory for the current user.

Defining the Report Node to Use HTTP/HTTPS

To define the report node to use HTTP/HTTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select the Add a New Value link and enter the Report node name.

3. On the Report Node Definition page, select HTTP or HTTPS from the Protocol drop-down list.

Select the HTTP option if you are *not* using SSL. Select the HTTPS option if you are using SSL. The pages for HTTP and HTTPS have the same fields. These examples show HTTP.

Note that if you are using SSL you need to have Client Certificates installed on your web server.

The screenshot shows the 'Report Node Definition' page in the Oracle PeopleTools interface. The breadcrumb trail at the top indicates the path: Favorites > Main Menu > PeopleTools > Process Scheduler > Report Nodes. The page title is 'Report Node Definition'. The 'Node Name' is set to 'HTTP'. The '*Protocol' dropdown is also set to 'HTTP', with a 'Validate' button to its right. Below this is the 'Distribution Node Details' section, which includes a 'URLID' field with a placeholder 'http://<machine_name>:<port_number>/psreports/<site_name>', a 'Description' field, and an 'Operating System' dropdown set to 'UNIX'. The 'Login Details' section has 'Login ID', 'Password', and 'Confirm Password' fields. The 'URL Details' section includes 'URI Host' (placeholder '<machine_name>'), 'URI Port' (set to '80'), and 'URI Resource' (placeholder 'SchedulerTransfer/<site_name>'). At the bottom are buttons for 'Save', 'Return to Search', 'Notify', and 'Refresh'.

Report Node Definition page for the HTTP protocol

4. Enter the following information in the Distribution Node Details area:

- **URLID:** Enter the URL of the web server using the following format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace `<machine_name>` with the name of your machine. Use the fully qualified host name for your web server. If you are using an HTTP or HTTPS port other than the defaults, you need to specify the port number.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

- **Description:** Enter a description of the server (optional).
- **Operating System:** Select the web server operating system, Windows or UNIX.

5. Enter the following information in the Login Details area:

- *Login ID*: Enter the Login ID. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.
- *Password and Confirm Password*: Enter the password, and confirm it, for the user ID specified in the Login ID field. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.

Note. The setup of authentication is optional, but is recommended for security of the Report Repository when using the HTTP to transfer files. For information on setting up authentication on the web server where the Report Repository resides, refer to the *PeopleTools: Security Administration* product documentation.

6. Enter the following information in the URI Details area:

- *URI Host*: Enter the machine name for the report repository.

Note. In a basic setup, the machine name for the report repository will match the machine name of the web server URL. However, under certain circumstances—for example, if you are using a reverse proxy server—the URL and URI Host may have different machine names.

- *URI Port*: Enter the port number, which must match the port number of your web server (defaults are HTTP = 80, HTTPS = 443). If you change a port number you will lose the default values for both protocols.
- *URI Resource*: Enter SchedulerTransfer/<site name>.

7. Click Save to save your entries.

8. Click Validate to confirm that your entries are complete and correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

9. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTP

If you use the FTP report node protocol, note that:

- If your FTP server is a Microsoft Windows server, you may have to set up the FTP service.
- The Distribution Agent will perform a validation after FTP has transferred files into the Report Repository by sending a query request to the web server. For this task to be completed, it is critical that the value entered in the URL is accurate. Verify that the machine name, port number, and site number that you specify are correct.

If this setup is not completed, the process request will get a status of NOT POSTED in the Process Monitor Detail page and will log the message "Unable to verify files posted."

To define the report node to use FTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTP from the Protocol drop-down list.

Report Node Definition

Node Name: FTP

*Protocol: FTP Validate

Distribution Node Details

URLID: http://<machine_name>:<port_number>/psreports/<site_name>

Description: FTP sample

Operating System: UNIX

Login Details

Login ID: <user_id>

Password: Confirm Password:

File Transfer Details

Home Directory: /home/psreports

FTP Address: <machine_name> SSL Mode: EXPLICIT

Connection Properties

Property Name	Property Value

Password Encryption

Password: Confirm Password:

Encrypt Encrypted Password:

Save Return to Search Notify Refresh

Report Node Definition page for the FTP protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the FTP protocol
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the FTP User ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.
For UNIX, the default directory is <user_home>/PeopleSoft Internet Architecture/psreports/.
 - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. If you need to specify additional properties, use the Connection Properties area. Specifying the Connection Properties is optional.

Click the lookup button (magnifying glass) and select one of the properties in the following table. Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to Y. The default FTP connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: <i>10.176.147.111:10000-13000</i>
ENABLEEPRPT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPT is set to N, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRPT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	0: Disable EPSV 1: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) path.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
 - a. In the Password field, enter a password.
 - b. In the Confirm Password field, enter the password again.
 - c. Click Encrypt.
The encrypted password is displayed in the Encrypted Password field.
 - d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.
The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTPS

To define the report node to use FTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTPS from the Protocol drop-down list.

Report Node Definition

Node Name: FTPS
 *Protocol: FTPS [Validate]

Distribution Node Details

URLID: http://<machine_name>:<port_number>/psreports/<site_name>
 Description: FTPS sample
 Operating System: UNIX [Network Path:]

Login Details

Login ID: <user_id>
 Password: [masked] Confirm Password: [masked]

File Transfer Details

Home Directory: /home/psreports
 FTP Address: <machine_name> SSL Mode: EXPLICIT

Connection Properties

Property Name	Property Value

Password Encryption

Password: [] Confirm Password: []
 [Encrypt] Encrypted Password: []

[Save] [Notify] [Refresh]

Report Node Definition page for the FTPS protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the FTPS protocol.
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

For UNIX, the default directory is <user_home>/PeopleSoft Internet Architecture/psreports/.

- *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
- *SSL Mode:* Select Explicit or Implicit from the drop-down list.

These are two separate methods developed to invoke the client security for use with FTP clients. With the explicit mode, FTPS-aware clients can invoke security with an FTPS-aware server without breaking overall FTP functionality with non-FTPS-aware clients. The implicit method requires that all clients of the FTPS server be aware that SSL is to be used on the session, and thus is incompatible with non-FTPS-aware clients.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table:

Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to Y. The default FTPS connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: <i>10.176.147.111:10000-13000</i>
CERTALIAS	Certificate Alias: The Certificate Alias must be an alias name of a certificate stored in the database (using the PeopleSoft PeopleTools Digital Certificates page). Note. Currently, only PEM certificates are supported for FTPS.
ENABLEEPRPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPRT is set to N, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	0: Disable EPSV 1: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) user.

Property Name	Property Value
KEYSTOREPASSWORD	This property is required for FTPS and HTTPS repositories. For attachments transferred from the PeopleSoft system to the FTPS or HTTPS repository, the system retrieves the key pair for the client certificate from the digital certificate store and writes the pair to a file in PKCS12 format with password protection. The value of this property will be used as the password for the PKCS12 file. The PKCS12 file enables connection and file transfer, and it exists only temporarily in <PS_SERVDIR>\files\<CERT ALIAS NAME> for the duration of the file transfer. The system deletes the file after the file transfer transaction. Note. If the system fails to delete the certificate alias file, a message will be written to the application server log. The maximum number of files that can exist at any time is equal to the total number of FTPS and HTTPS URL identifiers defined in the system. For information on setting the PS_SERVDIR environment variable, see the <i>PeopleTools: Integration Broker</i> product documentation.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
SSLUAGELEVEL	0 - <i>No SSL</i>: No SSL will be used. 1 - <i>Try SSL</i>: Try using SSL, but proceed as normal otherwise. 2 - <i>Control</i>: Require SSL for the control connection. 3 - <i>SSL Only</i>: (Default) Require SSL for all communication.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.
VERIFYHOST	0: Do not verify the server for host name. 1: Check if there exists any value in the common name field in the server certificate. This check does not verify if it matches with what the client specifies. 2: (Default) Check for a match with the host name in the URL with the common name or Subject Alternate field in the server certificate.
VERIFYPEER	<i>False</i>: Do not verify the peer. <i>True</i>: (Default) Verify the peer by authenticating the certificate sent by the server.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:

- a. In the Password field, enter a password.
- b. In the Confirm Password field, enter the password again.
- c. Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

- d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
 10. Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use SFTP

To define the report node to use SFTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select SFTP from the Protocol drop-down list.

The screenshot displays the 'Report Node Definition' page in the Oracle PeopleTools interface. The breadcrumb trail at the top indicates the path: Favorites > Main Menu > PeopleTools > Process Scheduler > Report Nodes. The page title is 'Report Node Definition'. The 'Node Name' is set to 'SFTP' and the '*Protocol' is also set to 'SFTP'. A 'Validate' button is present. The 'Distribution Node Details' section includes a 'URLID' field with the placeholder 'http://<machine_name>:<port_number>/psreports/<site_name>', a 'Description' field with 'SFTP sample', and an 'Operating System' dropdown set to 'UNIX'. The 'Login Details' section has a 'Login ID' field with '<user_id>', and 'Password' and 'Confirm Password' fields with masked characters. The 'File Transfer Details' section includes a 'Home Directory' field with '/home/psreports' and an 'FTP Address' field with '<machine_name>'. The 'Connection Properties' section features a table with 'Property Name' and 'Property Value' columns. At the bottom, there is a 'Password Encryption' section with 'Password' and 'Confirm Password' fields, an 'Encrypt' button, and an 'Encrypted Password' field. Navigation buttons 'Save', 'Notify', and 'Refresh' are located at the bottom left.

Report Node Definition page for the SFTP protocol

4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description:* Enter a description of the server (optional).
 - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
 - *Network Path:* This information is not required for the SFTP protocol.
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
 - *Password and Confirm Password:* Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.
For UNIX, the default directory is <user_home>/PeopleSoft Internet Architecture/psreports/.
 - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table.

Click the plus sign to add additional connection properties.

Property Name	Property Value
AUTHTYPE	Select one of the following the authentication types: • <i>PUBLICKEY</i> • <i>PASSWORD</i> • <i>ANY</i>
PASSWORD	Specify the user password. You can enter the password in the Password Encryption box, click Encrypt, and then copy the encrypted value to the Password property.
PASSWORDKEY	Enter the password for the private key.
PRIVATEKEY	Select the private key.
PUBLICKEY	Select the public key.
SSHKEYALIAS	Select the SSH certificate saved to the database using the PeopleTools Security, Digital Certificates page (select PeopleTools, Security, Security Objects, Digital Certificates). The SSH certificate added through the Digital Certificates page contains both the public and private key data, identified by the Alias column value on the Digital Certificates page. If using the SSHKEYALIAS URL property, the Property Value prompt displays only the list of SSH certificates that have been added to the Digital Certificates page. If you have added the SSH certificate using the Digital Certificates page, and you have assigned an SSH certificate to the SSHKEYALIAS URL property, the system ignores the PUBLICKEY and PRIVATEKEY properties, regardless of whether they refer to valid key files in the file system. If you provided a password (or passphrase) when generating your SSH certificate, specify that value using the PASSWORDKEY URL property. See <i>PeopleTools: Security Administration</i>, "Configuring Digital Certificates."
USER	Specify the user ID to be authenticated.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
- In the Password field, enter a password.
 - In the Confirm Password field, enter the password again.
 - Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

- d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

11. To add additional report nodes, click Add to return to the Search page.

Task 17B-2-5: Setting Up the Distribution for Your Process Scheduler Server

To set up the Distribution Settings for your Process Scheduler Server:

1. Select PeopleTools, Process Scheduler, Servers.
2. Enter the Server Name (such as PSUNIX). The Server Definition page appears.
3. Select the Distribution tab.

The screenshot shows the Oracle PeopleTools interface. The breadcrumb trail at the top reads: Favorites > Main Menu > PeopleTools > Process Scheduler > Servers. The Oracle logo is on the left, and a search bar is in the center. On the right, there are links for 'Advanced Search' and 'Last Search Results'. Below the breadcrumb trail, there are links for 'New Window', 'Help', and 'Personalize Page'. The main content area has five tabs: 'Server Definition', 'Distribution' (which is selected), 'Operation', 'Notification', and 'Daemon'. Under the 'Distribution' tab, the 'Server Name' is set to 'PSUNIX'. Below this is a section titled 'Server Distribution Details'. It contains four fields: 'Distribution Node Name' with a lookup button (magnifying glass icon), 'Maximum Transfer Retries' with a text input field, 'Interval for Transfer Attempt' with a text input field and the unit 'seconds', and 'Transfer System Files to Report Repository' with a checkbox. At the bottom of the form, there are five buttons: 'Save', 'Return to Search', 'Notify', 'Add', and 'Update/Display'. Below the buttons, there is a link to 'Server Definition' and a breadcrumb trail: 'Server Definition | Distribution | Operation | Notification | Daemon'.

Server Definition page for PSUNIX: Distribution tab

4. Click the lookup button for Distribution Node Name to display the report node names and select the name of the required report node.
5. Enter a number for the Maximum Transfer Retries. This is the maximum number of times the server can try to send a report before it errors out.
6. Enter the number of seconds for the Interval for Transfer Attempt field. This is the interval between attempts to send the report.

7. Select the check box Transfer Log Files to Report Repository if you want to transfer all log and trace files from processes that do not generate reports.
8. Click Save to save your entries.
9. If Process Scheduler is running, you must reboot for any new settings to take effect.

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PIA to Report Repository, you need to set up single signon in order to avoid getting a prompt for a second signon.

Task 17B-2-6: Setting Up Sending and Receiving of Report Folders in the Report Manager

To be able to view reports in the Report Manager Explorer and List pages, you need to set up the sending and receiving of report folders in the Report Manager by activating the domain on which a sending and receiving server resides. Consult the documentation covering the PeopleSoft Integration Broker to learn how to activate the sending and receiving server domain.

See *PeopleTools: Integration Broker*.

See *PeopleTools: Integration Broker Service Operations Monitor*.

Task 17B-3: Setting Up Process Scheduler Server Agent

This section discusses:

- Understanding Process Scheduler Server Agent
- Changing the Default Operating System
- Creating and Configuring a Process Scheduler Server
- Reconfiguring a Process Scheduler Server
- Verifying the Process Scheduler Server Status

Understanding Process Scheduler Server Agent

For installation purposes, you can use predefined server names and other definitions. The predefined name that you might use is as follows:

Server Name	Operating System
PSUNIX	UNIX

To test this, use processes already defined in your PeopleSoft database. To set up a new server definition in your PeopleSoft database, refer to the *PeopleTools: Process Scheduler* product documentation.

Note. When creating multiple Process Scheduler Servers for the same database, each server must have a unique server name. For example, two Process Scheduler Servers, both named PSNT, cannot run against the same database.

Task 17B-3-1: Changing the Default Operating System

By default, Process Scheduler is set up to run a process request from a Process Scheduler Server Agent started in a Microsoft Windows server when the value of the *ServerName* field in the Process Request Dialog page is left blank. If you plan to run all processes other than Microsoft Windows-based programs (such as nVision) from UNIX, you must change the default operating system.

Note. If you do not change the default operating system from Windows to UNIX and you do not plan to set up a Process Scheduler Server Agent in Microsoft Windows, process requests that are created will be directed to a Microsoft Windows-based operating system and will remain in the "Queued" status.

To change the default operating system for process requests that were not assigned a Process Scheduler Server Name:

1. Select PeopleTools, Process Scheduler, System Settings.
2. Under *Primary Operating System*, choose *UNIX* from the drop-down list.
3. Click on the *System Purge Options* tab. Enter the date for the next purge of process requests in the *Next Purge Date* field.
4. Enter the time for the next purge of process requests in the *Next Purge Time* field. The default time is 12:00:00AM.
5. Enter a *Recurrence* if you want to set a regular purging basis.
6. Choose *Save*.

Task 17B-3-2: Creating and Configuring a Process Scheduler Server

This section describes how to create and configure a Process Scheduler server.

You can set Process Scheduler configuration parameters either by using PSADMIN, which provides an interactive dialog, or by editing the configuration file `psprcs.cfg` located in the `PS_CFG_HOME/appserv/prcs/database name` directory. The following steps assume you are using PSADMIN to specify parameter settings.

Note. If you use the configuration file `psprcs.cfg`, be aware that in the PeopleSoft PeopleTools 8.49 release and later, the section [Output Dest Exceptions] has been modified to trap metastring exceptions not only in the output destination but in other process parameters as well. In this section the entry `OUTDEST_EXCEPT01=%ANYMETASTRING%` has been changed to `PARAMETER_EXCEPT01=%ANYMETASTRING%`.

To create and configure a Process Scheduler Server:

1. Run the `psadmin` command.

You see the PeopleSoft Server Administration menu, as in this example:

```

-----
PeopleSoft Server Administration
-----
PS_CONFIG_HOME      /home/JSMITH/psft/pt/8.58
PS_HOME             /opt/psft/pt/ps_home8.58
PS_APP_HOME         /opt/psft/pt/hcm_app_home

1) Application Server
2) Process Scheduler
3) Search Server

```

- 4) Web (PIA) Server
- 5) Switch Config Home
- 6) Replicate Config Home
- 7) Refresh Config Home
- q) Quit

Command to execute (1-7 q):

2. Depending on your environment, you may see a message after the menu selection, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

```
*****
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*****
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME*/peopletools.properties file. Continue with the next step.

3. Select 2 to access the Process Scheduler submenus.
4. Select 2 for Create a domain from the PeopleSoft Process Scheduler Administration menu.

```
-----
PeopleSoft Process Scheduler Administration
-----
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration

q) Quit
```

Command to execute (1-4, q) : 2

5. Enter the name of the domain at the following prompt, such as HRDMO in this example, and press ENTER:

Please enter name of domain to create : **HRDMO**

6. After the system creates the domain, the Quick-configure menu appears:

```
-----
Quick-configure menu -- domain: HRDMO
-----

      Features                               Settings
      =====                               =====
1) App Engine       : Yes      9) DBNAME           : [HRDMO]
2) Master Scheduler : Yes     10) DBTYPE          : [DB2ODBC]
```

```

3) Perf Collator      : No      11) PrcsServer :[PSUNIX]
4) Domains Gateway    : No      12) UserId      :[QEDMO]
5) Push Notifications: No      13) UserPswd    :[]
                                14) ConnectID     :[people]
                                15) ConnectPswd:[]
                                16) Log/Output Dir:[%PS_SERVDIR%/log_⇒
output]
                                17) SQRBIN          :[%PS_HOME%/bin/sqr/ODB⇒
/bin]
                                18) AddToPATH        :[%PS_HOME%/cblbin]
                                19) PHC Remote Admin Settings: []

```

Actions
=====

- 6) Load config as shown
- 7) Custom configuration
- 8) Edit environment settings
- h) Help for this menu
- q) Return to previous menu

HINT: Enter 9 to edit DBNAME, then 6 to load

Enter selection (1-18, h, or q):

7. If you need to modify any of these settings, enter the number next to the parameter name, type the new value, and press ENTER. This table lists the parameters and gives brief descriptions.

Parameter	Description
Master Scheduler	Select this option to enable the Master Scheduler Server (PSMSTPRC). The default is to enable the server. <i>See PeopleTools: Process Scheduler.</i>
App Engine	Select this option to initiate Application Engine programs through the AE Tuxedo Server (PSAESRV). The default is set to run AE using PSAESRV. <i>See PeopleTools: Process Scheduler.</i>
Perf Collator	Select this option to enable the PSPPMSSRV server process. <i>See PeopleTools: Performance Monitor, "Enabling the Required Elements on the Monitoring System."</i>
Domain Gateways	Select this option to enables inter domain communication, for example between Application Server and Process Scheduler domains. <i>See PeopleTools: Fluid User Interface Developer's Guide, "Configuring the System for Push Notifications."</i>
Push Notifications	Select this option to enables pushing server events from PeopleSoft PeopleTools server runtime, such as Application Server and Process Scheduler, to browser clients and other PeopleSoft PeopleTools server runtime components. <i>See PeopleTools: Fluid User Interface Developer's Guide, "Configuring the System for Push Notifications."</i>
Load config as shown	Load the selections you made in the Quick Configure menu.
Custom configuration	Make custom selections in PSADMIN, using options that are not available in the Quick Configure menu.
Edit environment settings	Edit, add, remove, comment out, and review domain-level environment variables.
DBNAME	Specify the database name that is associated with a PeopleSoft Process Scheduler Server Agent, such as HRDMO, FSDMO, CSDMO, and so on.
DBTYPE	Specify the database type: DB2ODBC (for DB2 for z/OS).
PrcsServer	Specify the process server name. This must match the name defined in the Server Definition table, such as PSNT or PSUNX.

Parameter	Description
UserId	Enter the user ID, such as VP1 or PS.
UserPswd	Enter the password for the user ID, as you specified during the database configuration. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
ConnectID	Enter the connect ID. This value is required.
ConnectPswd	Enter the connect password, as you specified during the database configuration. This value is required. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
Log/Output Dir	Specify the directory in which files that are generated by the program are written. When PeopleSoft Process Scheduler initiates a process request, it creates a subdirectory in the format <Process Type ID>_<Program Name>_<Process Instance> that contains the generated files. For instance, the SQR program XRFWIN that ran with process instance 20 has all reports, trace, and log files in the subdirectory SQR_XRFWIN_20. It is also the optional directory used with the Output Destination field when scheduling a request. This variable (%%OutputDirectory%%) can be used in the File/Printer field of the Process Scheduler Request dialog box.
SQRBIN	Enter the path to the SQR executables.
AddToPATH	(Optional for Tuxedo) Specify an additional directory that is appended to the PATH environment variable.
DomainConnectPswd	If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank. The password is hidden by masking characters as you type, and in the Quick-configure menu after entry. See the information on setting Application Server Domain Parameters in the <i>PeopleTools: System and Server Administration</i> product documentation.
PHC Remote Admin Settings	Use this setting to enable embedded JMX Agents for use with PeopleSoft Health Center (PHC). Change the value to 1 to enable, and 0 to disable. The setting is disabled by default. When you enter 1 to enable Remote Administration, you see prompts for the Remote Administration Port, Remote Administration UserID, and Remote Administration Password.

For descriptions of the PSADMIN options that do not appear in the Quick-configure menu, see the information on using PSADMIN in the *PeopleTools: Process Scheduler* product documentation. For a basic installation, in most cases you can accept the defaults.

8. When you have updated the settings as needed, choose 5, *Load config as shown*, from the Quick-Configure menu to save your settings to the Process Scheduler configuration file, `pstuxcfg`.
9. To start Process Scheduler, choose 1, for Administer Domain.
10. On the PeopleSoft Process Scheduler Administration menu, choose 1 for Boot this domain.

```
-----
PeopleSoft Process Scheduler Administration
-----
```

Domain Name: HRDMO

- ```
1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit
```

Command to execute (1-7, q) :

11. Choose 1, Boot (Serial Boot), or 2, Parallel Boot, from the PeopleSoft Domain Boot Menu.

---

**Note.** The messages you see and the number of processes started will depend on the options you chose during configuration.

---

12. If you want to stop Process Scheduler Server, from the PeopleSoft Domain Administration menu, choose 2, for Domain Shutdown menu, and then enter the number corresponding to the name of the appropriate database.

---

**Note.** If you see the following message, then the server is already down:

```
Command to execute (1-2, q) [q]: 1 Loading command line administration
utility ... tmadmin - Copyright (c) 2007-2008, Oracle. Portions *
Copyright 1986-1997 RSA Data Security, Inc. All Rights Reserved.
Distributed under license by Oracle. Tuxedo is a registered trademark. No
bulletin board exists. Entering boot mode. > TMADMIN_CAT:111: ERROR: No
such command.
```

---

### Task 17B-3-3: Reconfiguring a Process Scheduler Server

If you create and then immediately configure a Process Scheduler server, you can use the Quick-configure menu. Alternatively, you can use PSADMIN as described in this section. Feel free to skip this procedure if you have already created and configured your Process Scheduler Server using the Quick-configure menu and want to move forward with your installation.

---

**Note.** If you want to configure the Process Scheduler Server while it is running, you need to stop and restart the server to load the new settings.

---



To reconfigure a Process Scheduler Server:

1. Run the command:

```
psadmin
```

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS\_CFG\_HOME*/peopletools.properties file with the current *PS\_HOME* location:

```

PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...

```

This indicates that one of these situations exists:

- The *PS\_CFG\_HOME* that you are working with was used previously from a different *PS\_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS\_CFG\_HOME*.
- You configured your environment such that *PS\_CFG\_HOME* is the same as *PS\_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS\_CFG\_HOME*/peopletools.properties file. Continue with the next step.

3. Select 2 for Process Scheduler in the PeopleSoft Server Administration menu.
4. In the PeopleSoft Process Scheduler Administration menu, select 1 for Administer a domain.
5. Select the database for which the Process Scheduler needs to be configured.
6. You see the following prompt:

```
Do you want to change any config values (y/n)? [n]:
```

Specify y to start an interactive dialog that lets you examine or change parameter values.

7. Specify the configuration parameters one by one.

Configuration parameters are grouped into sections. At each section, you are asked whether to change any parameters—for example:

```
Values for config section - Startup
```

```
DBName=
DBType=
UserId=
UserPswd=
ConnectId=
ConnectPswd=
ServerName=
StandbyDBName=
StandbyDBType=
StandbyUserId=
StandbyUserPswd=
InMemoryDBName=
InMemoryDBType=
```

```
Do you want to change any values (y/n)? [n]:
```

- Specify y to change any parameter values for the current section. You are prompted for each parameter

value. Either specify a new value or press ENTER to accept the default. After you press ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.

- The parameters StandbyDBName, StandbyDBType, StandbyUserID, and StandbyUserPswd are used for a standby database in an Oracle database environment.

See the information on implementing Oracle Active Data Guard in the *PeopleTools: Data Management*, product documentation.

- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- If you do not want to change any values, specify *n* and you are prompted for the next configuration section.

8. After you have selected all your parameters, you see this message:

```
You will need to shut down and start up the server to read the new⇒
settings.
```

For descriptions of the Process Scheduler options in the PSADMIN, see the *PeopleTools: Process Scheduler* product documentation. In most cases you can accept the defaults.

## Task 17B-3-4: Verifying the Process Scheduler Server Status

At this stage it is a good idea to verify the Process Scheduler Server status.

To verify the Process Scheduler Server status:

1. From the PeopleSoft Process Scheduler Administration menu, choose option 3, for Domain status menu.

```

PeopleSoft Process Scheduler Administration

```

```
Domain Name: HRDMO
```

- ```
1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit
```

```
Command to execute (1-7, q) : 3
```

2. To verify the status of the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

For example:

```
Database list:
```

- ```
1) HRDMO
```

```
Select item number to start: 1
```

```

Loading command line administration utility ...
tmadmin - Copyright (c) 2007-2008 Oracle.
Portions * Copyright 1986-1997 RSA Data Security, Inc.
All Rights Reserved.
Distributed under license by Oracle.
Tuxedo is a registered trademark.

```

```

> Prog Name Queue Name Grp Name ID RqDone Load Done Current=>
 Service

DDL 46845 pt-ibm20 0 9 450 (IDLE)
PSMONITORSRV MONITOR MONITOR 1 0 0 (IDLE)
PSAESRV 00101.00001 AESRV 1 0 0 (IDLE)
PSAESRV 00101.00002 AESRV 2 0 0 (IDLE)
PSAESRV 00101.00003 AESRV 3 0 0 (IDLE)
PSPRCSRV SCHEDQ BASE 101 0 0 (IDLE)
PSMSTPRC MSTRSCHQ BASE 102 0 0 (IDLE)
PSDSTSRV DSTQ BASE 103 0 0 (IDLE)
>

```

---

**Note.** You can also do this using the following command line argument:

```
psadmin -p status -d <DBNAME>
```

---

**Note.** You can also verify the status of the Process Scheduler Server from Process Monitor in PeopleSoft Pure Internet Architecture. To verify the Process Scheduler Server status from the Process Monitor page, go to PeopleTools, Process Scheduler, Process Monitor, and select *Server List*.

---



## Chapter 17C

# Setting Up Process Scheduler on z/OS

This chapter discusses:

- Prerequisites
- Granting Required Authorization in DB2 and UNIX System Services
- Setting Up Process Scheduler Security
- Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository
- Setting Up Process Scheduler Server Agent

## Prerequisites

---

If your database runs on z/OS, you need to set up a Microsoft Windows batch environment on a Microsoft Windows application server or on a dedicated Microsoft Windows workstation for Microsoft Windows-specific batch processes, such as nVision reports, Cube Builder, or Microsoft Word. These processes are Microsoft Windows-specific applications that cannot be executed by the Process Scheduler on z/OS.

Before setting up your Process Scheduler, you must:

- Install database connectivity to be able to communicate with your database server (Process Scheduler requires a direct connection to the database).

The Process Scheduler running on z/OS USS uses the DB2 ODBC component to connect to DB2. DB2 ODBC must be installed by your DB2 systems programmer; installation details are available in the IBM DB2 Installation Guide.

- Set up the web server with the PeopleSoft Pure Internet Architecture, as described in the previous chapter. This is required to set up the Process Scheduler to transfer reports or log files to the Report Repository.
- Set up your COBOL batch environment if you need to run COBOL processes through Process Scheduler. If the PeopleSoft modules purchased do not contain any COBOL modules, the COBOL run time libraries are not required. Also, COBOL is not required for applications that contain no COBOL programs. Consult My Oracle Support for the details on whether your application requires COBOL.

See "Preparing for Installation," Planning Your Initial Configuration.

- Install the 31-bit version of JDK/JRE 1.8.0 on z/OS.
- Apply all the required IBM patches listed in the document "Important PTFs for the PeopleSoft on DB2 for z/OS."

See Important PTFs for the PeopleSoft on DB2 for z/OS, My Oracle Support (search for the article name).

- Set up your database connectivity to access the PeopleSoft database from UNIX System Services with ODBC for z/OS.
- Install IBM's system stored procedure DSNUTILS. This is only required if you intend to run %UPDATESTAT meta-SQL coded in Application Engine, COBOL and Process Scheduler. If you do not have DSNUTILS installed, make sure you set the DBFLAGS parameter in the Process Scheduler

Configuration file to "1" to disable performing this statistics within.

See "Creating a Database," Planning Your Installation.

- Have both your application server and the PeopleSoft Pure Internet Architecture started. In this chapter, you must modify security options of the designated PeopleSoft user ID that will be used to boot up Process Scheduler. This requires that the user ID's profile be modified through the User Security component. Please refer to earlier chapters for the details on starting the application server and the PeopleSoft Pure Internet Architecture.
- PeopleSoft binaries are compiled and linked with IBM's XPLINK (Extra option Linkage) option enabled. In order for all PeopleSoft executables to successfully run from UNIX System Services (USS), it is recommended to include the IBM Language Environment Run Time library CEE.SCEERUN2 dataset concatenated into your system library using IBM's LNKLIST utility. This IBM library CEE.SCEERUN2 may have been renamed in your system. It will be the dataset containing the CELHV003 load module.

In PeopleSoft PeopleTools 8.50 and later, the configuration and log files for Process Scheduler server domains reside in *PS\_CFG\_HOME*. If you do not set a *PS\_CFG\_HOME* environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

%USERPROFILE%\psft\pt\<peopletools\_version>

See "Preparing for Installation," Defining Installation Locations.

See the product documentation *PeopleTools: System and Server Administration* for more information on the *PS\_CFG\_HOME* environment variable and working with server domain configuration.

## See Also

*PeopleTools: Process Scheduler*

My Oracle Support, Certifications

## Task 17C-1: Granting Required Authorization in DB2 and UNIX System Services

---

This section discusses:

- Setting UNIX System Services Authorization
- Setting DB2 Authorization

### Task 17C-1-1: Setting UNIX System Services Authorization

This section discusses:

- Providing Read/Write Access to the Designated Log/Output Directory
- Providing Access to TSO and USS

## Providing Read/Write Access to the Designated Log/Output Directory

All processes released by Process Scheduler will create and write files to an Hierarchical File System (HFS) directory in UNIX System Services (USS). This HFS directory is designated by the *Log/Output Directory* parameter found in the *Process Scheduler* section of the Process Scheduler configuration file. By default the log/output directory will be

```
$PS_HOME/appserv/prcs/<database name>/log_output
```

JCLs generated by Process Scheduler to submit COBOL or SQR include step(s) that will copy the log file(s) and reports (for SQR) to the Log/Output directory in USS. If the JCL job card includes the USER/PASSWORD parameter, the user ID specified in the USER parameter must also be given read/write access to this HFS directory. In this case, where multiple mainframe ID's will be writing to this directory, you need to set up a group ID (GID) in RACF and assign the mainframe user ID to this GID. Once you have established this in RACF, make sure the group ID is the owning group of the log/output directory.

As an example, HRASB and PSOFT IDs are required to write to the log/output directory. A DBAUNIX group ID is set up so both HRASB and PSOFT are connected to this group in RACF. For the group to have read/write access, the mode of the directory is changed (using the UNIX command `chmod`) so UID and GID have read/write access.

```
$ ls -l
total 152
drwxrwx--- 11 HRASB DBAUNIX 8192 Dec 5 17:43 log_output
```

## Providing Access to TSO and USS

All mainframe user IDs involved in submitting a JCL in TSO or Process Scheduler and Application Engine in USS must be set up in RACF to have access to both TSO and USS environments. Certain procedures in Process Scheduler will perform an OCOPY (from a JCL) or OPUT as a TSO command in USS to transfer files from a PDS into an HFS directory. These procedures are triggered when posting reports and log files from a COBOL and/or SQR. The Distribution Agent will temporarily copy the files from a partitioned dataset (PDS) or sequential file into a designated HFS directory before posting the files to the repository.

To verify that the mainframe ID has all the proper authorization to perform the transfer, you can issue this test from USS.

To verify the mainframe ID's authorization:

1. Log in to the USS with the user ID that will be used to boot Process Scheduler
2. Enter the following command in USS:

```
tso OPUT "'<Partitioned data set(member)>' '<HFS file>'"
```

As an example:

```
$ tso OPUT "'FS.FS840A8.JCLLIB(SQRSAMP)' '/tmp/test.txt'"
OPUT 'FS.FS840A8.JCLLIB(SQRSAMP)' '/tmp/test.txt'
IGD103I SMS ALLOCATED TO DDNAME SYS00001
```

In this example, the PDS member SQRSAMP is copied into the HFS file /tmp/test.txt.

## See Also

IBM publications, <http://www-1.ibm.com/servers/eserver/zseries/zos/unix/bpxa1pub.html>

*Systems Planning Guide (SA22-7800)*

*User's Guide (SA22-7801)*

## Task 17C-1-2: Setting DB2 Authorization

This section discusses:

- Setting Authorization for DB2 Plan for ODBC for OS390
- Setting Authorization for DB2 Plans for COBOL
- Setting Authorization for DB2 Plan for SQR

### Setting Authorization for DB2 Plan for ODBC for OS390

The privilege to execute the DB2 plan for the CLI/ODBC package DSNAOCLI must be given to the mainframe ID used to login to UNIX System Services to start Process Scheduler Server Agent. When Process Scheduler or Application Engine program connects to the DB2 database, CLI/ODBC authenticates the connection based on the user ID that initiates the program from UNIX System Services.

```
Grant EXECUTE on PLAN <PLAN for CLI Package DSNAOCLI> To <Unix Service>
Login ID>
```

### Setting Authorization for DB2 Plans for COBOL

Enter the following command to set authorization for DB2 Plans for COBOL:

```
Grant EXECUTE on PLAN <SQLRT Plan PTPSQLRA and PTPSQLRE> To <Access-Id> or=>
<Ownerid>;
```

The variable *<SQLRT Plan PTPSQLRA and PTPSQLRE>* refers to the plans created during database creation. See "Creating a Database," Binding DB2 Plans.

### Setting Authorization for DB2 Plan for SQR

Enter the following command to set authorization for DB2 Plan for SQR:

```
Grant EXECUTE on PLAN <SQR PLAN> To <Access-Id> or <Ownerid>;
```

The variable *<SQR PLAN>* refers to the plan created when installing SQR for z/OS.

## Task 17C-2: Setting Up Process Scheduler Security

---

This section discusses:

- Understanding Process Scheduler Security
- Granting Process Scheduler Administrative Rights



## Understanding Process Scheduler Security

This task—in which you set up the PeopleSoft User ID that will be used to boot Process Scheduler server so it has administrative rights to both Process Scheduler and Report Manager—guarantees that security is set up properly within your PeopleSoft database.

You must carry out this task to start Process Scheduler successfully.

### Task 17C-2-1: Granting Process Scheduler Administrative Rights

To grant Process Scheduler administrative rights:

1. Log onto your PeopleSoft database through the PeopleSoft Pure Internet Architecture.
2. Select PeopleTools > Security > User Profiles.
3. Select the User Profiles component. Use the Search dialog to select the PeopleSoft User ID you plan to use to boot the Process Scheduler server.

- Click the Roles tab, click the plus icon to insert a new row, and there enter the *ProcessSchedulerAdmin* role to grant the user ID with administrative rights in the Process Scheduler components.

The screenshot displays the Oracle PeopleSoft User Profiles Roles tab. The 'Roles' tab is selected, showing a list of roles. The 'ProcessSchedulerAdmin' role is highlighted. The 'Dynamic Role Rule' section on the left shows 'Execute on Server' with buttons for 'Test Rule(s)', 'Refresh', and 'Execute Rule(s)'. The bottom navigation bar includes links for General, ID, Roles, Workflow, Audit, Links, and User ID Queries.

| Role Name                | Description                 | Dynamic | View Definition |
|--------------------------|-----------------------------|---------|-----------------|
| PTF Administrator        | PTF Administrator           |         | Route Control   |
| PeopleSoft Administrator | PeopleSoft Admin Privileges |         | Route Control   |
| PeopleSoft User          | PeopleSoft User             |         | Route Control   |
| Portal Administrator     | Portal Administrator        |         | Route Control   |
| Portal Manager           | Portal Manager              |         | Route Control   |
| ProcessSchedulerAdmin    | Process Scheduler Admin     |         | Route Control   |
| QE Role                  | QE Role                     |         | Route Control   |
| Search Administrator     | Search Administrator        |         | Route Control   |
| Search Developer         | Search Developer            |         | Route Control   |
| ReportDistAdmin          | Report Distribution Admin   |         | Route Control   |

Process Scheduler window: Roles tab

- Repeat the instructions in step 4 to add the role *ReportDistAdmin*.

This will grant the user ID administrative rights to the Report Manager component. Carry out this step only if the same user is also responsible for maintaining the content of Report Manager.

**Note.** When setting up Process Scheduler on UNIX or Windows, you must have the right user ID to start an application server. This authorization is not required to bring up Process Scheduler in z/OS UNIX System Services because Process Scheduler is not booted through Tuxedo in this platform.

## Task 17C-3: Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository

This section discusses:

- Understanding Report Distribution
- Setting Up Single Signon to Navigate from PIA to Report Repository
- Determining the Transfer Protocol

- Starting the Distribution Agent
- Setting Up the Report Repository
- Setting Up the Distribution for Your Process Scheduler Server
- Setting Up Sending and Receiving of Report Folders in the Report Manager

## Understanding Report Distribution

The PeopleSoft PeopleTools Report Distribution lets you access reports and log files generated from process requests run by a Process Scheduler Server Agent. Using the PeopleSoft Pure Internet Architecture, you can view reports and log files from the web browser through the Report Manager or Process Monitor Detail page. Report Distribution enables you to restrict access to these reports to authorized users based either on user ID or role ID.

This product also includes the Distribution Agent component, which runs on the same server as the Process Scheduler Server Agent. The Distribution Agent, a process that runs concurrently with the Process Scheduler Server Agent, transfers to the Report Repository files generated by process requests initiated by the Process Scheduler Server Agent.

The Distribution Agent transfers files to the Report Repository when one of these criteria is true:

- The Process Scheduler Server Agent is set up in the *Server Definition* to transfer all log files to the Report Repository.
- The process request output destination type is *Web/Window*.

In either case, the Process Scheduler Server Agent inserts a row in the Report List table (PS\_CDM\_LIST). The server agent then updates the distribution status for a process request to *Posting* upon completion of the program associated with the process request. The distribution status of *Posting* signals that the files for the process request are ready for transfer to the Report Repository. The Distribution Agent is notified by Process Scheduler for any process requests that are ready for transferring. As part of the process to transfer files to the Report Repository, the Distribution Agent performs the following steps:

- *Transfer files to the Report Repository.* All the report and log files are transferred to the Report Repository. For each process request transferred, a directory is created in the Report Repository using the following format: \<database name>\<date yyyymmdd>\<report id>. All the files for a process request are stored in this directory.
- *Delete the directory from the Process Scheduler Agent's Log/Output directory.* When the output destination type specified for a process request is *Web/Window*, all the files and directory associated with the process request are deleted from the Process Scheduler Log/Output directory after the files are transferred to the Report Repository.

The following diagram illustrates the Process Scheduler and Report Repository architecture. The diagram includes the following items:

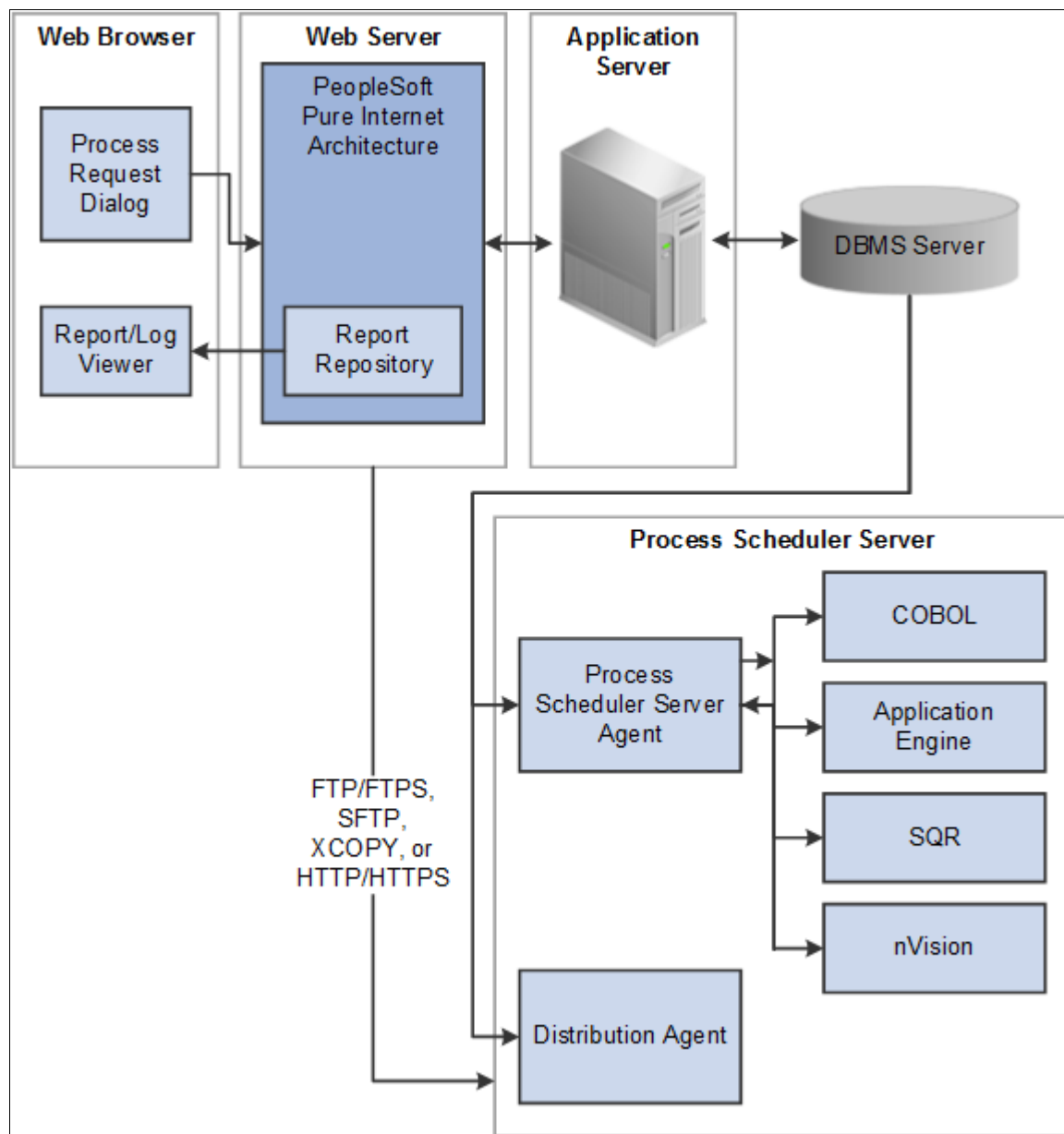
- The web browser gives access to the Process Request dialog and the Report or Log Viewer.
- The Report Repository is part of the PeopleSoft Pure Internet Architecture.

---

**Note.** The PeopleSoft Pure Internet Architecture must be installed for Process Scheduler to be able to transfer reports to the Report Repository.

---

- The Process Scheduler Server includes the Process Scheduler Server Agent and the Distribution Agent.
- The transfer protocol between Process Scheduler and the Report Repository may be FTP/FTPS, XCOPY, HTTP/HTTPS, or SFTP.



Process Scheduler and Report Repository Architecture

Before users can view a report, they are authenticated against the PeopleSoft database.

You should set up single signon if you do not want users to have to log on an additional time to view reports in the Report Repository. For the details on setting up single signon, consult the security documentation.

See *PeopleTools: Security Administration*.

## Task 17C-3-1: Setting Up Single Signon to Navigate from PIA to Report Repository

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PeopleSoft Pure Internet Architecture (PIA) to Report Repository, you need to set up single signon to avoid getting a prompt for a second signon. This section includes some considerations for setting up single signon to navigate from PIA to Report Repository.

If Report Repository resides on the same web server as PIA, make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.

If Report Repository resides on a different web server than PIA, do the following:

- Make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.
- Use a fully qualified domain name when addressing the web server for both PIA and Report Repository. For example, enter `http://<machineName>.peoplesoft.com/<site_name>/signon.html` instead of `http://<machineName>/<site_name>/signon.html`.
- Specify the Authentication Domain for your application during installation. If you have multiple applications, and you want them to employ single signon, it is important to specify the same Authentication Domain for all applications.

See the information on implementing single signon in the *PeopleTools: Security Administration* product documentation.

- Set up single signon with a password, like this:
  - Choose PeopleTools, Integration Broker, Integration Setup, Nodes.
  - Click Search and then select the node marked as Default Local Node.
  - Select *Password* for the Authentication Option.
  - Enter a password of your choice.
  - Enter the password again in the Confirm Password field.
  - Enter the user ID for which you are setting up single signon in the Default User ID field.
  - Save the Node Definition.
  - Sign out from the PeopleSoft application.
  - Reboot your application server.

### See Also

*PeopleTools: Security Administration*

## Task 17C-3-2: Determining the Transfer Protocol

*We recommend using HTTP as your transfer protocol.*

Before transferring the files to the Report Repository, you need to determine which transfer protocol to use. The following table lists the allowed transfer protocol based on the Process Scheduler and web server operating systems.

| Process Scheduler Operating System | Web Server Operating System | Transfer Protocol                                                                                                                                                                                                     |
|------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Microsoft Windows                  | Microsoft Windows           | <ul style="list-style-type: none"> <li>• XCOPY</li> <li>• FTP/FTPS</li> <li>• SFTP</li> <li>• HTTP/HTTPS</li> </ul> <p><b>Note.</b> If FTP information is not specified, Process Scheduler will perform an XCOPY.</p> |
| Microsoft Windows                  | UNIX                        | <ul style="list-style-type: none"> <li>• FTP/FTPS</li> <li>• SFTP</li> <li>• HTTP/HTTPS</li> </ul>                                                                                                                    |
| UNIX                               | Any                         | <ul style="list-style-type: none"> <li>• FTP/FTPS</li> <li>• SFTP</li> <li>• HTTP/HTTPS</li> </ul>                                                                                                                    |
| DB2 z/OS                           | Any                         | FTP/FTPS or HTTP/HTTPS                                                                                                                                                                                                |

---

**Note.** If you are on DB2 z/OS, you need to have JRE set up on your Process Scheduler server.

---

### Task 17C-3-3: Starting the Distribution Agent

The Distribution Agent is automatically started as another Oracle Tuxedo server when a Process Scheduler Server is booted. If a Process Scheduler Server was set up without specifying a Distribution Node in the *Server Definition* page, the Process Scheduler server will have a status in Process Monitor of "Running with No Report Node." After a node is defined for the Process Scheduler server, in the next cycle the Process Scheduler server checks the state of the system, and the Distribution Agent dynamically sets up its environment.

### Task 17C-3-4: Setting Up the Report Repository

This section discusses:

- Defining ReportRepositoryPath
- Defining the Report Node to Use HTTP/HTTPS
- Defining the Report Node to Use FTP
- Defining the Report Node to Use FTPS
- Defining the Report Node to Use SFTP

## Defining ReportRepositoryPath

The ReportRepositoryPath specifies the location of a directory for the Report Repository. You can specify the location for the Report Repository Path on the General page of the Web Profile during installation. If you do not set the location in the Web Profile, the location given by ReportRepositoryPath in the configuration.properties file is used for the default location. Note that the value entered for Report Repository Path in the Web Profile overrides any entry in the configuration.properties file.

See *PeopleTools: Portal Technology*, "Configuring Web Profiles."

Use the following formats to enter the name for the directory that you want to use for the ReportRepositoryPath. The examples below give the default values. Note that you must use a forward slash (/) in both cases:

- *Microsoft Windows*: ReportRepositoryPath=c:\psreports
- *UNIX*: ReportRepositoryPath=<user\_home>/PeopleSoft Internet Architecture/psreports

For <user\_home> substitute the home directory for the current user.

## Defining the Report Node to Use HTTP/HTTPS

To define the report node to use HTTP/HTTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select the Add a New Value link and enter the Report node name.
3. On the Report Node Definition page, select HTTP or HTTPS from the Protocol drop-down list.

Select the HTTP option if you are *not* using SSL. Select the HTTPS option if you are using SSL. The pages for HTTP and HTTPS have the same fields. These examples show HTTP.

Note that if you are using SSL you need to have Client Certificates installed on your web server.

4. Enter the following information in the Distribution Node Details area:

- *URLID*: Enter the URL of the web server using the following format:

```
http://<machine_name>:<port_number>/psreports/<site_name>
```

Replace <machine\_name> with the name of your machine. Use the fully qualified host name for your web server. If you are using an HTTP or HTTPS port other than the defaults, you need to specify the port number.

---

**Note.** If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

---

- *Description*: Enter a description of the server (optional).
  - *Operating System*: Select the web server operating system, Windows or UNIX.
5. Enter the following information in the Login Details area:
    - *Login ID*: Enter the Login ID. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.
    - *Password and Confirm Password*: Enter the password, and confirm it, for the user ID specified in the Login ID field. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.

---

**Note.** The setup of authentication is optional, but is recommended for security of the Report Repository when using the HTTP to transfer files. For information on setting up authentication on the web server where the Report Repository resides, refer to the *PeopleTools: Security Administration* product documentation.

---

6. Enter the following information in the URI Details area:

- **URI Host:** Enter the machine name for the report repository.

---

**Note.** In a basic setup, the machine name for the report repository will match the machine name of the web server URL. However, under certain circumstances—for example, if you are using a reverse proxy server—the URL and URI Host may have different machine names.

---

- **URI Port:** Enter the port number, which must match the port number of your web server (defaults are HTTP = 80, HTTPS = 443). If you change a port number you will lose the default values for both protocols.
- **URI Resource:** Enter SchedulerTransfer/<site name>.

7. Click Save to save your entries.

8. Click Validate to confirm that your entries are complete and correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

9. To add additional report nodes, click Add to return to the Search page.

## Defining the Report Node to Use FTP

If you use the FTP report node protocol, note that:

- If your FTP server is a Microsoft Windows server, you may have to set up the FTP service.
- The Distribution Agent will perform a validation after FTP has transferred files into the Report Repository by sending a query request to the web server. For this task to be completed, it is critical that the value entered in the URL is accurate. Verify that the machine name, port number, and site number that you specify are correct.

If this setup is not completed, the process request will get a status of NOT POSTED in the Process Monitor Detail page and will log the message "Unable to verify files posted."

To define the report node to use FTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.
3. On the Report Node Definition page, select FTP from the Protocol drop-down list.
4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace <machine name> with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable <site name> refers to the directory where you installed the PIA files; this will default to ps for the first installation.

---

**Note.** If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

---



---

**Note.** If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

---

- *Description:* Enter a description of the server (optional).
  - *Operating System:* Select the operating system of the Report Repository, Windows or UNIX.
  - *Network Path:* This information is not required for the FTP protocol
5. In the Login Details area, enter the following information:
- *Login ID:* Enter the FTP User ID.
  - *Password and Confirm Password:* Enter the password, and enter it a second time, for the FTP User ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
- *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.
  - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. If you need to specify additional properties, use the Connection Properties area. Specifying the Connection Properties is optional.

Click the lookup button (magnifying glass) and select one of the properties in the following table. Click the plus sign to add another connection property.

| Property Name       | Property Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVEMODE          | <p>To enable active mode, add the ACTIVEMODE property to the URL and set it to Y.</p> <p>The default FTP connection mode is extended passive mode.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ACTIVEPORTOPTION    | <p>This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name.</p> <p>You can also specify a port range. For example:<br/><i>10.176.147.111:10000-13000</i></p> |
| ENABLEEPRPT         | <p>This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPT is set to N, then the system will use a PORT (IPv4) Active Mode connection.</p> <p>By default, ENABLEEPRPT is Y, if Active Mode is set to Y.</p>                                                                                                                                                                                                                                                                                                                                                                   |
| EXTENDEDPASSIVEMODE | <ul style="list-style-type: none"> <li>0: Disable EPSV</li> <li>1: Enable EPSV</li> </ul> <p>This property enables you to control whether extended passive mode (EPSV) will be used by FTP.</p> <p>EPSV is used by default. That is, by default, this value is considered to be 1.</p> <p>If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.</p>                                                                                                                           |
| JKSPASSWORD         | Specify the Java keystore (JKS) password.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| JKSPATH             | Specify the Java keystore (JKS) path.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PASSWORD            | Specify the password associated with the USER property, which identifies the FTP User ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USER                | Specify the FTP User ID used for authentication when accessing the FTP site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
  - a. In the Password field, enter a password.
  - b. In the Confirm Password field, enter the password again.
  - c. Click Encrypt.  
The encrypted password is displayed in the Encrypted Password field.
  - d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.  
The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

## Defining the Report Node to Use FTPS

To define the report node to use FTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.
3. On the Report Node Definition page, select FTPS from the Protocol drop-down list.
4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

---

**Note.** If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

---



---

**Note.** If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

---

- *Description*: Enter a description of the server (optional).
  - *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
  - *Network Path*: This information is not required for the FTPS protocol.
5. In the Login Details area, enter the following information:
    - *Login ID*: Enter the FTP User ID.
    - *Password and Confirm Password*: Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
  6. In the File Transfer Details area, enter the following information:

- *Home Directory*: Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to `ReportRepositoryPath` in `configuration.properties`. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for `ReportRepositoryPath` in `configuration.properties`.
- *FTP Address*: Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
- *SSL Mode*: Select Explicit or Implicit from the drop-down list.

These are two separate methods developed to invoke the client security for use with FTP clients. With the explicit mode, FTPS-aware clients can invoke security with an FTPS-aware server without breaking overall FTP functionality with non-FTPS-aware clients. The implicit method requires that all clients of the FTPS server be aware that SSL is to be used on the session, and thus is incompatible with non-FTPS-aware clients.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table:

Click the plus sign to add another connection property.

| Property Name       | Property Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVEMODE          | To enable active mode, add the ACTIVEMODE property to the URL and set it to Y.<br><br>The default FTPS connection mode is extended passive mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ACTIVEPORTOPTION    | This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name.<br><br>You can also specify a port range. For example:<br><i>10.176.147.111:10000-13000</i> |
| CERTALIAS           | Certificate Alias: The Certificate Alias must be an alias name of a certificate stored in the database (using the PeopleSoft PeopleTools Digital Certificates page).<br><br><b>Note.</b> Currently, only PEM certificates are supported for FTPS.                                                                                                                                                                                                                                                                                                                                                      |
| ENABLEEPRPRT        | This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRPRT is set to N, then the system will use a PORT (IPv4) Active Mode connection.<br><br>By default, ENABLEEPRPRT is Y, if Active Mode is set to Y.                                                                                                                                                                                                                                                                                                                                                                |
| EXTENDEDPASSIVEMODE | <ul style="list-style-type: none"> <li>0: Disable EPSV</li> <li>1: Enable EPSV</li> </ul> <p>This property enables you to control whether extended passive mode (EPSV) will be used by FTP.</p> <p>EPSV is used by default. That is, by default, this value is considered to be 1.</p> <p>If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.</p>                                                                                                                   |
| JKSPASSWORD         | Specify the Java keystore (JKS) password.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| JKSPATH             | Specify the Java keystore (JKS) user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Property Name    | Property Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KEYSTOREPASSWORD | <p>This property is required for FTPS and HTTPS repositories. For attachments transferred from the PeopleSoft system to the FTPS or HTTPS repository, the system retrieves the key pair for the client certificate from the digital certificate store and writes the pair to a file in PKCS12 format with password protection. The value of this property will be used as the password for the PKCS12 file.</p> <p>The PKCS12 file enables connection and file transfer, and it exists only temporarily in &lt;PS_SERVDIR&gt;\files\&lt;CERT ALIAS NAME&gt; for the duration of the file transfer. The system deletes the file after the file transfer transaction.</p> <p><b>Note.</b> If the system fails to delete the certificate alias file, a message will be written to the application server log. The maximum number of files that can exist at any time is equal to the total number of FTPS and HTTPS URL identifiers defined in the system.</p> <p>For information on setting the PS_SERVDIR environment variable, see the <i>PeopleTools: Integration Broker</i> product documentation.</p> |
| PASSWORD         | Specify the password associated with the USER property, which identifies the FTP User ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SSLUAGELEVEL     | <ul style="list-style-type: none"> <li>0 - <i>No SSL</i>: No SSL will be used.</li> <li>1 - <i>Try SSL</i>: Try using SSL, but proceed as normal otherwise.</li> <li>2 - <i>Control</i>: Require SSL for the control connection.</li> <li>3 - <i>SSL Only</i>: (Default) Require SSL for all communication.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| USER             | Specify the FTP User ID used for authentication when accessing the FTP site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| VERIFYHOST       | <ul style="list-style-type: none"> <li>0: Do not verify the server for host name.</li> <li>1: Check if there exists any value in the common name field in the server certificate. This check does not verify if it matches with what the client specifies.</li> <li>2: (Default) Check for a match with the host name in the URL with the common name or Subject Alternate field in the server certificate.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| VERIFYPEER       | <ul style="list-style-type: none"> <li><i>False</i>: Do not verify the peer.</li> <li><i>True</i>: (Default) Verify the peer by authenticating the certificate sent by the server.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:

- a. In the Password field, enter a password.
- b. In the Confirm Password field, enter the password again.
- c. Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

- d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.

11. To add additional report nodes, click Add to return to the Search page.

## Defining the Report Node to Use SFTP

To define the report node to use SFTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.
3. On the Report Node Definition page, select SFTP from the Protocol drop-down list.
4. In the Distribution Node Details area, enter the following information:

- **URLID:** Enter the URL of the web server using this format:

`http://<machine_name>:<port_number>/psreports/<site_name>`

Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

---

**Note.** If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

---



---

**Note.** If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

---

- **Description:** Enter a description of the server (optional).
  - **Operating System:** Select the operating system of the Report Repository, Windows or UNIX.
  - **Network Path:** This information is not required for the SFTP protocol.
5. In the Login Details area, enter the following information:
    - **Login ID:** Enter the FTP User ID.
    - **Password and Confirm Password:** Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
  6. In the File Transfer Details area, enter the following information:
    - **Home Directory:** Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP

transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

- *FTP Address*: Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table.

Click the plus sign to add additional connection properties.

| Property Name | Property Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTHTYPE      | Select one of the following the authentication types: <ul style="list-style-type: none"> <li>• <i>PUBLICKEY</i></li> <li>• <i>PASSWORD</i></li> <li>• <i>ANY</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PASSWORD      | Specify the user password. You can enter the password in the Password Encryption box, click Encrypt, and then copy the encrypted value to the Password property.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PASSWORDKEY   | Enter the password for the private key.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PRIVATEKEY    | Select the private key.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PUBLICKEY     | Select the public key.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SSHKEYALIAS   | <p>Select the SSH certificate saved to the database using the PeopleTools Security, Digital Certificates page (select PeopleTools, Security, Security Objects, Digital Certificates). The SSH certificate added through the Digital Certificates page contains both the public and private key data, identified by the Alias column value on the Digital Certificates page.</p> <p>If using the SSHKEYALIAS URL property, the Property Value prompt displays only the list of SSH certificates that have been added to the Digital Certificates page. If you have added the SSH certificate using the Digital Certificates page, and you have assigned an SSH certificate to the SSHKEYALIAS URL property, the system ignores the PUBLICKEY and PRIVATEKEY properties, regardless of whether they refer to valid key files in the file system.</p> <p>If you provided a password (or passphrase) when generating your SSH certificate, specify that value using the PASSWORDKEY URL property.</p> <p>See <i>PeopleTools: Security Administration</i>, "Configuring Digital Certificates."</p> |
| USER          | Specify the user ID to be authenticated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
  - a. In the Password field, enter a password.
  - b. In the Confirm Password field, enter the password again.
  - c. Click Encrypt.  
The encrypted password is displayed in the Encrypted Password field.
  - d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.  
The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

## Task 17C-3-5: Setting Up the Distribution for Your Process Scheduler Server

To set up the Distribution Settings for your Process Scheduler Server:

1. Select PeopleTools, Process Scheduler, Servers.
2. Enter the Server Name (such as PSOS390). The Server Definition page appears.
3. Select the Distribution tab.

The screenshot shows the Oracle PeopleTools interface for the Process Scheduler Servers page. The breadcrumb trail at the top indicates the path: Favorites > Main Menu > PeopleTools > Process Scheduler > Servers. The Oracle logo is on the left, and a search bar is in the center. On the right, there are links for 'Advanced Search' and 'Last Search Results'. Below the breadcrumb trail, there are tabs for 'Server Definition', 'Distribution', 'Operation', 'Notification', and 'Daemon'. The 'Distribution' tab is currently selected. The page displays the 'Server Name: PSOS390'. Below this, there is a section titled 'Server Distribution Details' with the following fields: 'Distribution Node Name' (with a lookup icon), 'Maximum Transfer Retries' (with a numeric input field), 'Interval for Transfer Attempt' (with a numeric input field and 'seconds' label), and 'Transfer System Files to Report Repository' (with a checkbox). At the bottom of the form, there are buttons for 'Save', 'Return to Search', 'Notify', 'Add', and 'Update/Display'. A footer bar contains links for 'Server Definition', 'Distribution', 'Operation', 'Notification', and 'Daemon'.

Server Definition page for PSOS390: Distribution tab

4. Click the lookup button for Distribution Node Name to display the report node names and select the name of

the required report node.

5. Enter a number for the Maximum Transfer Retries. This is the maximum number of times the server can try to send a report before it errors out.
6. Enter the number of seconds for the Interval for Transfer Attempt field. This is the interval between attempts to send the report.
7. Select the check box Transfer Log Files to Report Repository if you want to transfer all log and trace files from processes that do not generate reports.
8. Click Save to save your entries.
9. If Process Scheduler is running, you must reboot for any new settings to take effect.

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PIA to Report Repository, you need to set up single signon in order to avoid getting a prompt for a second signon.

### **Task 17C-3-6: Setting Up Sending and Receiving of Report Folders in the Report Manager**

To be able to view reports in the Report Manager Explorer and List pages, you need to set up the sending and receiving of report folders in the Report Manager by activating the domain on which a sending and receiving server resides. Consult the documentation covering the PeopleSoft Integration Broker to learn how to activate the sending and receiving server domain.

See *PeopleTools: Integration Broker*.

See *PeopleTools: Integration Broker Service Operations Monitor*.

## **Task 17C-4: Setting Up Process Scheduler Server Agent**

---

This section discusses:

- Understanding Process Scheduler Server Agent
- Changing the Default Operating System
- Setting Up Your Environment
- Validating and Editing the ODBC Initialization File
- Creating a Process Scheduler Server
- Configuring Process Scheduler Server
- Working with Shell JCL Templates
- Starting a Process Scheduler Server
- Verifying the Process Scheduler Server Status
- Stopping the Process Scheduler Server

## Understanding Process Scheduler Server Agent

For installation purposes, you can use predefined server names and other definitions. The predefined name that you might use is as follows:

| Server Name | Operating System |
|-------------|------------------|
| PSOS390     | z/OS             |

To test this, use processes already defined in your PeopleSoft database. To set up a new server definition in your PeopleSoft database, refer to the *PeopleTools: Process Scheduler* product documentation.

**Note.** When creating multiple Process Scheduler Servers for the same database, each server must have a unique server name. For example, two Process Scheduler Servers, both named PSNT, cannot run against the same database.

### Task 17C-4-1: Changing the Default Operating System

By default, Process Scheduler is set up to run a process request from a Process Scheduler Server Agent started in a Microsoft Windows server when the value of the *ServerName* field in the Process Request Dialog page is left blank. If you plan to run all processes other than Microsoft Windows-based programs (such as nVision) from z/OS, you must change the default operating system.

**Note.** If you do not change the default operating system from Microsoft Windows to z/OS and you do not plan to set up a Process Scheduler Server Agent in Windows, process requests that are created will be directed to a Windows-based operating system and will remain in the "Queued" status.

To change the default operating system for process requests that were not assigned a Process Scheduler Server Name:

1. Select PeopleTools, Process Scheduler, System Settings.
2. Under *Primary Operating System*, choose OS390 from the drop-down list.
3. Click on the *System Purge Options* tab. Enter the date for the next purge of process requests in the *Next Purge Date* field.
4. Enter the time for the next purge of process requests in the *Next Purge Time* field. The default time is 12:00:00AM.
5. Enter a *Recurrence* if you want to set a regular purging basis.
6. Choose *Save*.

### Task 17C-4-2: Setting Up Your Environment

Alternatively, make sure the following environment variables are set in the profile file in the user's home directory:

Run psconfig.sh file from *PS\_HOME*:

```
. ./psconfig.sh
```

## Task 17C-4-3: Validating and Editing the ODBC Initialization File

The PeopleSoft Batch Transfer program generates the ODBC initialization file based on the parameters entered in the PeopleSoft Server Transfer panel. The ODBC initialization file is written to:

```
$PS_HOME/appserv/odbc.ini
```

The ODBC initialization file contains the following key information:

- DB2 subsystem name
- Plan name for the DSNACLI CLI package
- Method used to attach to DB2 (default is RRSAF)

Here is an example of an initialization file for a DB2 subsystem called DSNW with DB2 plan DSNACLI:

```
[COMMON]
MVSDEFAULTSSID=DSNW
APPLTRACE=0
APPLTRACEFILENAME=
MULTICONTEXT=1
CONNECTTYPE=1

; Set up the DB2 Subsystem Definition
[DSNW]
MVSATTACHTYPE=RRSAF
PLANNAME=DSNACLI
```

Verify that all the information contained in this file is accurate. If you plan to set up multiple Process Scheduler Server Agents for different instances of a PeopleSoft database and these databases reside in different DB2 subsystems, you must create a different ODBC initialization file for each DB2 subsystem.

## Task 17C-4-4: Creating a Process Scheduler Server

This section describes how to create a Process Scheduler server.

---

**Note.** You can set Process Scheduler configuration parameters either by using PSADMIN, which provides an interactive dialog, or by editing the configuration file `psprcs.cfg` located in the `PS_CFG_HOME/appserv/prcs/database name` directory. The following steps assume you are using PSADMIN to specify parameter settings.

---

**Note.** If you use the configuration file `psprcs.cfg`, be aware that in the PeopleSoft PeopleTools 8.49 release and later, the section [Output Dest Exceptions] has been modified to trap metastring exceptions not only in the output destination but in other process parameters as well. In this section the entry `OUTDEST_EXCEPT01=%ANYMETASTRING%` has been changed to `PARAMETER_EXCEPT01=%ANYMETASTRING%`.

---

To create a Process Scheduler Server:

1. From `PS_HOME/appserv` on the batch server, type `psadmin`.
2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the `PS_CFG_HOME/peopletools.properties` file with the current `PS_HOME` location:

```

PS_CFG_HOME/peopletools.properties file has been updated.
```

You should use the Config Home Refresh feature in PSAdmin to ensure that all of your domains are current. Alternatively, you may recreate all of your domains. Please press any key to continue...

\*\*\*\*\*

This indicates that one of these situations exists:

- The *PS\_CFG\_HOME* that you are working with was used previously from a different *PS\_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS\_CFG\_HOME*.
- You configured your environment such that *PS\_CFG\_HOME* is the same as *PS\_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS\_CFG\_HOME/peopletools.properties* file. Continue with the next step.

3. Select 2 to access the PeopleSoft Process Scheduler Administration menu.
4. Select 2 for Create a Process Scheduler Server Configuration:

```

PeopleSoft Process Scheduler Administration

1) Administer a Process Scheduler Server
2) Create a Process Scheduler Server Configuration
3) Delete a Process Scheduler Server Configuration
4) Import an existing Process Scheduler Configuration
q) Quit
```

Command to execute (1-4, q) : **2**

5. When prompted for the name of the database that your server will access, enter the name of the database, such as HRDMO in this example, and press ENTER:

Please enter name of Database that server will access :  
**HRDMO**

You see screen messages like these:

```
Process Scheduler Configuration templates:
1) os390
Selecting the only Process Scheduler Configuration template available...
Creating Process Scheduler Server for Database HRDMO...
Copying Process Scheduler Server configuration file(s)...
Copying Process Scheduler JCL template files...
Process Scheduler Shell JCL template files copied.
Process Scheduler Server configuration created.
```

At this point, you are returned to the PeopleSoft Process Scheduler Administration menu.

## Task 17C-4-5: Configuring Process Scheduler Server

This section discusses:

- Configuring a Process Scheduler Server
- Using [Startup]

- Using [OS390]
- Using [Process Scheduler]
- Using [Application Engine]

---

**Note.** The section may not mention certain PSADMIN sections, if you do not need to change any of their defaults. For more in depth descriptions of the Process Scheduler options in the PSADMIN, consult the *PeopleTools: Process Scheduler* product documentation.

---

## Configuring a Process Scheduler Server

To configure a Process Scheduler Server:

1. The PeopleSoft Process Scheduler Server Administration interface should already be on your screen from the last step, but if it is not, go to *PS\_HOME/appserv* and enter:

```
psadmin
```

Press ENTER, and then 2 to access the PeopleSoft Process Scheduler Administration menu.

2. From the PeopleSoft Process Scheduler Administration menu, select option 1 to Administer a domain:

```

PeopleSoft Process Scheduler Administration

1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration
q) Quit
```

Command to execute (1-4, q) : **1**

3. Select the database for which the Process Scheduler needs to be configured.

Database list:

```
1) HRDMO
```

Select item number to configure: **1**

4. At the following prompt:

Do you want to change any config values (y/n):

Specify y to start an interactive dialog to change or examine parameter values, as described in the next step.  
Specify n if you have already edited *psprcs.cfg*.

See *PeopleTools: Process Scheduler*.

## Using [Startup]

When using PSADMIN to configure a Process Scheduler Server Agent, you first encounter the Startup section:

Values for config section - Startup

```
DBName=
DBType=DB2ODBC
UserId=
```

```

UserPswd=
ConnectId=
ConnectPswd=
ServerName
StandbyDBName=
StandbyDBType=
StandbyUserId=
StandbyUserPswd=

```

Do you want to change any values (y/n)? [n]: y

The following table describes each value in the Startup section:

| Value           | Description                                                                                                                    |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------|
| DBName          | Specify the database name associated with a particular Process Scheduler Server Agent, such as HRDMO, FSDMO, SADMO, and so on. |
| DBType          | Specify the database type. The default for DB2 for z/OS is DB2ODBC.                                                            |
| UserId          | Enter the user ID.                                                                                                             |
| UserPswd        | Enter the user password.<br>The password is hidden by masking characters as you type.                                          |
| ConnectId       | Enter the connect ID. This value is required.                                                                                  |
| ConnectPswd     | Enter the connect password. This value is required.<br>The password is hidden by masking characters as you type.               |
| ServerName      | For DB2 for z/OS, ignore this item.                                                                                            |
| StandbyDBName   | For DB2 for z/OS, ignore this item.                                                                                            |
| StandbyDBType   | For DB2 for z/OS, ignore this item.                                                                                            |
| StandbyUserId   | For DB2 for z/OS, ignore this item.                                                                                            |
| StandbyUserPswd | For DB2 for z/OS, ignore this item.                                                                                            |

When you change the UserPswd or ConnectPswd field, you are prompted for an option to encrypt the value entered for the password field:

Do you want to encrypt this password? [y]: **y**

Enter y if you want the password stored in encrypted form in the Process Scheduler configuration file. (The default is to encrypt the password.)

## Using [OS390]

The OS390 section contains OS/390-specific values:

```
Values for config section - OS390
 ODBC Initialization File=%PS_HOME%/appserv/odbc.ini
 Shell JCL Library=%PS_SERVDIR%/shelljcl
 High Level Qualifier for System Datasets=
 High Level Qualifier for Log Datasets=
 Plan name for PTPSQLRT with CAF=
 Plan name for PTPSQLRT with TSO=
 DB2 Sub-System=
 VIO eligible unit group=SYSDA
 Enable Parallel Processing=0
DECIMAL=PERIOD
TSO Character Set=cp037
```

Do you want to change any values (y/n)? [n]:

The following table describes each parameter in the OS390 section.

| Parameter                                | Description                                                                                                                             |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| ODBC Initialization File                 | File containing ODBC setting to connect to the DB2 subsystem where the PS database is created.                                          |
| Shell JCL Library                        | The subdirectory containing all JCL templates used for submitting COBOL or SQR in native z/OS.                                          |
| High Level Qualifier for System Datasets | Datasets to which PeopleSoft installations are copied during batch transfer. For example, PT.PT810TA.                                   |
| High Level Qualifier for Log Datasets    | Datasets that represent the high level qualifier for all logs and reports generated from processes submitted through Process Scheduler. |
| Plan name for PTPSQLRT with CAF          | DB2 plan used to run COBOL called within an Application Engine program via Remote Call                                                  |
| Plan name for PTPSQLRT with TSO          | DB2 plan used to run COBOL from TSO via JCL created from the COBOL shell JCL template (SHECBL.JCT)                                      |
| DB2 Sub-System                           | DB2 subsystem name where your database resides—for example, DSND                                                                        |
| VIO eligible unit group                  | DASD volume group used by Remote COBOL invoked by an Application Engine program                                                         |
| Enable Parallel Processing               | A Y/N flag which sets the Parallel processing parameter in the COBOL shell JCL template (SHECBL.JCT)                                    |



| Parameter         | Description                                                                                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DECIMAL           | The value should reflect the setting for the DECIMAL parameter found in the ZPARM of the DB2 subsystem where the database resides. Valid values are DECIMAL or COMMA. |
| TSO Character Set | The codepage for the TSO environment. The default value is CP037 (IBM037: Latin1 code page).                                                                          |

## Using [Process Scheduler]

After you have set your Trace values, the Process Scheduler section allows you to set all of the environment variables associated with the Process Scheduler.

Values for config section - Process Scheduler

```

PrCs Job Name=
PrCs Job Account=
PrCsServerName=PSOS390
PS Configuration File=%PS_HOME%/psconfig.sh
Max Reconnect Attempt=12
Reconnection Interval=300
Authentication Timeout=5
TOOLBIN=%PS_HOME%/bin
Log/Output Directory=%PS_SERVDIR%/log_output
LogFence=5
DEFAULTPRINTER=

```

Do you want to change any values (y/n)? [n]:

The following table describes the parameters you must update in the Process Scheduler section:

| Parameter        | Description                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| PrCs Job Name    | Job name assigned to the Process Scheduler program. This is set in USS using the __BPX_JOBNAME environment variable setting.      |
| PrCs Job Account | Job Account assigned to the Process Scheduler program. This is set in USS using the __BPX_ACCT_DATA environment variable setting. |

## Using [Application Engine]

This section contains Application Engine values:

Values for config section - Application Engine

```

AE Job Name=%JOBNAME%%SFX%
AE Job Account=%JOBACCT%

```

Do you want to change any values (y/n)? [n]:

The following table describes each parameter in the *Application Engine* section:

| Parameter      | Description                                                                                                                   |
|----------------|-------------------------------------------------------------------------------------------------------------------------------|
| AE Job Name    | Job name assigned to an Application Engine program. This is set in USS using the __BPX_JOBNAME environment variable setting.  |
| AE Job Account | Account assigned to an Application Engine program. This is set in USS using the __BPX_ACCT_DATA environment variable setting. |

**Note.** After you complete your changes in PSADMIN, you must shut down and restart the server to put the new settings into place.

## Task 17C-4-6: Working with Shell JCL Templates

This section discusses:

- Understanding Shell JCL Templates
- Editing a Shell JCL Template
- Customizing the Process Scheduler's Shell JCL Template

### Understanding Shell JCL Templates

When starting a Process Scheduler Server, shell JCL template files are read once and stored into memory as part of the initialization procedure. Process Scheduler will generate a JCL for COBOL and SQR based on the JCL stored in memory. If you have modified any of the shell JCL templates after the Process Scheduler Server was started, Process Scheduler will refresh the JCL stored in memory before submitting the next COBOL or SQR request.

The PeopleSoft Server Transfer program creates a directory *PS\_HOME/appserv/prcs/shelljcl* in UNIX Services to store a master copy of the shell JCL templates. When you create a Process Scheduler Server Configuration, it copies this shell JCL templates into the *<PS\_HOME>/appserv/prcs/<database\_name>/shelljcl* directory. This includes all the JCLs used for running COBOL and SQR through Process Scheduler.

See "Creating a Database."

The following table lists the shell JCL templates used in Process Scheduler:

| JCL          | Description                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHELCLBL.JCT | Invoked by Process Scheduler when user requests to run a COBOL program                                                                                           |
| SHELSQRF.JCT | Invoked by Process Scheduler when user requests to run an SQR program and specifies from the Process Scheduler page to route the output to a file, web or email. |

| JCL             | Description                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SHELSQRP.JCT    | Invoked by Process Scheduler when user requests to run an SQR program and specifies from the Process Scheduler panel to route the output to a printer.                                                                                                                                                                                                                                                          |
| SHELSQROUTP.JCT | Used in conjunction with SHELSQRP.JCT or SHELSQRF.JCT. This template contains the file definition for creating a partitioned data set for SQR report files. Process Scheduler will use this template when the SQR output format is one of the following: <ul style="list-style-type: none"> <li>• Acrobat Reader (PDF)</li> <li>• Post Script (PS)</li> <li>• Line Printer (HP)</li> <li>• HP format</li> </ul> |
| SHELSQROUTS.JCT | Used in conjunction with SHELSQRP.JCT or SHELSQRF.JCT. This template contains the file definition for creating a sequential data set for SQR report files. Process Scheduler will use this template when the SQR output format is one of the following:<br>HTM<br>SPF                                                                                                                                           |

These shell JCL templates need to be modified to comply with your site standards.

**Note.** Process Scheduler does not use a JCL to submit an Application Engine program. Instead, Process Scheduler will fork another (child) process in UNIX System Services and run Application Engine in this new process. This schema is similar to Windows or UNIX operating system.

## Editing a Shell JCL Template

To edit a shell JCL template:

1. Select option 1 for Administer a Process Scheduler Server from the PeopleSoft Process Scheduler Administration menu:

```

PeopleSoft Process Scheduler Administration

```

- ```

1) Administer a Process Scheduler Server
2) Create a Process Scheduler Server Configuration
3) Delete a Process Scheduler Server Configuration
4) Import an existing Process Scheduler Configuration
q) Quit
```

Command to execute (1-4, q): **1**

2. Select 7 for Edit a Shell JCL:

```
-----
PeopleSoft Process Scheduler Administration
-----
```

Scheduler Name: HRDMO

- 1) Start Process Scheduler Server
- 2) Stop Process Scheduler Server
- 3) Show Status
- 4) Configure Process Scheduler Server
- 5) Edit Process Scheduler Configuration File
- 6) Kill a Process Scheduler Server
- 7) Edit a Shell JCL
- q) Quit

Command to execute (1-7, q) : **7**

3. Select the database for which the Process Scheduler needs to be configured.

Database list:

- 1) HRDMO

Select item number to edit: **1**

4. Select the JCL from the list you intend to modify.

This opens the JCL in a vi editor screen.

JCL list:

- 1) shelcbl.jct
- 2) shelsqrf.jct
- 3) shelsqroutp.jct
- 4) shelsqrouts.jct
- 5) shelsqrp.jct

Select JCL file to edit: **1**

5. Modify the JCL using vi commands

6. Save your changes by using the vi command :wq

If you are not familiar with the vi editor and would prefer to edit the JCLs using ISPF editor, you can use the TSO *oedit* command in the TSO session. IBM's TSO *oedit* command allows you to modify any files residing in UNIX System Services from a TSO session. You can edit any of the shell JCL templates found in `<PS_HOME>/appserv/prcs/<database_name>/shelljcl` directory as shown below. Consult your z/OS system administrator for using the *oedit* command at your site.

```
----- EDIT - ENTRY PANEL -----
Command ===>

Directory      ===> /u/data007/pt812rc7/appserv/prcs/HRDMO/shelljcl

Filename       ===> shelcbl.jcl

Profile name   ===>

Initial macro  ===>
```

Editing a shell JCL template

Customizing the Process Scheduler's Shell JCL Template

All the Process Scheduler's shell JCLs use meta-strings to pass data stored in the database or Process Scheduler configuration files. Process Scheduler takes advantage of meta-strings to generate the JCL based on one of these sources:

- User's profile who initiated the request
- Parameters defined in the Process Scheduler Configuration file.
- Parameters defined in the Process Type Definition Page or Process Definition Page

A good example of data that can be passed includes job account and job name. To enter the values of some of these variables you need to identify the Process Profile being used. Choose PeopleTools, Security, User Profiles, User Profiles. Then search on the ID used to log on to the PeopleSoft Pure Internet Architecture. Make note of the Process Profile Name. Then choose PeopleTools, Security, Permissions & Roles, Permission Lists and select the Process Profile Name that was identified. Select Process tab, Process Profile Permissions.

The shell JCL templates are tunable and should be changed according to your site-specific standards. The table below identifies all the available meta-strings you can use in a shell JCL template.

If you create a new JCL template, you must be aware of the following:

- The Shell ID is restricted to three characters.

- The Shell ID is associated with the Process Type Definition.

Meta-Strings	Description
%JOBNAME%	Specifies the value entered in z/OS Job Controls Name field of the Process Profile Permission page for the Permission Lists specified as the User ID's Process Profile. The Process Profile for a User ID can be set using the User Profiles page in the Maintain Security component.
%JOBACCT%	Specifies the value entered in z/OS Job Controls Account field of the Process Profile Permission page.
%OUTDEST%	Specifies the output destination based on the value entered in the Server Destinations File or Printer fields of the Process Profile Permission page.
%SFX%	A one-character code issued by Process Scheduler. The system will randomly assign a value from A to Z.
%OPRID%	The user ID used to submit the request from Process Scheduler.
%PRCSLOGFILE%	The name of the log file Process Scheduler used to redirect all data written to output for Application Engine or SYSOUT in COBOL or SQR
%PRCSLOGDIR%	The directory where all log files or reports are written to in UNIX System Services for a process.
%ACCESSID%	The access ID assigned for a user ID defined in PSOPRDEFN.
%INSTANCE%	The process instance number assigned to a process request.
%RUNID%	The run control ID used to submit the process request.
%OWNERID%	The owner ID for the PeopleSoft database.
%PRCSNAME%	The program name as defined in the Process Definition page.
%DB2SUB%	The name of the DB2 subsystem specified in the <i>DB2 Sub-System</i> parameter of the <i>OS390</i> section found in the Process Scheduler Configuration file.
%PERFSTAT%	The flag used to set the Performance Statistic option in the COBOL shell JCL. This is set to 'Y' when the bit value of 128 is assigned to the TraceSQL parameter of the <i>Trace</i> section found in the Process Scheduler Configuration file.

Meta-Strings	Description
%DYNEXPLN%	The flag used to set the Dynamic Explain option in the COBOL shell JCL. This is set to 'Y' when the bit value of 256 is assigned to the TraceSQL parameter of the <i>Trace</i> section found in the Process Scheduler Configuration file.
%PARALLEL%	The flag used to set the Dynamic Explain option in the COBOL shell JCL. This is based on the flag set in the <i>Enable Parallel Processing</i> parameter of the <i>OS390</i> section found in the Process Scheduler Configuration file.
"%TSOPLAN%	The DB2 plan name subsystem specified in the <i>Plan name for PTPSQLRT with TSO</i> parameter of the <i>OS390</i> section found in the Process Scheduler Configuration file.
%PSHLQ%	The high level qualifier of the PeopleSoft dataset specified in <i>High Level Qualifier for Datasets</i> parameter of the <i>OS390</i> section found in the Process Scheduler Configuration file.

Here is a sample job control card in one of the shell JCLs:

```
//%JOBNAME%%SFX% JOB %JOBACCT%, 'PS-PRCS ', CLASS=E, MSGCLASS=X,
//          NOTIFY=%OPRID%
```

If you choose not to use meta-strings, you can also update the job cards to remove all these variables and replace them with actual values.

In the SHELL JCL for SQR, OUTNODE denotes either a z/OS partitioned data set (PDS) or sequential data set. The PDS is a requirement for SQR output. If the SQR report XRFPANEL were directed to file output, the following substitution would occur:

The following line in SHELSQRF.JCT

```
//          OUTNODE='%OUTDEST%'
```

would be changed to:

```
//          OUTNODE='HR.H800RAB',
```

If an SQR process were directed to print, the following substitutions would occur:

SQR:

```
//          OUTNODE='DEST=U3',    OPTIONAL:USER-DEF OUTPUT
..
//*****
/* Main portion of JCL Shell
*
//*****
..
//SQROUTP DD SYSOUT=*,DEST=U3
```

z/OS Job Controls:

z/OS job controls specify the z/OS job name you want assigned to each process submitted. This value can be up to seven characters. Do not use lowercase letters or any quotation marks. If you included the %SFX% meta-string as part of your job name, Process Scheduler will append a one-character alphabetical suffix to this

name (A through Z, chosen randomly), before job submission.

For example, if you entered USRMVS1, the assigned job name would become USRMVS1A through USRMVS1Z. After you enter the z/OS job name, enter the job account number used in your installation. Specify an account code to be inserted as the JCL accounting code.

Task 17C-4-7: Starting a Process Scheduler Server

Once you have configured the Process Scheduler Server, you are ready to start it.

To start a Process Scheduler Server:

1. Select option 1 for Administer a domain.

```
-----
PeopleSoft Process Scheduler Administration
-----
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration
q) Quit
```

Command to execute (1-4, q) : **1**

2. Select the domain that you want to start.

Database list:

1) HRDMO

Select item number to start: **1**

3. On the PeopleSoft Process Scheduler Administration menu, choose 1 for Start Process Scheduler Server.

```
-----
PeopleSoft Process Scheduler Administration
-----
Scheduler Name: HRDMO

1) Start Process Scheduler Server
2) Stop Process Scheduler Server
3) Show Status
4) Configure Process Scheduler Server
5) Edit Process Scheduler Configuration File
6) Kill a Process Scheduler Server
7) Edit a Shell JCL
q) Quit
```

Command to execute (1-7, q) : **1**

This will launch the Process Scheduler program.

Starting Process Scheduler Server PSOS390 for Database HRDMO ...
PeopleSoft Process Scheduler Started Normally

Task 17C-4-8: Verifying the Process Scheduler Server Status

At this stage it is a good idea to verify the Process Scheduler Server status.

To verify the Process Scheduler Server status:

1. From the PeopleSoft Process Scheduler Administration menu, choose 3, for Show Status:

```
-----
PeopleSoft Process Scheduler Administration
-----
```

```
Scheduler Name: HRDMO
```

- ```

1) Start Process Scheduler Server
2) Stop Process Scheduler Server
3) Show Status
4) Configure Process Scheduler Server
5) Edit Process Scheduler Configuration File
6) Kill a Process Scheduler Server
7) Edit a Shell JCL
q) Quit
```

Command to execute (1-7, q) : **3**

2. To verify the status of the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

For example:

Database list:

- ```
1) HRDMO
```

Select item number to start: **1**

Process Scheduler Server PSOS390 for Database PT84x is currently running

Process Agents	PID
-----	----
Process Scheduler	1144
Distribution Agent	35163243
Monitor	50332247

Note. You can also verify the status of the Process Scheduler Server from Process Monitor in PeopleSoft Pure Internet Architecture. To verify the Process Scheduler Server status from the Process Monitor page, go to PeopleTools, Process Scheduler, Process Monitor, and select *Server List*.

Note. If you have not configured z/OS with a Distribution Node, the Distribution Agent will not be started. You must execute that task before the Distribution Agent will be booted with the Process Scheduler server. See Validating and Editing the ODBC Initialization File.

Task 17C-4-9: Stopping the Process Scheduler Server

To stop the Process Scheduler Server:

1. From the PeopleSoft Process Scheduler menu, choose option 2, for Stop Process Scheduler Server.

```
-----  
PeopleSoft Process Scheduler Administration  
-----
```

```
Scheduler Name: HRDMO
```

- 1) Start Process Scheduler Server
- 2) Stop Process Scheduler Server
- 3) Show Status
- 4) Configure Process Scheduler Server
- 5) Edit Process Scheduler Configuration File
- 6) Kill a Process Scheduler Server
- 7) Edit a Shell JCL
- q) Quit

Command to execute (1-7, q) : **2**

2. To stop the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

Example (to stop Process Scheduler Server for the database HRDMO):

Database list:

- 1) HRDMO

Select item number to stop: **1**

Command sent to stop Process Scheduler Server PSOS390 for Database⇒
HRDMO. The⇒
Server Will stop the next time that it wakes up.

Chapter 18

Installing and Configuring DB2 Connect

This chapter discusses:

- Understanding DB2 Connect
- Verifying Supported Versions
- Defining DB2 Connect Architecture
- Setting Up DDF on the Mainframe
- Configuring TCP/IP on the Client
- Configuring the DB2 Connect Gateway on Windows
- Binding DB2 Connect Packages for an EBCDIC Installation
- Binding DB2 Connect Packages for a Unicode Installation
- Binding DB2 Connect Packages for DB2 Connect Version 10 or later
- Setting DB2CodePage for a Unicode Database
- Setting Up the DB2 Connect Gateway on UNIX
- Confirming DB2 Connect/ODBC Settings
- Setting CLI/ODBC Trace with the Client Configuration Assistant

Understanding DB2 Connect

This chapter discusses installing and configuring DB2 Connect connectivity for z/OS. The points during the installation when you will need to perform these procedures are noted in the chapters where they apply. You will need to set up connectivity on the following locations:

- On the mainframe.
- On any application server (Microsoft Windows or UNIX).
- On any Microsoft Windows or UNIX Server acting as DB2 Connect gateway.
- On any dedicated Microsoft Windows or UNIX batch server.
- On any Microsoft Windows client that will be making a two-tier connection to the database; this is required for any clients that will be running COBOL or SQR batch processes locally, but not for clients that are connecting exclusively in three-tier and running all batch processes on the server.

This chapter describes specific environment variables and parameters that you will need to set for each DB2 Connect component so that it will work optimally with PeopleSoft software. For the complete instructions on installing DB2 Connect, refer to the DB2 Connect product documentation.

Verifying Supported Versions

To use PeopleSoft PeopleTools with DB2 Connect, verify the following release information:

- Consult the supported platform information on My Oracle Support to verify that Oracle supports the version of DB2 Connect that you intend to use with your particular release of DB2 for z/OS.
- Consult My Oracle Support also to verify that Oracle supports the particular release of UNIX or Microsoft Windows on which you plan to install DB2 Connect.
- When configuring DB2 Connect on supported releases of either Microsoft Windows or UNIX, no additional TCP/IP software is required.
- TCP/IP for z/OS is required on the mainframe.
- See My Oracle Support for the minimum required z/OS version for the current PeopleSoft PeopleTools release.

See Also

My Oracle Support, Certifications

Defining DB2 Connect Architecture

This section discusses:

- Understanding DB2 Connect Architecture
- Using DB2 Connect Enterprise Edition
- Using DB2 Connect Personal Edition
- Defining PeopleSoft Three-Tier Configuration with DB2 Connect

Understanding DB2 Connect Architecture

DB2 Connect connects your client PeopleSoft applications to DB2's Distributed Data Facility (DDF) components on the mainframe. DB2 Connect performs the following tasks when connecting to DB2 for z/OS with DDF:

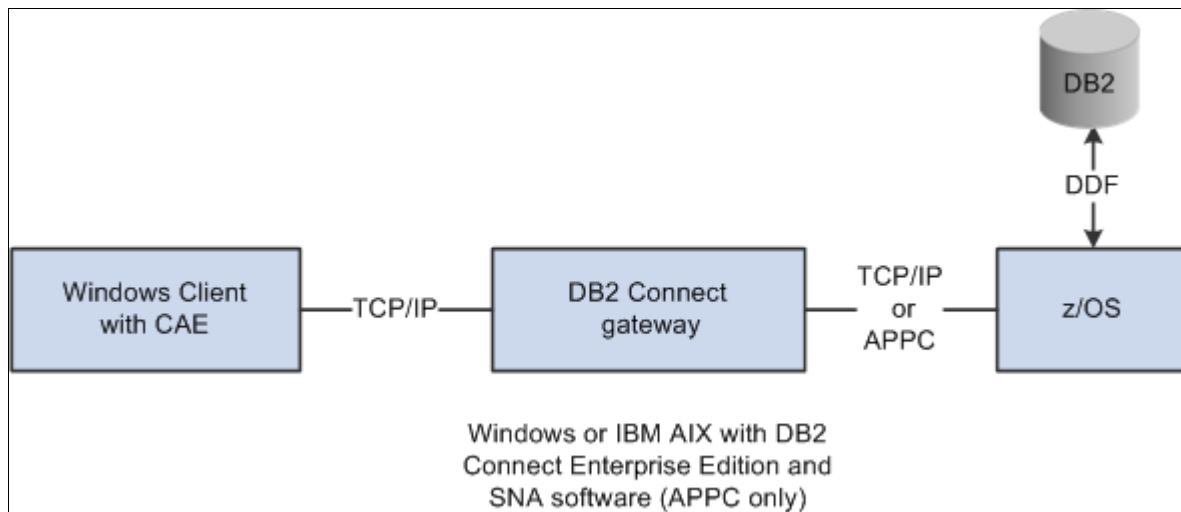
- Provides a control point for client connections.
- Performs the proper character conversions when receiving data from DB2.
- Responds to the connect requests from PeopleSoft client computers and creates corresponding TCP/IP conversations with DDF.
- Sends requests and replies between client computers and DDF.

IBM offers two different DB2 Connect products: DB2 Connect Enterprise Edition and DB2 Connect Personal Edition.

Using DB2 Connect Enterprise Edition

DB2 Connect Enterprise Edition requires a gateway machine; individual clients connect to the gateway machine using DB2 Connect CAE. The DB2 Connect gateway manages the TCP/IP conversation with the DDF on the mainframe. DB2 Connect Enterprise Edition can be used with either the PeopleSoft two-tier or three-tier architecture.

The DB2 Connect CAE (Client Application Enabler) component of DB2 Connect Enterprise Edition comes with the base product and must reside on each Microsoft Windows client machine. It provides a logical connection between the PeopleSoft client and the DB2 Connect gateway machine. The router sends the PeopleSoft SQL requests by way of network protocol to the gateway, and then receives the result set in return. The following diagram shows the connections between the Microsoft Windows client machine, the DB2 Connect gateway, and the mainframe:

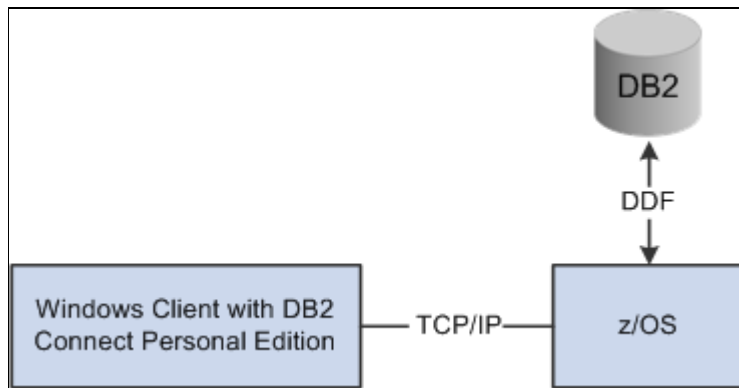


DB2 Connect Enterprise Edition architecture

The communication between the Microsoft Windows client machine and the DB2 Connect gateway is accomplished using the TCP/IP protocol. The physical connection between the DB2 Connect gateway and the mainframe can be made by a Token Ring attachment, a bridged Token Ring attachment, Ethernet, FDDI, Escon Channels, or a leased-line or dial-up SDLC connection. This connectivity is a critical piece for performance such that it should be configured with a high-bandwidth and located very close to the mainframe.

Using DB2 Connect Personal Edition

DB2 Connect Personal Edition is installed on each client workstation and allows clients to connect directly to DB2 DDF. It does not require an intermediary DB2 Connect gateway to access your database. The following diagram illustrates the connection between DB2 Connect Personal Edition and the mainframe:



DB2 Connect Personal Edition architecture

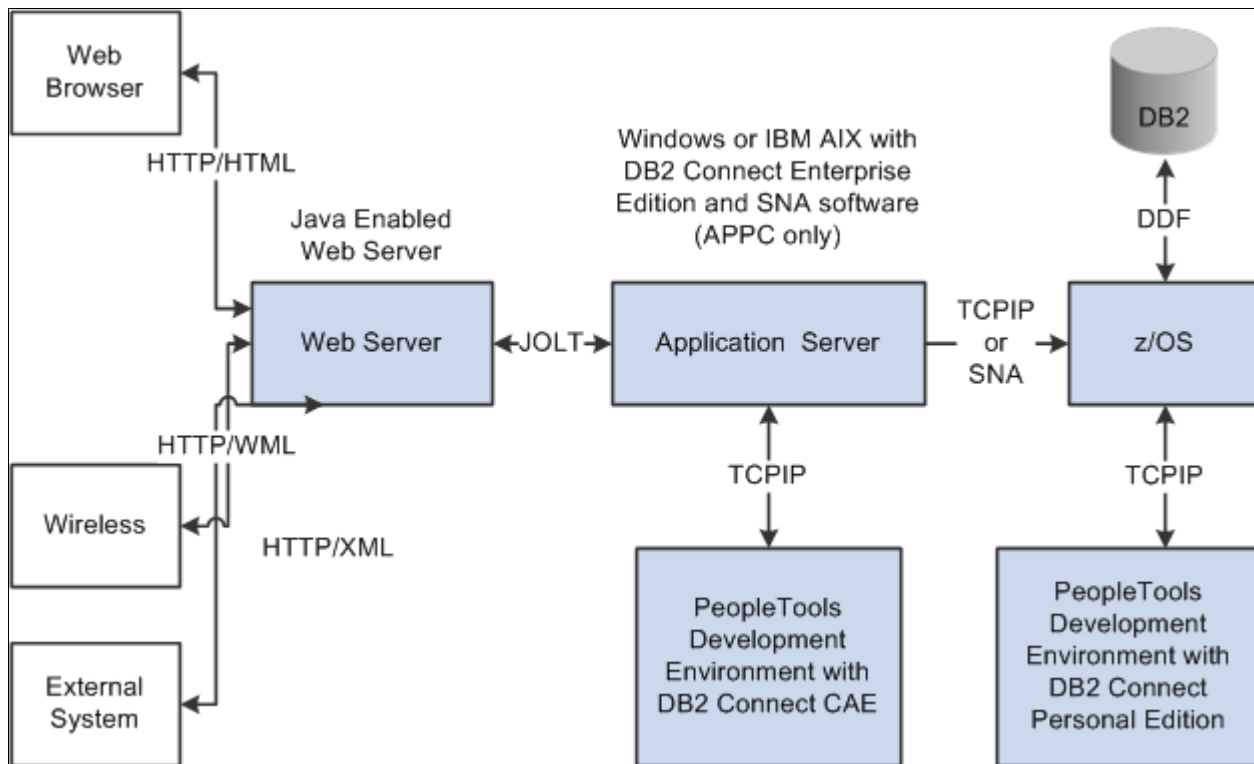
DB2 Connect Personal Edition allows direct TCP/IP connection to the host with no gateway requirement.

Defining PeopleSoft Three-Tier Configuration with DB2 Connect

The PeopleSoft application server processes all transactions requested by Windows clients and Web servers and sends SQL to the database server using DB2 Connect. The Oracle Tuxedo middleware product manages all these transactions in the application server. In addition to Tuxedo, the server hosting the PeopleSoft application server must be configured with DB2 Connect Enterprise Edition to establish connectivity to the database server.

On DB2 for z/OS, the application server can be configured either on Microsoft Windows, IBM AIX, Oracle Solaris or HP-UX Itanium. Since all SQL is handled in the application server, it is paramount for performance reasons that the application server machine be connected to the mainframe via Fast Ethernet, Escon channel attached, FDDI, or some comparable network connection that allows maximum through-put.

When connecting with the PeopleSoft three-tier, the individual client workstations do not require DB2 Connect CAE. No connectivity is required on the client machines for PeopleSoft three-tier connectivity; communication between client workstation and application server is handled with Oracle Tuxedo. If clients have specific needs to connect via two-tier (for example, to run Data Mover, client COBOL, perform upgrade steps), they will need to either install DB2 Connect Personal Edition for a direct connection to DDF on the mainframe, or install DB2 Connect CAE and connect to DDF via the DB2 Connect EE gateway. In either case, they will still be connecting via the DB2 Connect option but will not be using the PeopleSoft application server. The following diagram illustrates the difference in the interaction between the various servers when using DB2 Connection Enterprise Edition and a gateway machine, or using DB2 Connect Personal Edition.



Connecting through a gateway machine using DB2 Connection Enterprise Edition and connecting directly using DB2 Connect Personal Edition

Task 18-1: Setting Up DDF on the Mainframe

DDF is one of the DB2 address spaces which allows applications running in a remote application requestor environment that supports IBM's Distributed Relational Database Architecture (DRDA) to access data in a DB2 for OS/390 subsystem. DDF and DB2 Connect communicate with each other using the TCP/IP protocol. The services DDF provides include:

- Receiving client requests from DB2 Connect.
- Performing the proper character conversions when receiving data from DB2.
- Forwarding requests to and receiving responses from DB2 for z/OS.
- Building response messages and returning them to DB2 Connect, which in turn forwards the response messages to the client.
- Managing the communication protocol (TCP/IP) and DB2 for z/OS interaction. This includes maintaining the DB2 for z/OS SQLCA and SQLDA data structures.

- Managing and recovering from exception conditions.

See *IBM's DB2 Administration Guide*

To set up DDF on the mainframe:

1. Use the Change Log Inventory Utility to update the BSDS. The SYSIN DD card should specify the following values:

```
DDF LOCATION=<location name>
LUNAME=<vtam appl id>
PASSWORD=<password>
```

2. Start DDF (-STA DDF).
3. When DB2 is started you should see the LU Name and port number for the DB2 for z/OS Distributed Data Facility (DDF). Look at the DDF startup messages in the system log and you should see information similar to the following:

```
DSNL004I %Z DDF START COMPLETE
LOCATION DB2DSNZ
LU NETA.DB2APPLZ
GENERICLU -NONE
DOMAIN sysaoe.peoplesoft.com
TCPPORT 5070
RESPORT 5071
```

Task 18-2: Configuring TCP/IP on the Client

Use the following procedure to configure TCP/IP on the client.

1. Obtain the host name or IP address of the z/OS server that you will be connecting to. You may need to contact your network administrator to obtain the IP address. You can test the IP address by attempting to ping it using the `ping hostname` command.

```
C:\ping hostname
PING hostname.example.com: (207.135.44.20): 56 data bytes
64 bytes from 207.135.44.99: icmp_seq=0 ttl=56 time=10 ms
64 bytes from 207.135.44.99: icmp_seq=1 ttl=56 time=5 ms
64 bytes from 207.135.44.99: icmp_seq=2 ttl=56 time=9 ms
64 bytes from 207.135.44.99: icmp_seq=3 ttl=56 time=5 ms
```

You can also obtain the host's IP address by entering TSO NETSTAT HOME from the z/OS server.

2. Obtain the Port number to use to connect to target DB2 subsystem. The port number must be a unique value and can be obtained by looking in DB2MSTR at the DDF startup. The parameter TCPPORT identifies the port used for that DB2 subsystem. You may need to contact your database administrator for TCPPORT used by DDF at startup.
3. Catalog a TCP/IP Node.

Note. The TCPIP Node will automatically get cataloged when you create a Database Alias via the Client Configuration Assistant. In the previous release of the product, known as DDCCS, the TCPIP Nodes had to be cataloged manually using the steps below. Manually cataloging the Nodes is no longer the only option. You may skip this step if using the Client Configuration Assistant. To see the Nodes that are currently cataloged, type the following line in Command Line Processor: `Db2 => list node directory`. You can also use the `uncatalog node` command to remove a node catalog.

You must add an entry to the client's node directory to describe the remote node. This entry specifies the node name, the hostname (or *ip_address*), and the port number. To catalog a TCP/IP node, perform the following steps from the Command Line Processor:

```
Db2 => catalog tcpip node node_name remote [hostname|ip_address] server=>
[svccname|port_number]
```

For example, to catalog a remote server with the IP Name MVSPTOWN on the node called *DB2DSNT*, using the port number 5070, enter the following:

```
Db2 => catalog tcpip node DB2DSNT remote MVSPTOWN server 5070
```

4. Catalog the Database.

Note. The Database will automatically get cataloged when you create a Database Alias via the Client Configuration Assistant. In the previous release of the product, known as DDCS, the Database had to be cataloged manually using the steps below. Manually cataloging the database is no longer the only option. You may also skip this step if using the Client Configuration Assistant. To see the Databases that are currently cataloged, enter the following line in Command Line Processor: `Db2 => list database directory`. You can also use the `uncatalog database` command to remove a database catalog.

5. Before a client application can access a remote database, the database must be cataloged on the TCPIP Node.

```
DB2 => catalog database database_name as database_alias at node node_ =>
name
```

For example, to catalog a remote database PT800T8 so that it has the alias *PT800T8*, on the node *DB2DSNT*, enter the following commands:

```
DB2 => catalog database PT800T8 as PT800T8 at node DB2DSNT
```

6. Test connection to database. You can test the connection to the database using the following command:

```
Db2 => connect to database_alias user userid using password
```

For example, to connect to *database_alias* PT800T8 using valid mainframe id PEOPLE1 and password PASSWRD1 then enter the following:

```
Db2 => connect to PT800T8 user PEOPLE1 using PASSWRD1
```

Authentication takes place on the DB2 server, so *userid* and *password* must be valid mainframe ids. If the connection is successful, you will get a message showing the name of the database to which you have connected. This step is synonymous to the TEST button in Client Configuration Assistant. You can now execute SQL statements against the database.

Task 18-3: Configuring the DB2 Connect Gateway on Windows

This section discusses:

- Configuring Database Connectivity on Clients with DB2 Connect Version 9.x or Earlier
- Configuring Database Connectivity on Clients with DB2 Connect Version 10.x or Later
- Configuring an ODBC Data Source for Connectivity on Microsoft Windows (Optional)

Task 18-3-1: Configuring Database Connectivity on Clients with DB2 Connect Version 9.x or Earlier

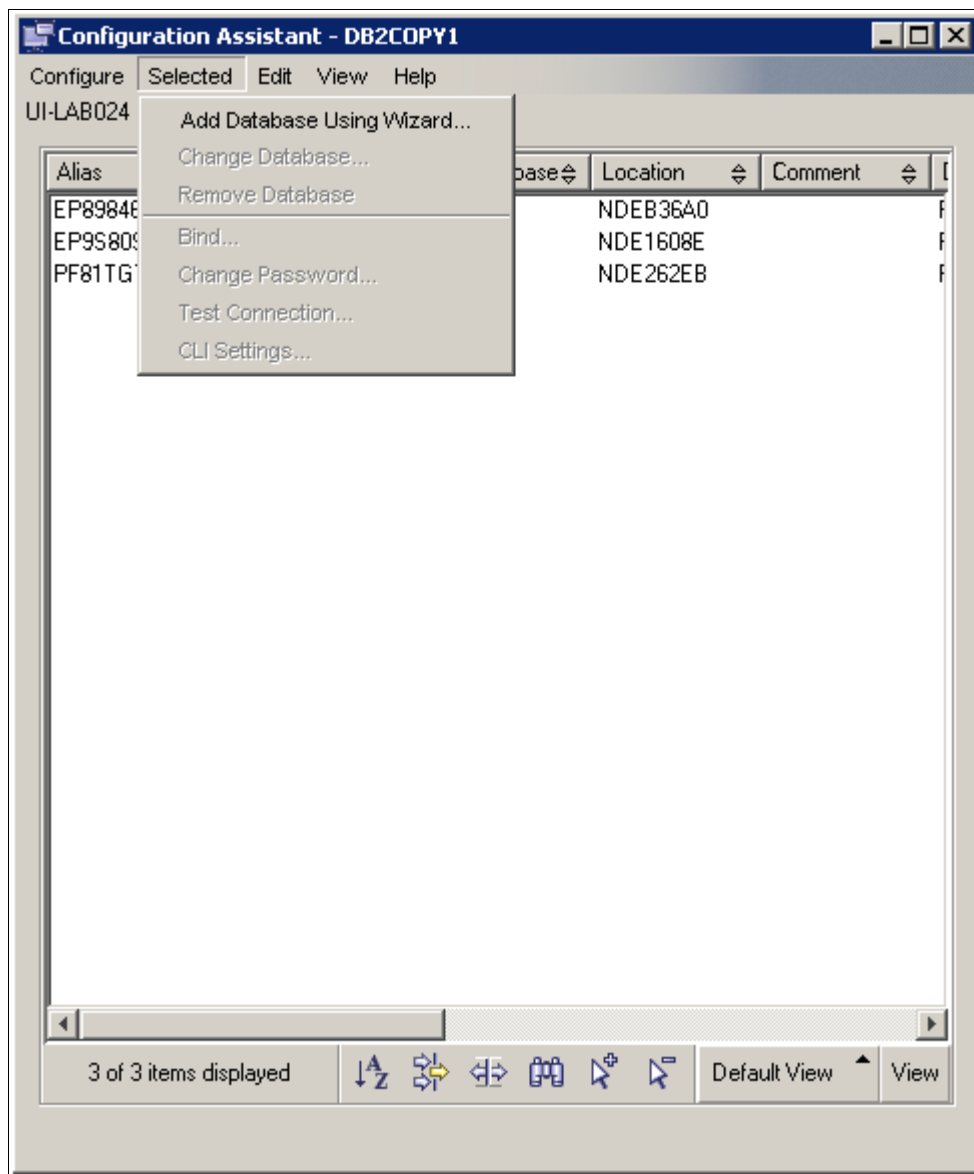
Use the information in this section if you are using DB2 Connect version 9.x or earlier, where x refers to the version number. To install the DB2 Connect Gateway to run properly with PeopleSoft applications, configure the DB2 Database in Client Configuration Assistant.

See *DB2 Connect Enterprise Edition Quick Beginnings manual*.

See My Oracle Support, Certifications, for information on supported versions.

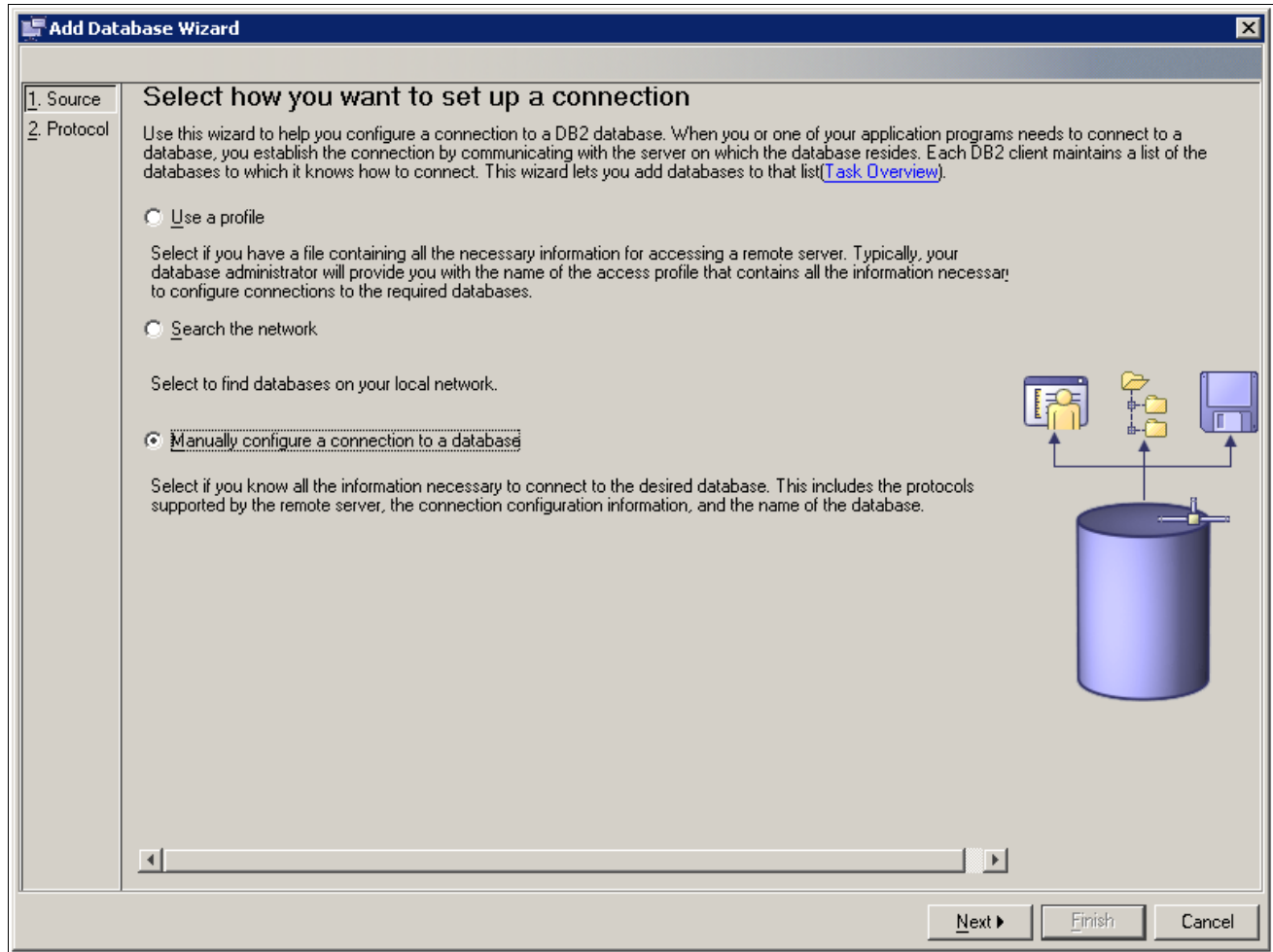
1. Open Configuration Assistant.

On the Selected menu, select Add Database Using Wizard. The Add Database Wizard window opens.



Using the Selected menu on the Configuration Assistant window

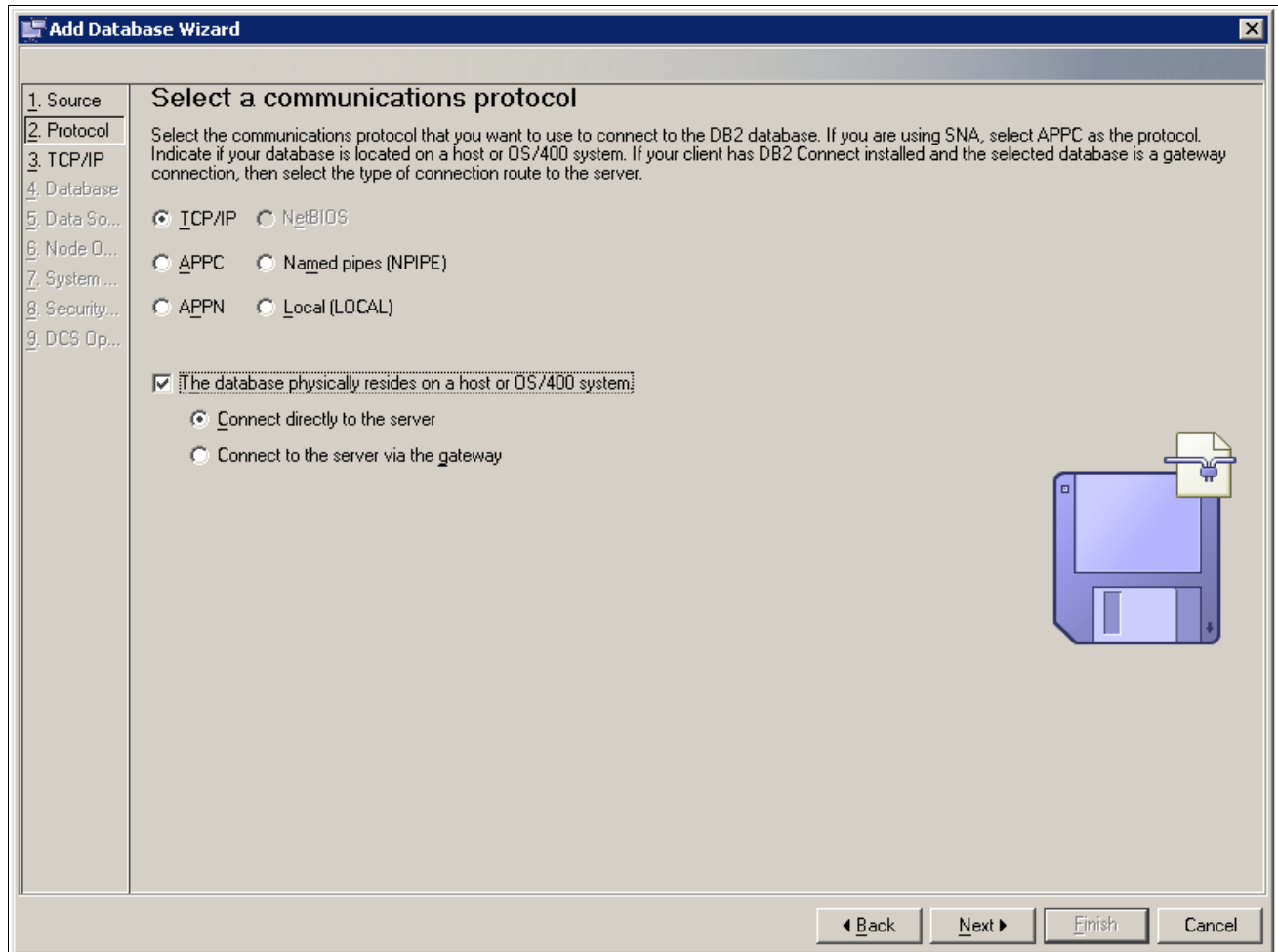
2. Select the radio button **Manually configure a connection to a database**, as shown in this example, and then click **Next** to continue.



Selecting a connection method on the Add Database Wizard window

3. Select the radio button TCP/IP and select the check box labelled The database physically resides on a host or OS/400 system, as shown in this example.

The Connect directly to the server option is selected by default. Leave this option selected and click the Next button.



Selecting a communications protocol on the Add Database Wizard window

4. Enter either the DNS or IP address of your mainframe in the Host name field.

For the Port number, use the TCP/PORT used to start DDF for the DB2 subsystem that you want to connect to. You may need to consult your systems programmer for this value or you can look in the DB2MSTR log for the DB2 subsystem. In this example, the Host name is SYSH.

Add Database Wizard

1. Source
2. Protocol
3. TCP/IP
4. Database
5. Data Source
6. Node Options
7. System Options
8. Security Options
9. DCS Options

Specify TCP/IP communication parameters

You must provide the communication information required to connect to the database that you want to add. Your database administrator can provide the information necessary to configure communications for a database connection. If you specify a Service name only, there must be an existing service name entry in the TCP/IP services file.

Host name: SYSH

Service name:

Port number: 5174 Retrieve

< Back Next > Finish Cancel

Specifying communication parameters on the Change Database Wizard window

5. Enter the database name defined in your LU in the Target database field in the entry box Database name, which is DB2DS3Z in this example.

For Database alias, enter the name of the database, Q850SYS in this example. Click Next.

Add Database Wizard

1. Source
2. Protocol
3. TCP/IP
4. Datab...
5. Data S...
6. Node ...
7. System...
8. Securit...
9. DCS O...

Specify the name of the database to which you want to connect

You must identify the database to which you are connecting. The database name is dependent on the type of server to which you are connecting. For OS/390 and z/OS databases specify the Location name. For OS/400 databases use the RDB name. For VM/VSE specify the DBNAME. Otherwise use the name of the database on the server.

Database name: DB2DS3Z

Database alias: Q850SYS

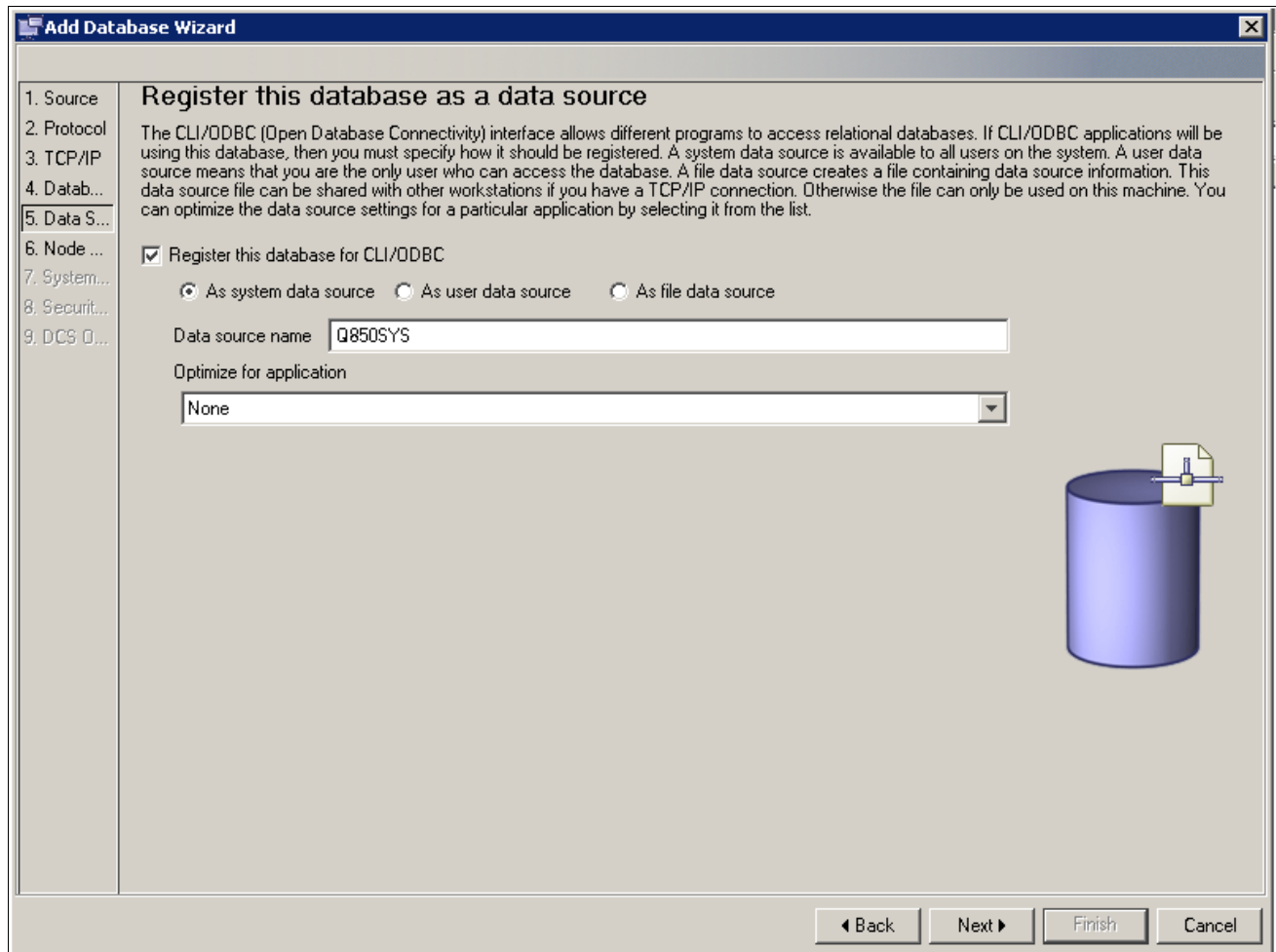
Comment:

Back Next Finish Cancel

Specifying database parameters on the Change Database Wizard window

6. Verify that the check box Register this database for CLI/ODBC and the radio button As system data source are selected, as shown in this example.

Click Next.



Registering the database on the Change Database Wizard window

7. Select *OS/390 or z/OS* in the Operating system drop-down list box, shown in this example, and then click Next.

Add Database Wizard

1. Source
2. Protocol
3. TCP/IP
4. Database
5. Data Source
6. Node Options
7. System Options
8. Security Options
9. DCS Options

Specify the node options

You must provide the following information in order to configure the node for the database connection.

Operating system: OS/390 or z/OS

Instance name: DB2

Comment:

Diagram: A database node (cylinder) connected to two database instances (cylinders) and a control panel (rectangle).

Navigation: ◀ Back, Next ▶, Finish, Cancel

Specifying the node options on the Change Database Wizard window

8. Verify that the information in the System name and Host name text boxes is correct, as shown in this example, and then click Next.

Add Database Wizard

Specify the system options

You must provide the following information in order to configure the system for the database connection.

1. Source	System name	SYSH	Discover
2. Protocol	Host name	SYSH	View Details...
3. TCP/IP	Operating system	OS/390 or z/OS	
4. Datab...	Comment		

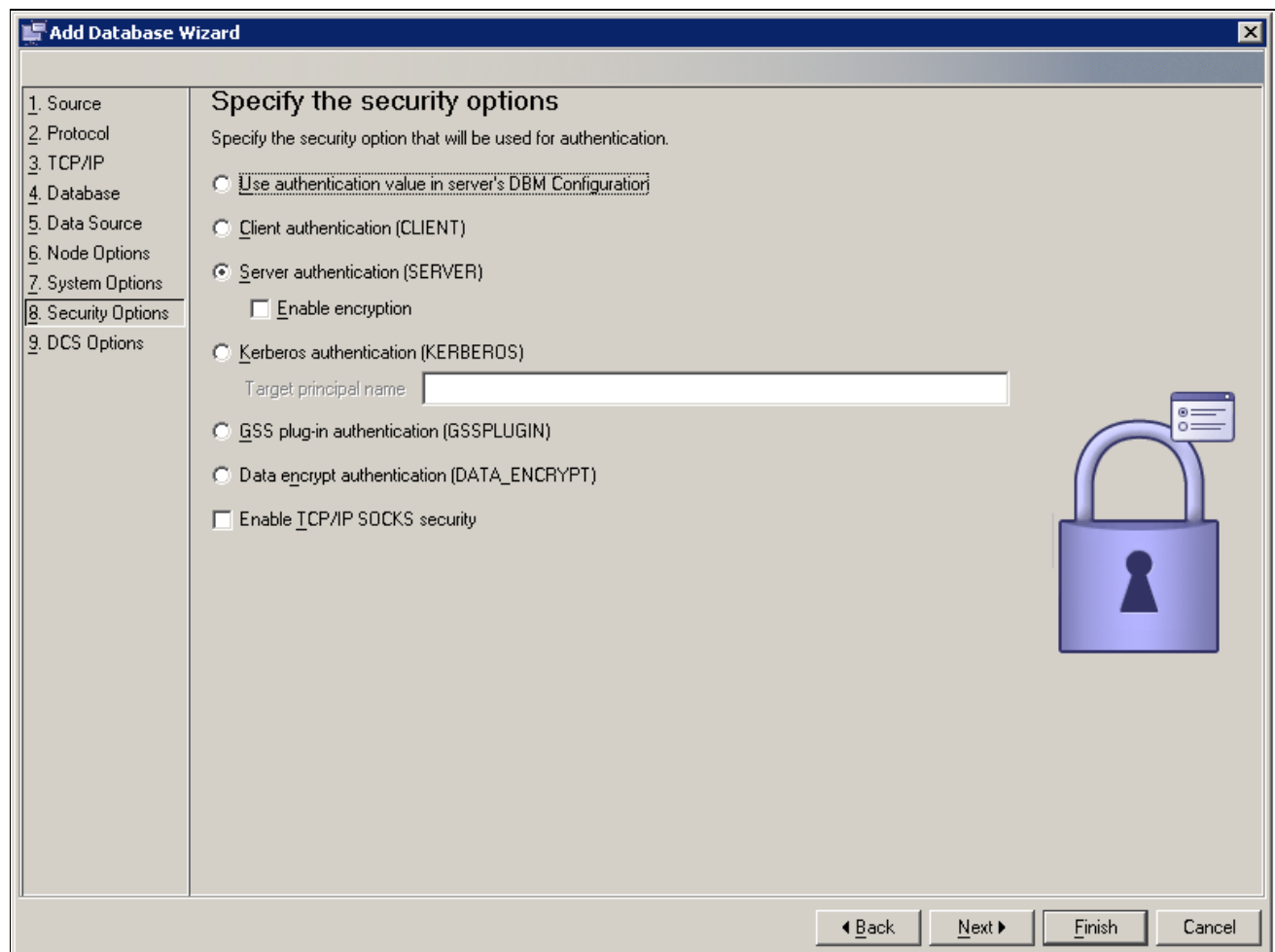
5. Data S...
6. Node ...
7. System...
8. Securit...
9. DCS O...

Navigation buttons: ◀ Back, Next ▶, Finish, Cancel

Verifying System name and Host name in the Change Database Wizard window

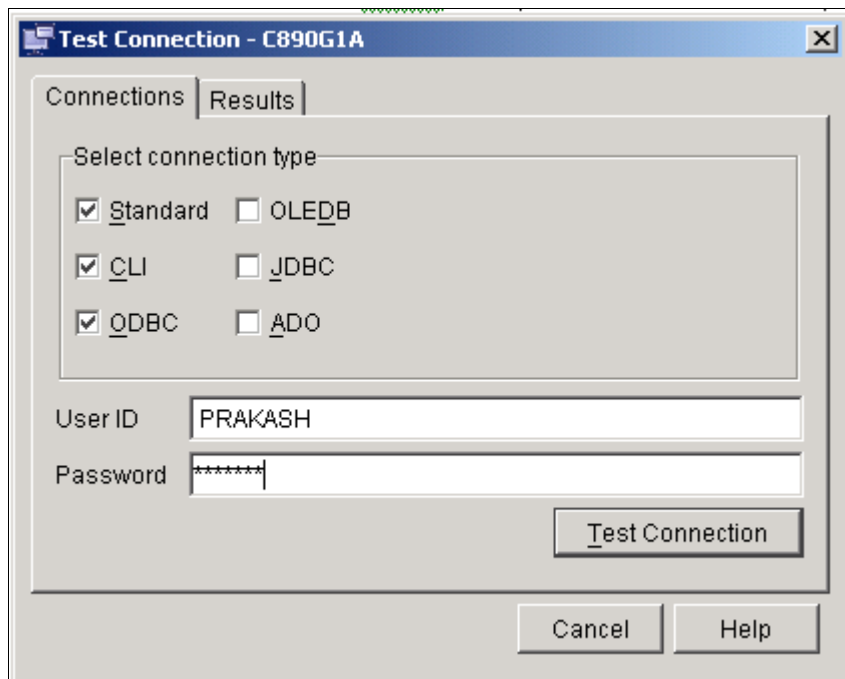
9. Make sure that the radio button Server authentication (SERVER) is selected and click Finish.

Note. No changes are required on the DCS Options page.



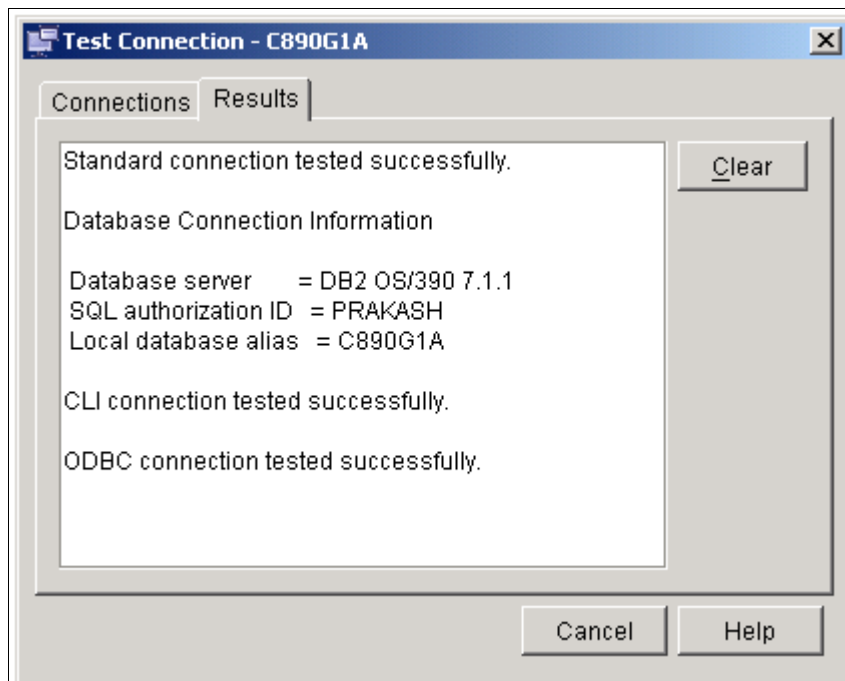
Specifying security options on the Change Database Wizard window

10. Enter User ID and Password and click Test Connection on the Test Connection dialog box, as shown in this example:



Test Connection dialog box: Connections tab

Confirm that the connection test was successful by selecting the Results tab, as shown in this example. You are now ready to use your entry to create or access a PeopleSoft database.



Test Connection dialog box: Results tab

It may be necessary to bind the packages for DB2 Connect to the DRDA server for the first connection.

See [Binding DB2 Connect Packages for an EBCDIC Installation](#) or [Binding DB2 Connect Packages for an Unicode Installation](#).

Task 18-3-2: Configuring Database Connectivity on Clients with DB2 Connect Version 10.x or Later

This section discusses:

- Understanding Database Connectivity Configuration with DB2 Connect Version 10.x or Later
- Prerequisites
- Configuring the Database Connectivity with the DB2 Command

Understanding Database Connectivity Configuration with DB2 Connect Version 10.x or Later

If you are using DB2 Connect version 10.x or later (where x refers to the version number), use these instructions to create and update the DB2 database client. Configuration Assistant has been deprecated from version 10.x DB2 Connect products. Therefore configuring the database client must be done manually using the db2 command.

See [My Oracle Support, Certifications](#), for information on supported versions.

The configuration of the DB2 Connect Client Directory described in this section updates the following:

- TCPIP node directory
- Database directory
- DCS directory

Prerequisites

Before beginning this configuration, be sure you have the following information:

- z/OS system host name
- DB2 subsystem name
- DB2 subsystem TCP/IP Port
- TCP/IP Node name

You must assign a TCP/IP Node name.

Configuring the Database Connectivity with the DB2 Command

This section assumes your system has the following resource names:

- ZOS-HOSTNAME = SYSD3
- SUBSYSTEM-NAME = DB2DS5B
- DATABASE-NAME = E853903
- DB-ALIAS = E853903
- DB2-TCPIP-PORT = 5230
- TCPIP-NODE = DS5BNODE

To configure database connectivity:

1. Open a DB2 Command window.
2. Run the following command to update the TCPIP node directory:

```
db2 CATALOG TCPIP NODE <TCPIP-NODE> REMOTE <ZOS-HOSTNAME> SERVER <DB2-=>
TCPIP-PORT>
```

For example, using the resource names above:

```
db2 CATALOG TCPIP NODE DS5BNODE REMOTE SYSD3 SERVER 5230
```

3. Run the following command to update the database directory:

```
db2 CATALOG DATABASE <DATABASE-NAME> AS <DB-ALIAS> AT NODE <TCPIP-NODE>=>
AUTHENTICATION SERVER
```

For example, using the resource names above:

```
db2 CATALOG DATABASE E853903 AS E853903 AT NODE DS5BNODE AUTHENTICATION=>
SERVER
```

4. Run the following command to update the DCS directory:

```
db2 CATALOG DCS DATABASE <DATABASE-NAME> AS <DB-SUBSYSTEM-NAME>
```

For example, using the resource names above:

```
db2 CATALOG DCS DATABASE E853903 AS DB2DS5B
```

5. Run the following command to end the session:

```
db2 terminate
```

6. Run the following command:

```
db2 connect to E853903 user db2admin using db2admin
```

Task 18-3-3: Configuring an ODBC Data Source for Connectivity on Microsoft Windows (Optional)

This task applies only to installations on Microsoft Windows operating systems. Use these instructions to configure and validate a 64-bit ODBC data source for connectivity to PeopleSoft PeopleTools components including PeopleSoft Application Server, Application Designer and Data Mover.

This section assumes that you have installed a supported version of DB2 Connect.

See My Oracle Support, Certifications

To configure and validate a 64-bit data source for the Application Server, Application Designer, and Data Mover:

1. Select Start, IBM DB2, *instance id*, Command Line Tools, Command Window.

For example, if you accepted the default, *instance id* would be DB2.

The Command Window opens.

2. Run the following command and confirm that the response specifies that the DB2 Connect installation is 64-bit:

```
db2level
```

3. Run the following commands, specifying your DB2 z/OS PeopleSoft database name:

```
db2 catalog system odbc data source <database-name>
db2 terminate
```

4. Run the following command and confirm that your data source for your database is now registered.

```
db2 list system odbc data sources
```

5. To validate the connectivity, start your PeopleSoft Application Server, Application Designer, or Data Mover. You should not get any connectivity errors.

If the 64-bit data source is not properly configured, you see an error. This is an example of an error when starting the PeopleSoft Application Server:

```
PSADMIN.3992 (0) [12/30/11 00:22:52](0) Begin boot attempt on domain⇒
Q8533I1E
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](0) PeopleTools Release 8.53 ⇒
(Windows) starting. Tuxedo server is APPSRV(99)/2
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](0) Cache Directory being used: d:⇒
\pshome\appserv\Q8533I1E\CACHE\PSAPPSRV_2\
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](3) File: SQL Access ManagerSQL⇒
error.
```

```
Stmt #: 2 Error Position: 0 Return: 8600 - [Microsoft][ODBC Driver⇒
Manager]
```

```
The specified DSN contains an architecture mismatch between the Driver⇒
and Application (SQLSTATE IM014) 0
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](1) GenMessageBox(200, 0, M): SQL⇒
Access Manager: File: SQL Access ManagerSQL error. Stmt #: 2 Error⇒
Position: 0 Return: 8600 - [Microsoft][ODBC Driver Manager] The⇒
specified DSN contains an architecture mismatch between the Driver and⇒
Application (SQLSTATE IM014) 0
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](1) GenMessageBox(0, 0, M):⇒
Database Signon: Could not sign on to database Q8533I1E with user⇒
QEDMO.
```

```
PSAPPSRV.3612 (0) [12/30/11 00:23:04](0) Server failed to start
```

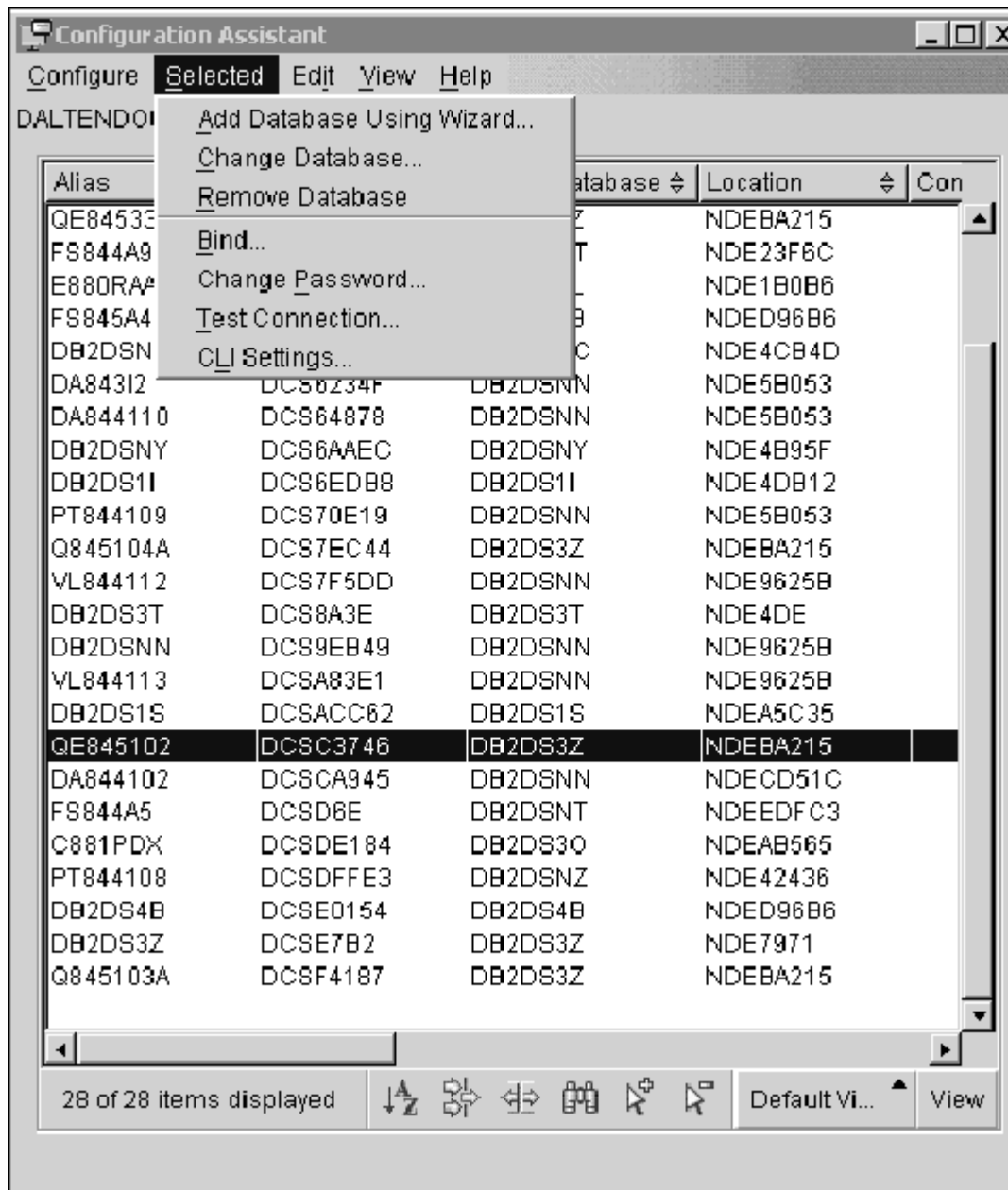
```
PSADMIN.3992 (0) [12/30/11 00:23:11](0) End boot attempt on domain⇒
Q8533I1E
```

Task 18-4: Binding DB2 Connect Packages for an EBCDIC Installation

Use the instructions in this task if you have to bind the packages for DB2 Connect for a EBCDIC installation.

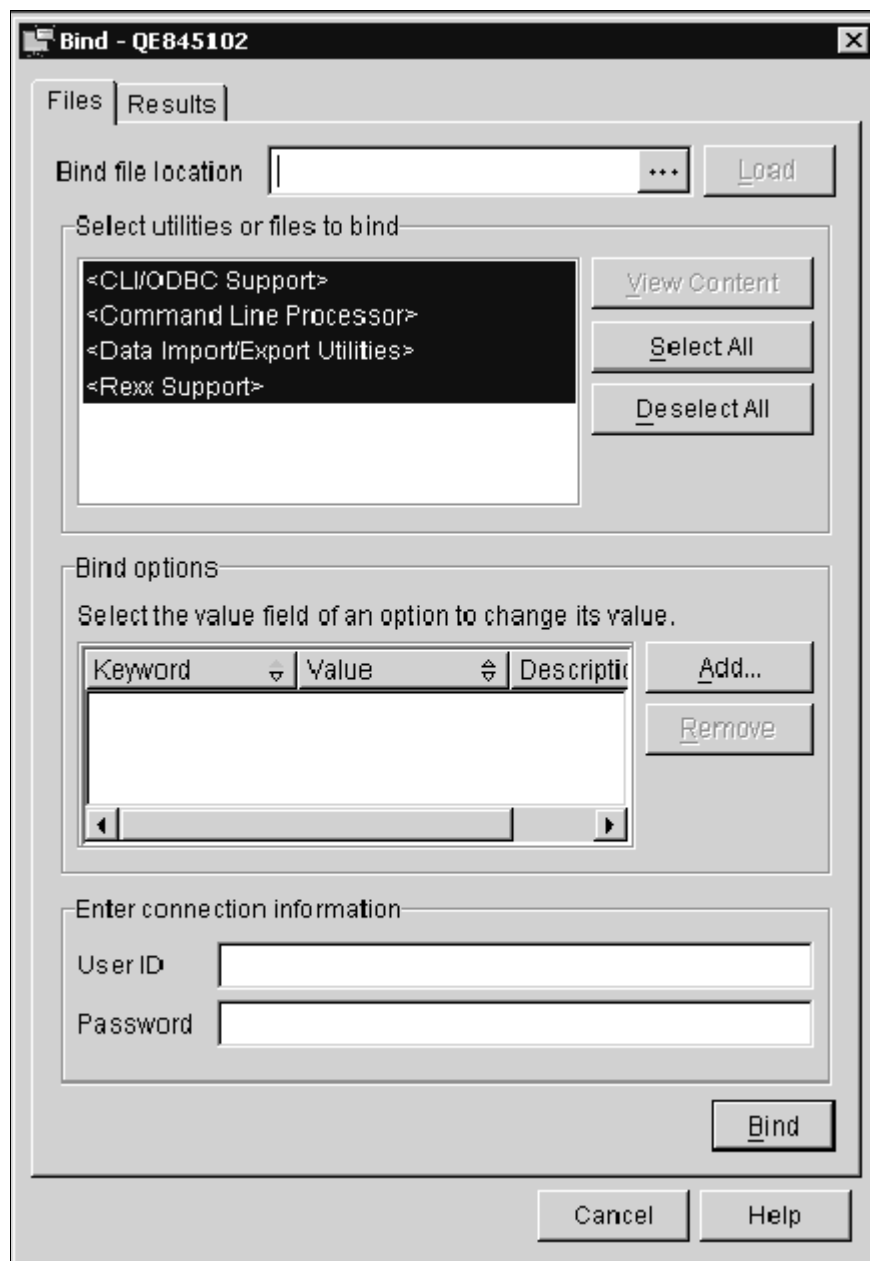
1. Open the Configuration Assistant.

Highlight your database name and select Bind from the Selected menu. The Bind window appears.



Selecting Bind on the Configuration Assistant window

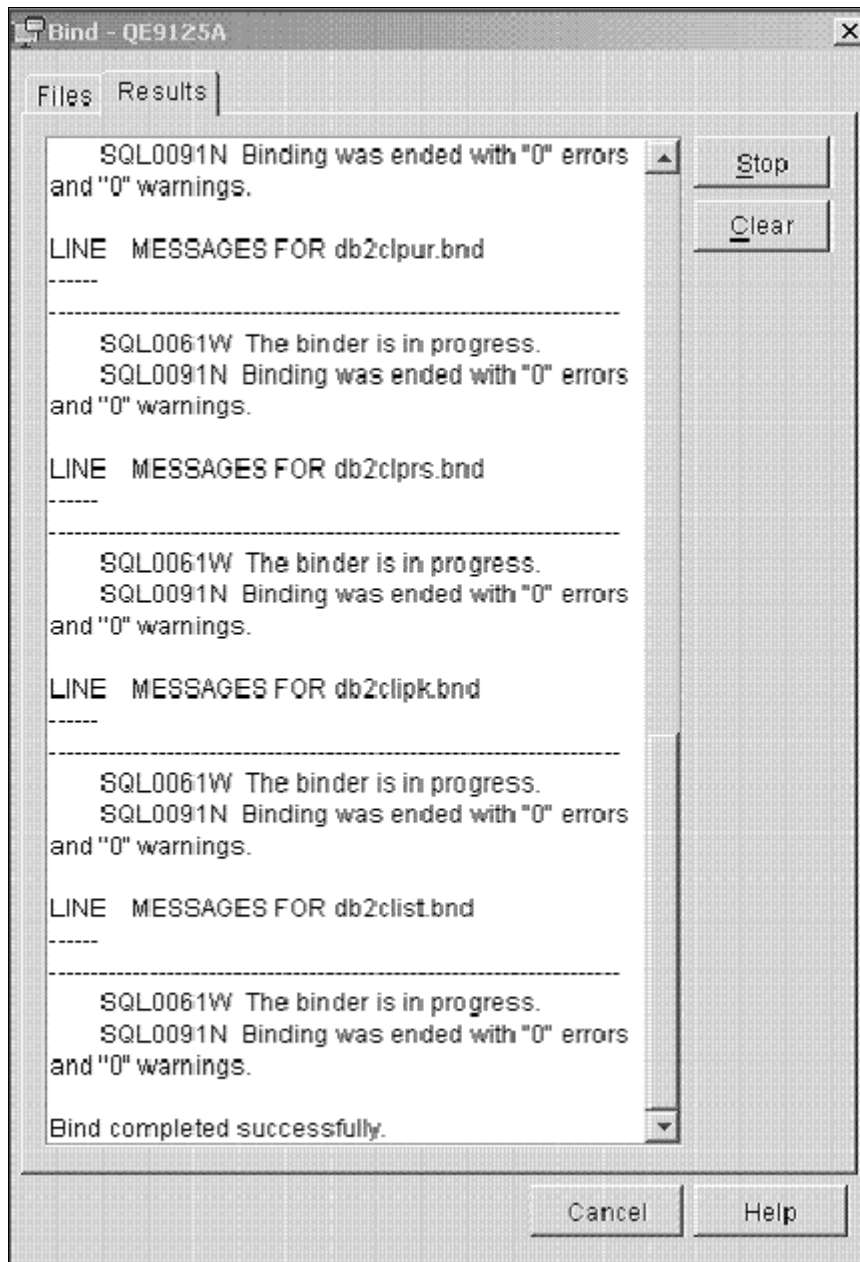
2. Click Select All in the Select utilities or files to bind area, and enter your User ID and password in the Enter connection information area, seen in this example:



Files tab on the Bind window

3. Scroll through the results.

You should see "Bind Completed Successfully" at the bottom, as shown in this example:



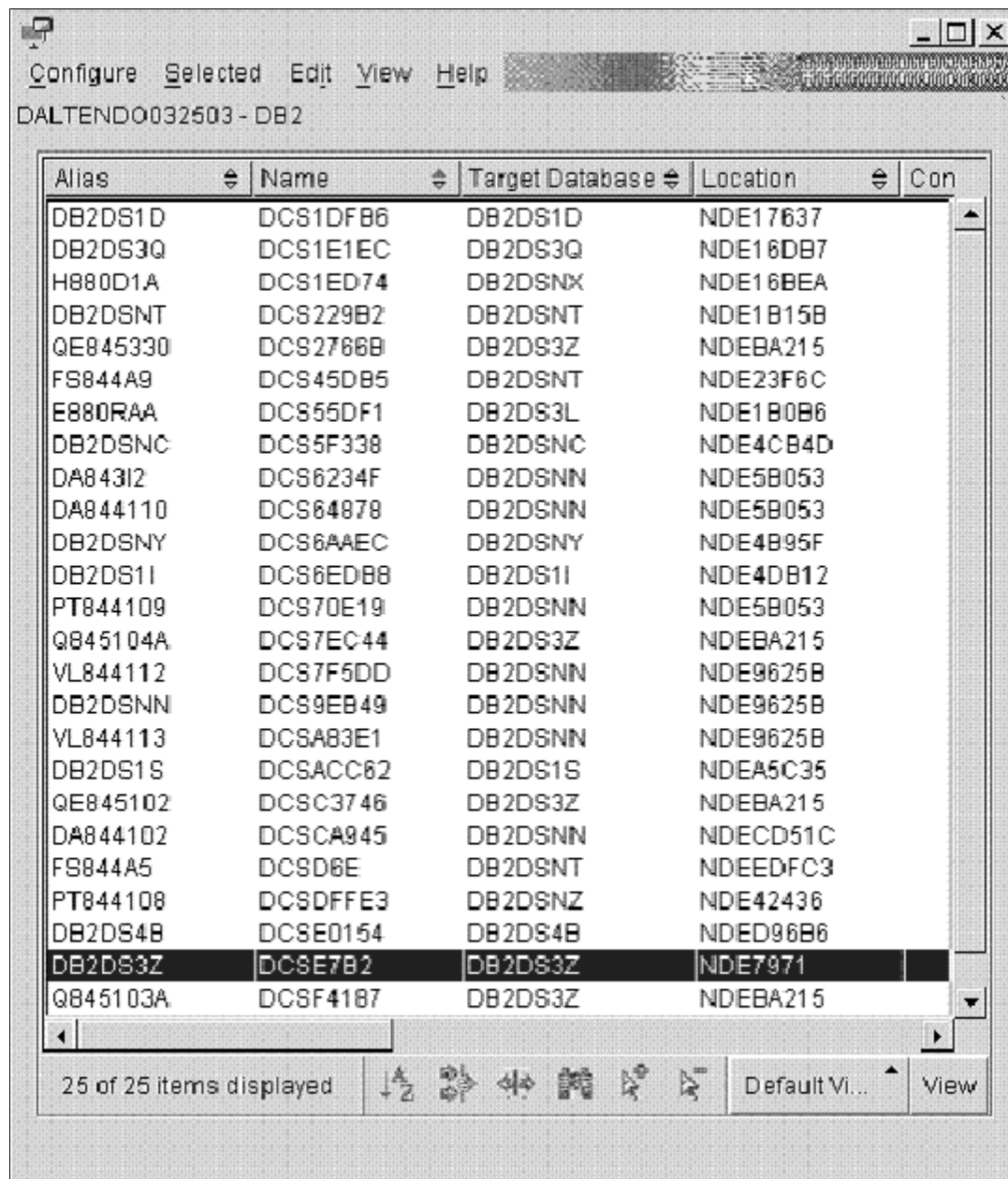
Results tab on the Bind window

Note. You may see some warning messages in the list indicating that some bind options are not valid for all .bnd files. The Configuration Assistant may attempt to bind some Connect packages that are actually specific to the use of DB2 for Linux, UNIX, or Windows and not DB2 for z/OS. *You can ignore these warning messages.*

Task 18-5: Binding DB2 Connect Packages for a Unicode Installation

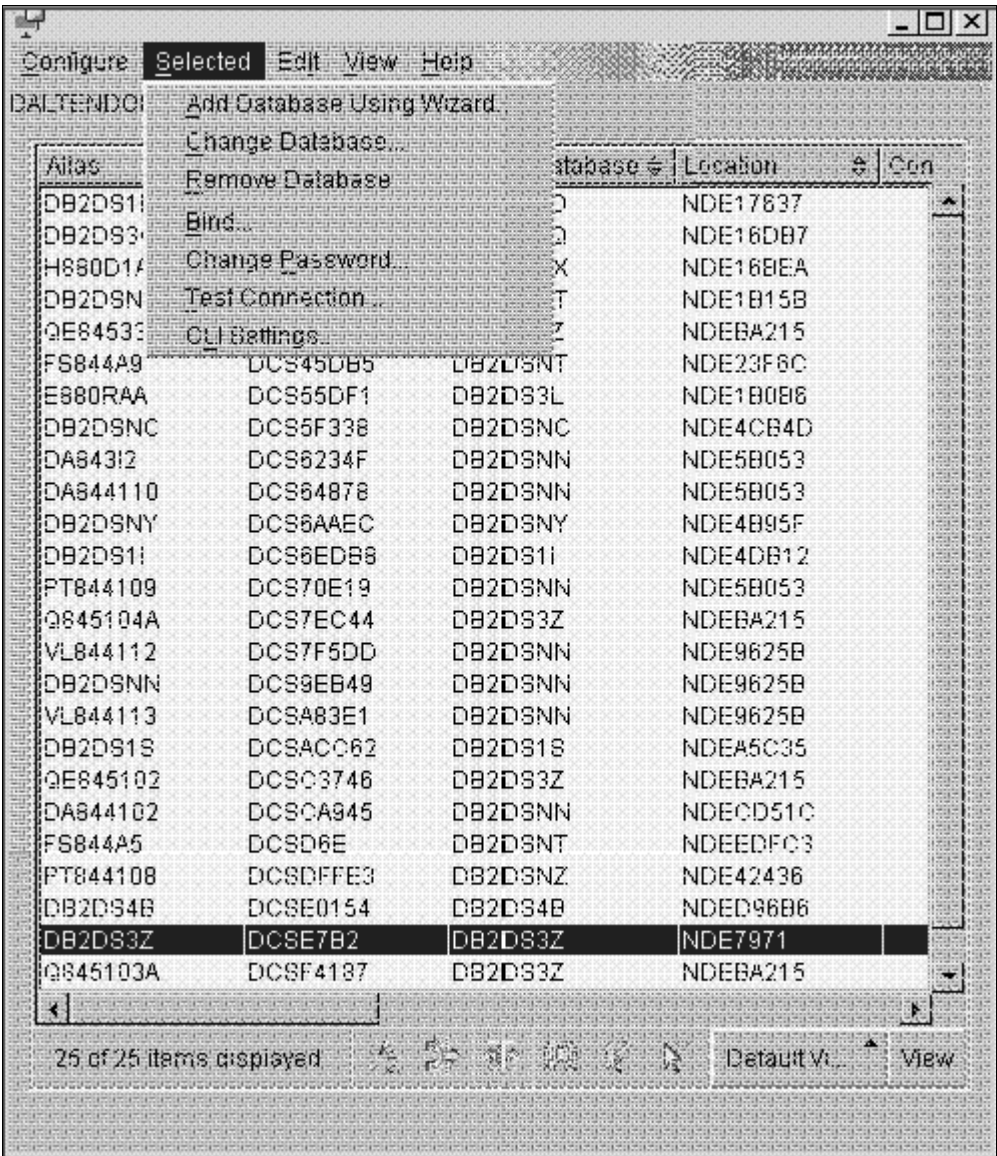
Use the instructions in this task if you have to bind the packages for DB2 Connect for a Unicode installation.

1. Open the Configuration Assistant.



Configuration Assistant window

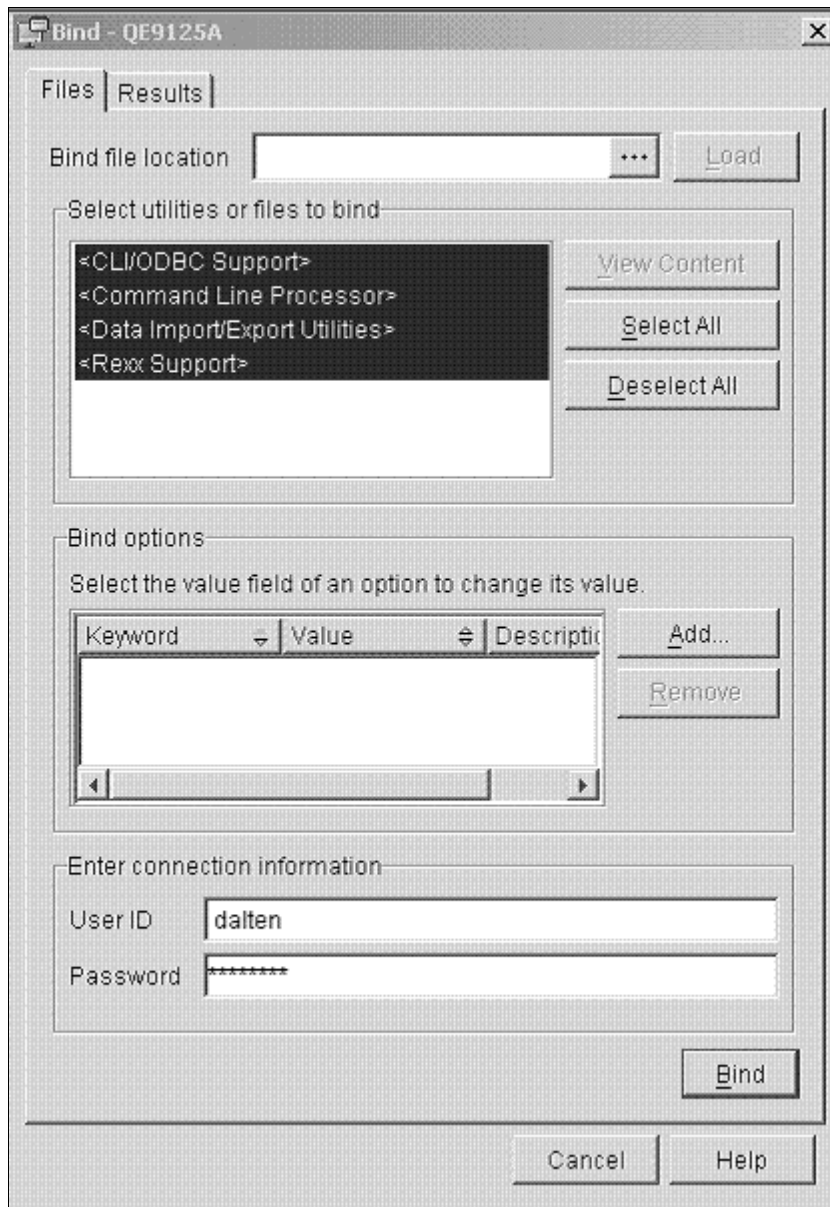
2. Highlight the database and on the Selected menu, select Bind.



Selecting Bind on the Configuration Assistant

3. Enter a valid user ID and password.

In the Select utilities of files to bind area, click Select All and then click Add in the Bind options area.

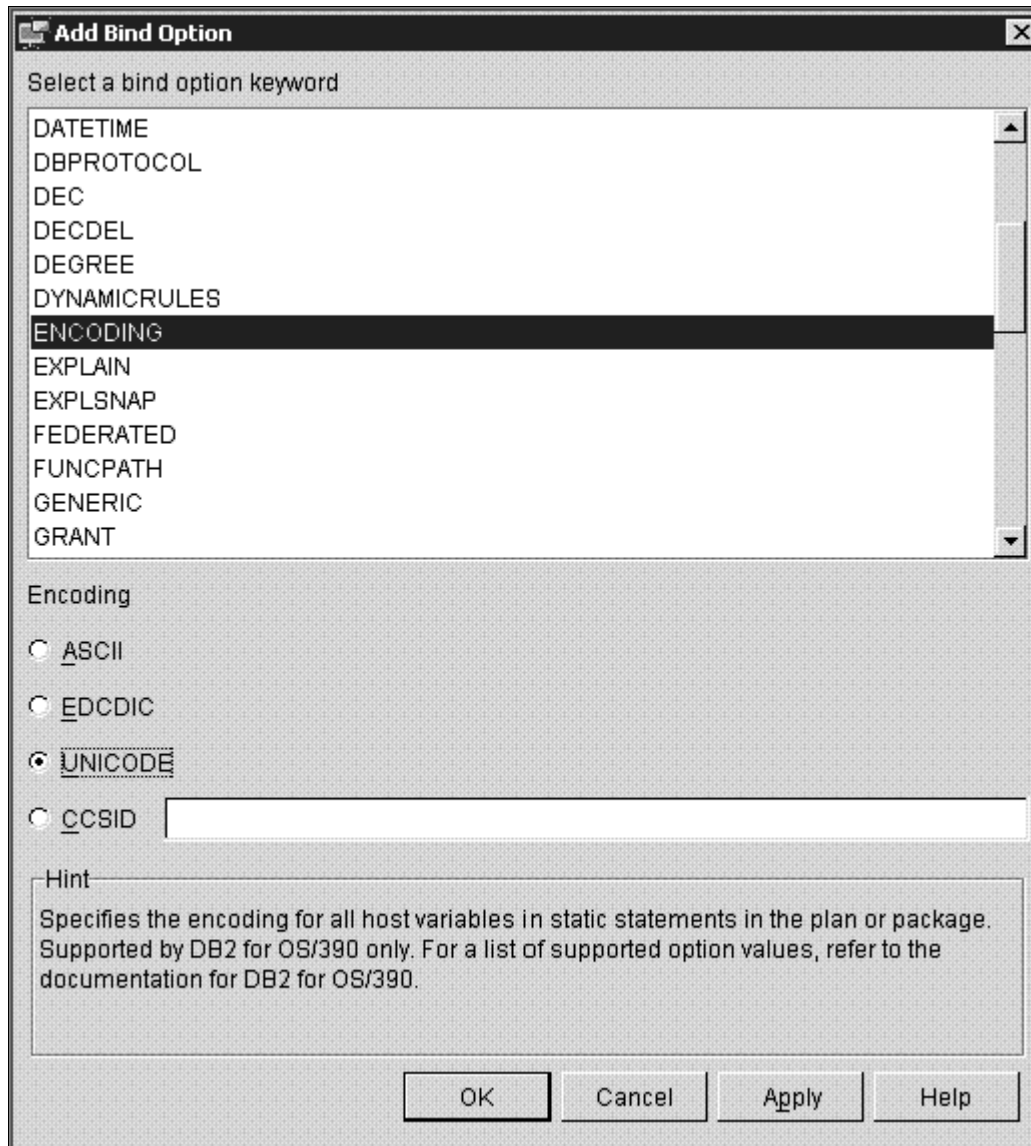


Files tab on the Bind window

The Add Bind Option window appears.

4. Highlight *ENCODING* in the list, and select the UNICODE radio button in the Encoding area, as shown in this example.

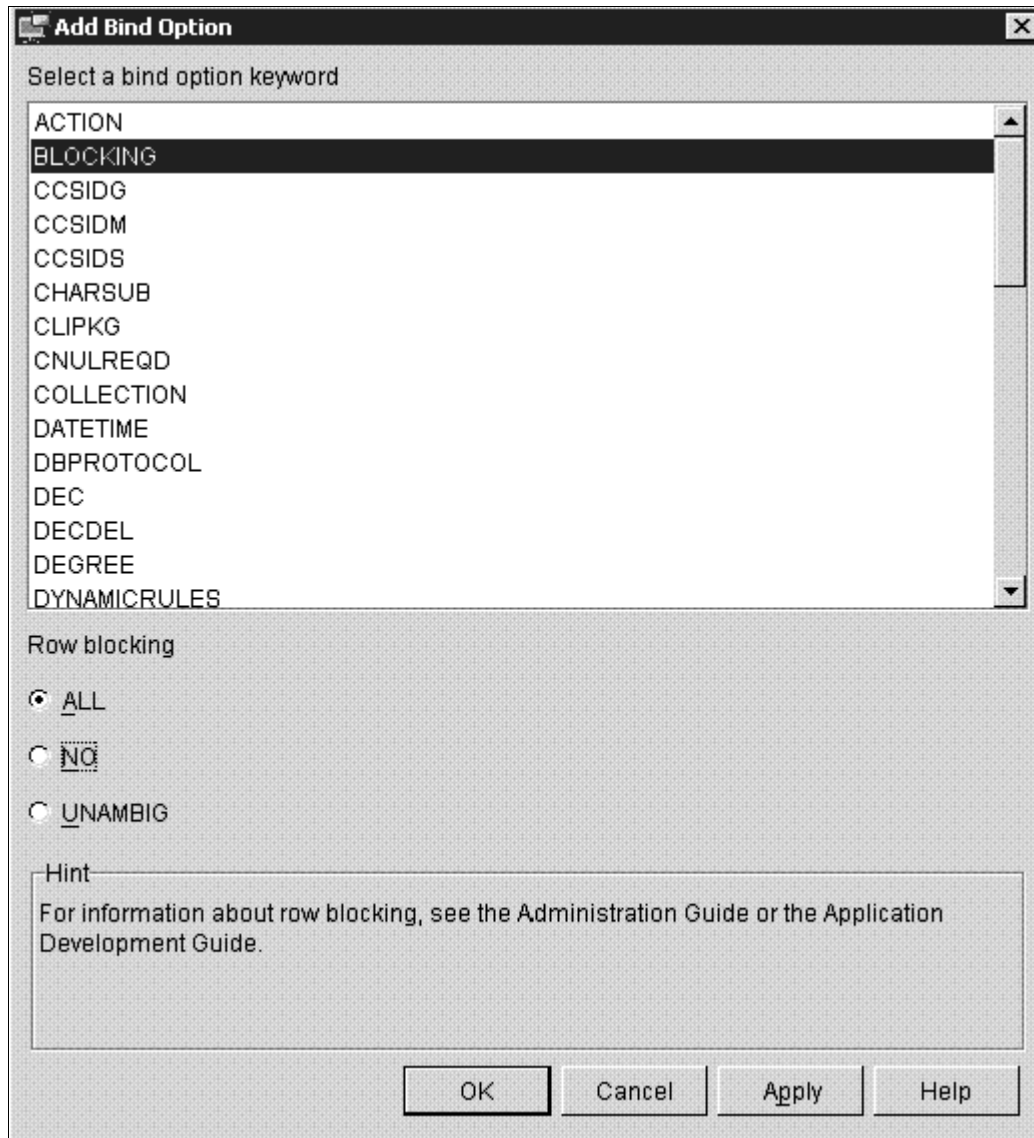
Click Apply.



Specifying encoding on the Add Bind Option window

5. Highlight *BLOCKING* in the list, and select the ALL radio button in the Row blocking area, as shown in this example.

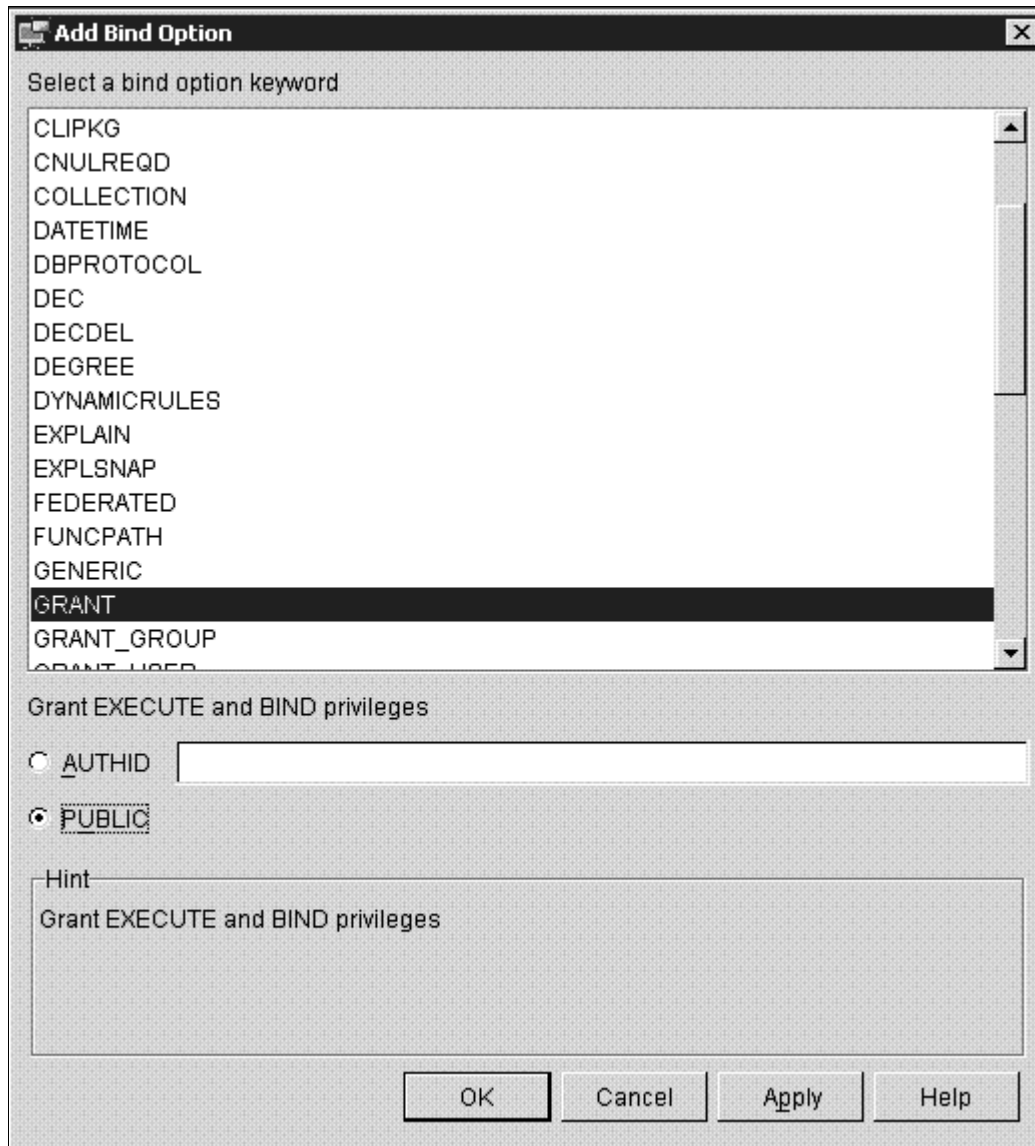
Click Apply.



Specifying row blocking on the Add Bind Option window

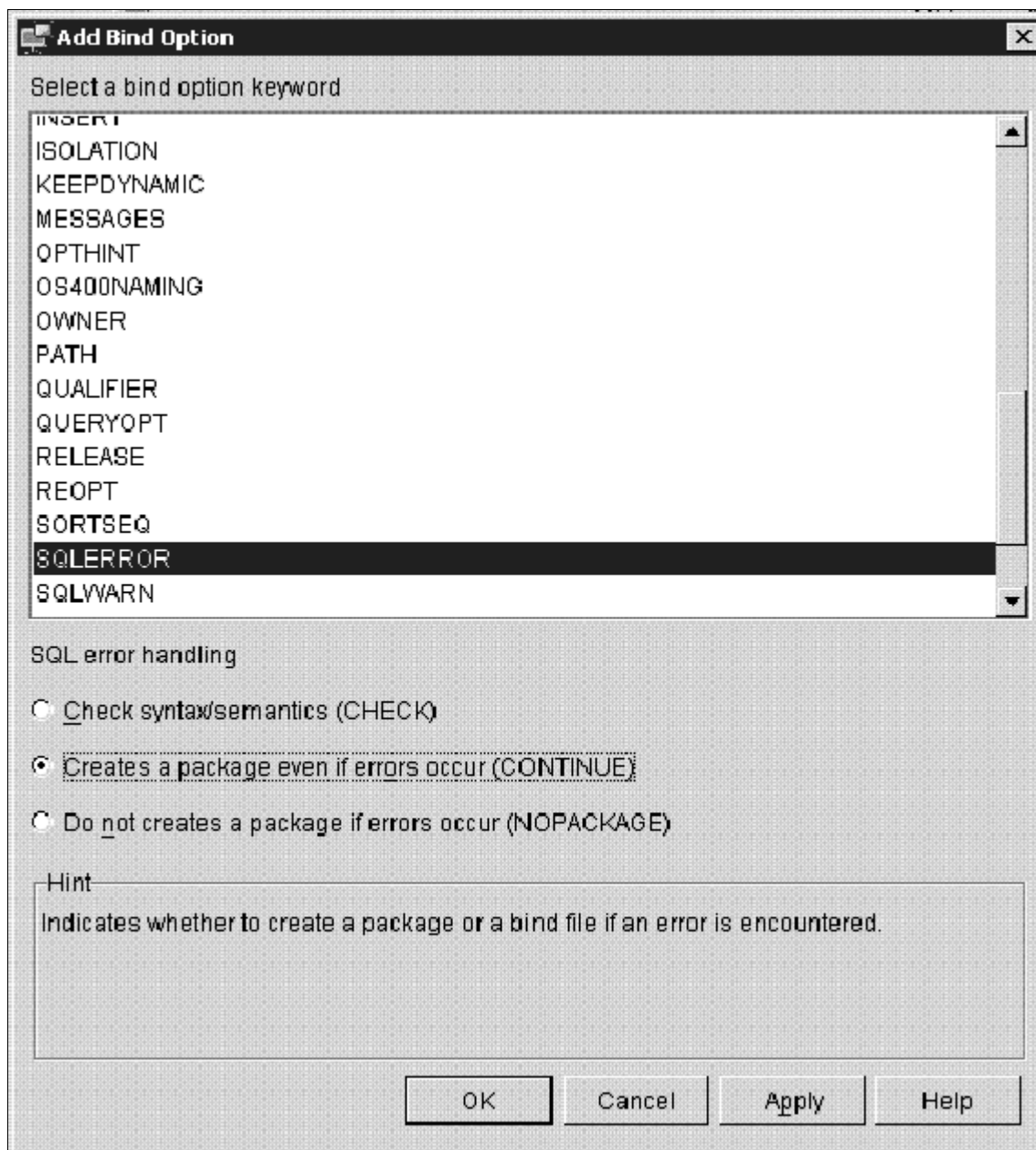
6. Highlight *GRANT* from the list, and select the PUBLIC radio button from the Grant EXECUTE and BIND privileges area, as shown in the example.

Click Apply.



Specifying granting privileges on the Add Bind Option window

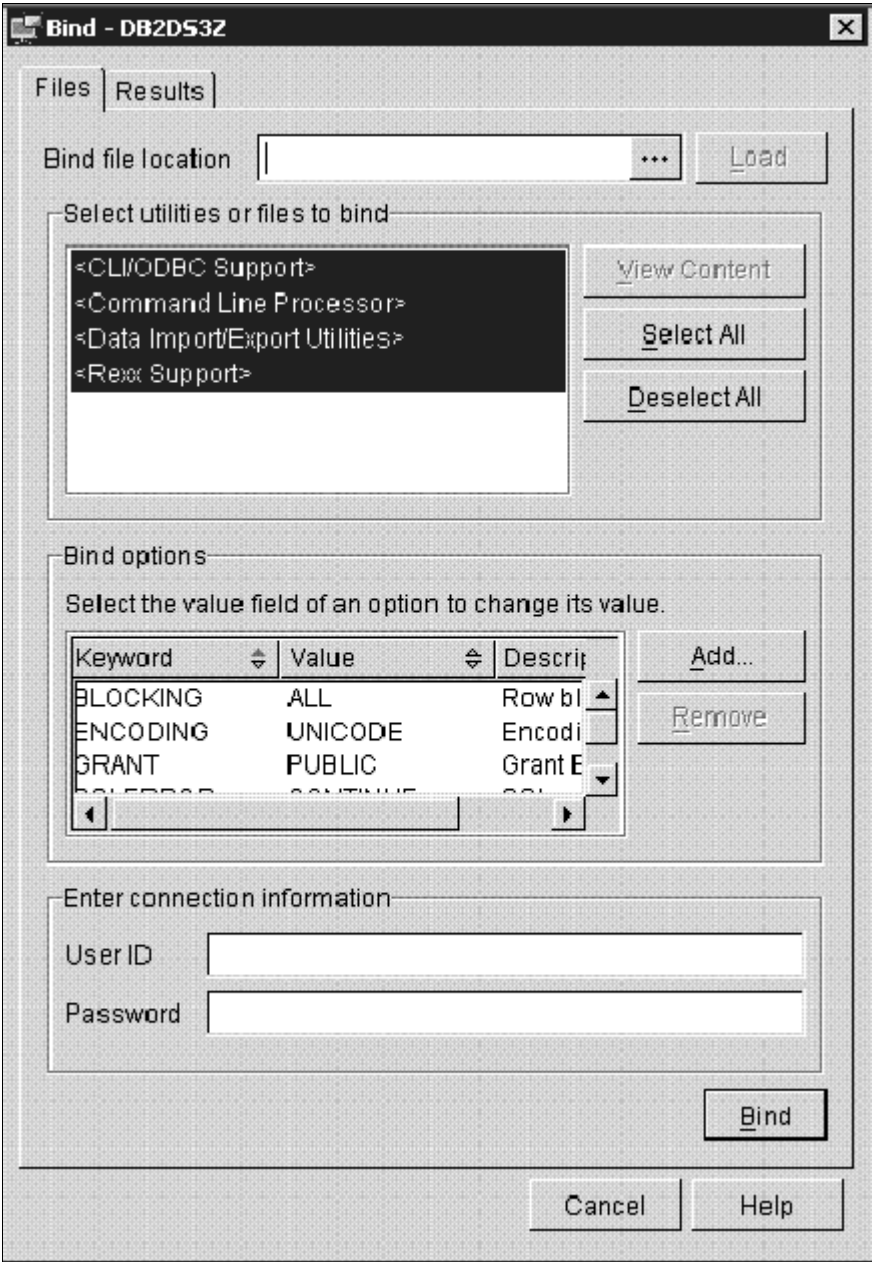
7. Highlight *SQLERROR* in the list, and select the Creates a package even if errors occur (CONTINUE) radio button, as shown in this example:



Specifying SQL error handling on the Add Bind Option window

Click Apply, and then click OK to return to the Bind window.

8. Verify that the Bind options list includes the options you added in the previous steps.



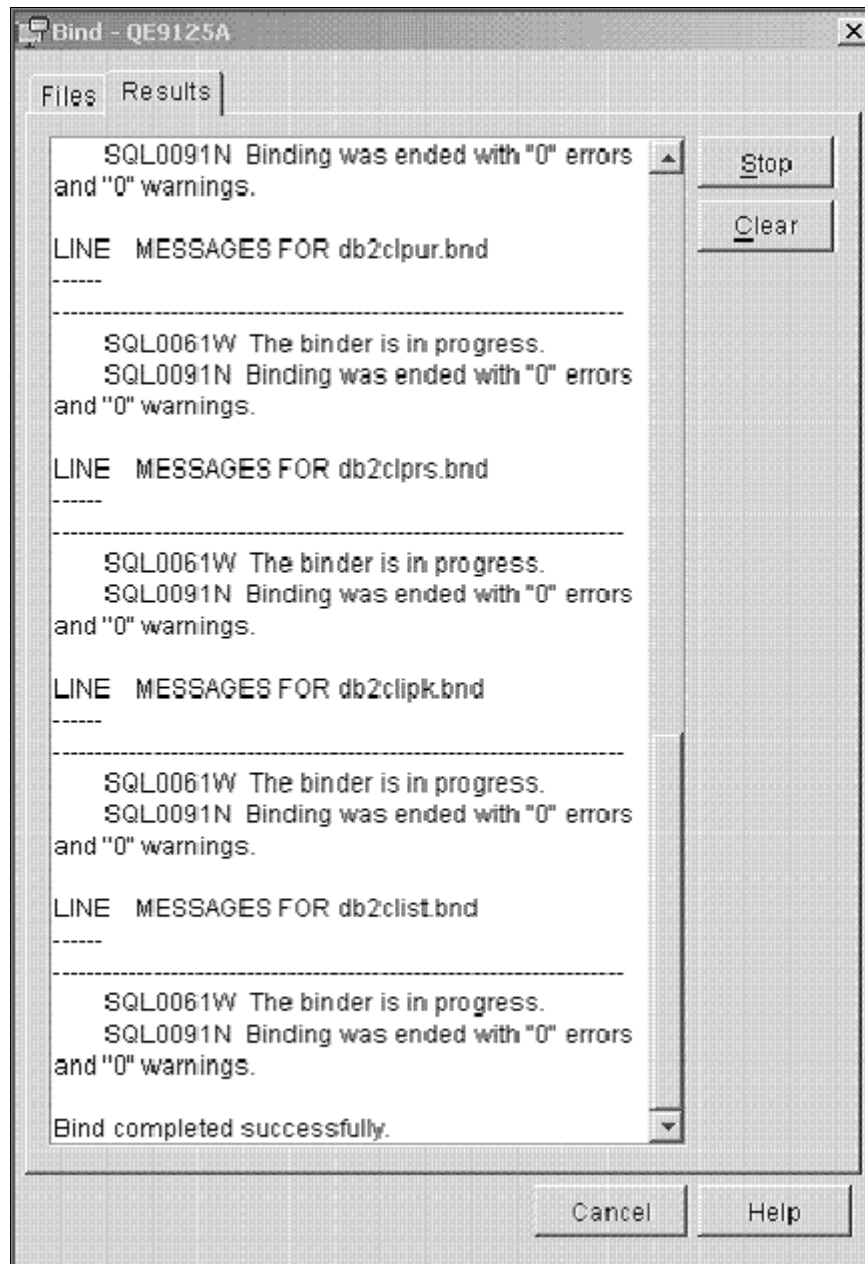
Verifying bind options on the Bind window

The Bind options area lists the following keywords and values:

Keyword	Value
ENCODING	UNICODE
BLOCKING	ALL
GRANT	PUBLIC

Keyword	Value
SQLERROR	CONTINUE

9. Add a user ID and password and click Bind to view the Results tab, as shown in this example:



Verifying results on the Bind window

Note. You may see some warning messages in the list indicating that some bind options are not valid for all .bnd files. The Configuration Assistant may attempt to bind some Connect packages that are actually specific to the use of DB2 for Linux, UNIX, and Windows and not DB2 for z/OS. *You can ignore these warning messages.*

Task 18-6: Binding DB2 Connect Packages for DB2 Connect Version 10 or later

Use the instructions in this task if you have to bind the packages for DB2 Connect version 10.x or later. The DB2 Connect package `ddcsmvs.lst` must be bound using the `db2` command window. The Configuration Assistant is deprecated for DB2 Connect version 10.x.

1. Launch a DB2 Connect Command window.
2. Connect to the database that you want to bind to.

For example, for database E853903, use the following command:

```
db2 connect to E853903 user db2admin using db2admin
```

3. Determine the db2 installation directory by running the `db2level` command.

In this example, the installation directory is `C:\Progra~1\IBM\SQLLIB~2`.

```
db2level
DB21085I This instance or install (instance name, where applicable:⇒
"DB2_02")
uses "64" bits and DB2 code release "SQL10050" with level identifier
"0601010E".
Informational tokens are "DB2 v10.5.0.420", "s130528", "NTX64105", and⇒
Fix Pack
"0".
Product is installed at "C:\PROGRA~1\IBM\SQLLIB~2" with DB2 Copy Name
"DB2COPY3"
```

4. Change directory to the `bnd` directory within the db2 installation directory; for example:

```
cd C:\PROGRA~1\IBM\SQLLIB~2\bnd
```

5. Run the following command to bind `ddcsmvs.lst`:

```
db2 bind @ddcsmvs.lst blocking all sqlerror continue messages⇒
ddcsmvs.msg grant public
```

6. Run the following command:

```
db2 connect reset
```

Task 18-7: Setting DB2CodePage for a Unicode Database

Use these instructions to set `DB2CodePage` for a Unicode Database.

1. From a command prompt issue the `db2set` command as follows:

```
c:\apps\DB\DB2ODBC8\bin db2set DB2CODEPAGE=1208
```

2. Issue the following command to verify that it has been set:

```
C:\Apps\DB\db2odbc8>db2set -all
```

You should see:

```
[i] DB2CODEPAGE=1208
```

Task 18-8: Setting Up the DB2 Connect Gateway on UNIX

Use this task to set up the DB2 Connect Gateway on UNIX, as required for a UNIX application server or Process Scheduler.

1. The Client Configuration Assistant (CCA) helps you manage your database connections to remote servers. This is the preferred method to set up any Windows client to communicate with a server. You can use the Command Line Processor to set up DB2 clients on any platform and this will be the method used to configure DB2 Connect on the UNIX operating system.
2. If you are using TCP/IP to connect to the z/OS server and to catalog Nodes and Databases for a TCP/IP connection, the procedure is the same.
See Configuring TCP/IP on the Client.
3. Test connection.

From the UNIX command line type the following command:

```
Db2 => connect to database_alias user userid using password
```

For example:

```
Db2 => connect to PT800T9 user PEOPLE1 using PASSWRD1
```

4. It may be necessary to bind the packages for DB2 Connect to the DRDA server for the first connection.
The following is a sample bind of the DB2 Connect packages:

```
Db2 => bind /usr/lpp/db2_05_00/bnd@ddcsmvs.lst action replace blocking=>
all grant public release commit sqlerror continue
```

Task 18-9: Confirming DB2 Connect/ODBC Settings

DB2 Connect reads the DB2CLI.INI file in the \SQLLIB directory to obtain information at connection time. This file contains any overrides that are set via the Client Configuration Assistant when cataloging the database. In past versions of PeopleSoft software and DB2 Connect (formerly DDCS) there have been a number of DB2CLI.INI settings that have been recommended to improve performance.

Note. Use special care when you add settings to the DB2CLI.INI file. DB2 Connect will not inform you if a setting is misspelled; it just disregards the setting and uses the default.

We have made numerous changes to the PeopleSoft software to enable or disable DB2 Connect functionality at runtime that will result in improved performance. One example is the cursorhold setting. In PeopleSoft PeopleTools 8.50 and higher, we are completely controlling the cursorhold setting and we enable cursorhold for batch and disable it for PeopleSoft online activity. The following section lists the settings in the DB2CLI.INI file of special interest to PeopleSoft customers along with the Oracle recommendation:

- DEFERREDPREPARE — Defer Prepare chains together OPEN and PREPARE statements. This reduces network traffic which can have a significant impact in reducing response. DB2 Connect, by default, activates the Defer Prepare when creating new entries through Client Configuration Assistant.

For PeopleSoft software, use the default setting (DEFERREDPREPARE=1). *This is the default setting. It is not necessary to add the setting to your DB2CLI.INI file.*

- **CURSORHOLD** — Cursor Hold determines at what point of the transaction to release a SQL cursor. Deactivating Cursor Hold releases cursors after a transaction has been committed. Programs within the PeopleSoft system control at what point a cursor needs to be released. The DB2 Connect default is Cursor Hold enabled.

For PeopleSoft software, use default setting (CURSORHOLD=1). *This is the default setting. It is not necessary to add the setting to your DB2CLI.INI file.*

- **DISABLEKEYSETCURSOR** — Support for Keyset cursors was introduced in DB2 Connect 6.1. PeopleSoft PeopleTools testing has found a very high overhead in DB2 Connect when Keyset cursors are enabled. PeopleSoft PeopleTools uses forward cursors rather than Keyset cursors, so this extra overhead is not justified for PeopleSoft systems.

For PeopleSoft software, override the default setting by adding DISABLEKEYSETCURSOR=1 in DB2CLI.INI.

Note. In a Keyset Cursor, the membership and order of rows in the result set are fixed at cursor-open time. Keyset cursors are controlled by a set of unique identifiers (keys) known as the Keyset. The keys are built from a set of columns that uniquely identify the rows in the result set. Changes to data values in non-Keyset columns (made by the cursor owner or committed by other users) are visible as the user scrolls through the cursor.

Note. If a change disqualifies a row for membership or affects the order of a row, the row does not disappear or move unless the cursor is closed and reopened. Inserts to the database made outside the cursor are also not visible in the cursor unless the cursor is closed and reopened.

- **DISABLEUNICODE** — This is an undocumented DB2 Connect parameter. DB2 Connect will attempt to communicate with a DB2 z/OS database server via Unicode. If an Unicode conversion service has not been enabled on your mainframe, you will be unable to connect to the database. If ICONV is used for the Unicode conversion, IBM has documented cases in which data corruption has occurred. For this reason, the PeopleSoft installation requires that the DISABLEUNICODE=1 parameter be used to suppress DB2 Connect from communicating in Unicode, and use ANSI instead. The default is enabled. The PeopleSoft installation requires adding DISABLEUNICODE=1 to the DB2CLI.INI file.

Note. For a Unicode installation, do not add DISABLEUNICODE=1 to the DB2CLI.INI file.

Note. If you are using DB2 Connect with multiple DB2 platforms (z/OS, Linux, UNIX, or Microsoft Windows), add this statement to the stanzas pertaining to each individual DB2 z/OS database configured in the DB2CLI.INI file. Do not add this parameter to any non-z/OS database configurations, and do not add it to the COMMON stanza. If you are connecting to DB2 z/OS databases exclusively, then you may add this parameter once in the DB2CLI.INI file, in the COMMON stanza.

- **CLI/ODBC Trace settings** — If you want to enable DB2 Connect Trace, you need to add the parameters for turning the trace *On* in the [Common] section only. Adding the trace information in a database-specific section will be ignored. So if you turn trace on for any database, the trace gets activated for every database that is catalogued on the workstation.

These are the recommended settings for turning Trace on:

```
[COMMON]
TRACEFLUSH=1
TRACEPATHNAME=C:\TEMP\DB2TRACE\
TRACECOMM=1
TRACE=1      (trace=0 turns the trace OFF)
```

Note. The DB2CLI.INI file contains a section for each database you configure. For example, if you catalog database PT800T1 you will see a [PT800T1] section in the DB2CLI.INI. A convenient way to set an override for all databases is to add it to the [Common] section of the DB2CLI.INI. If you add the overrides to this section, you do not need to add the override for each database because the [Common] section applies to all databases. For example:

[Common]

DISABLEKEYSETCURSOR=1

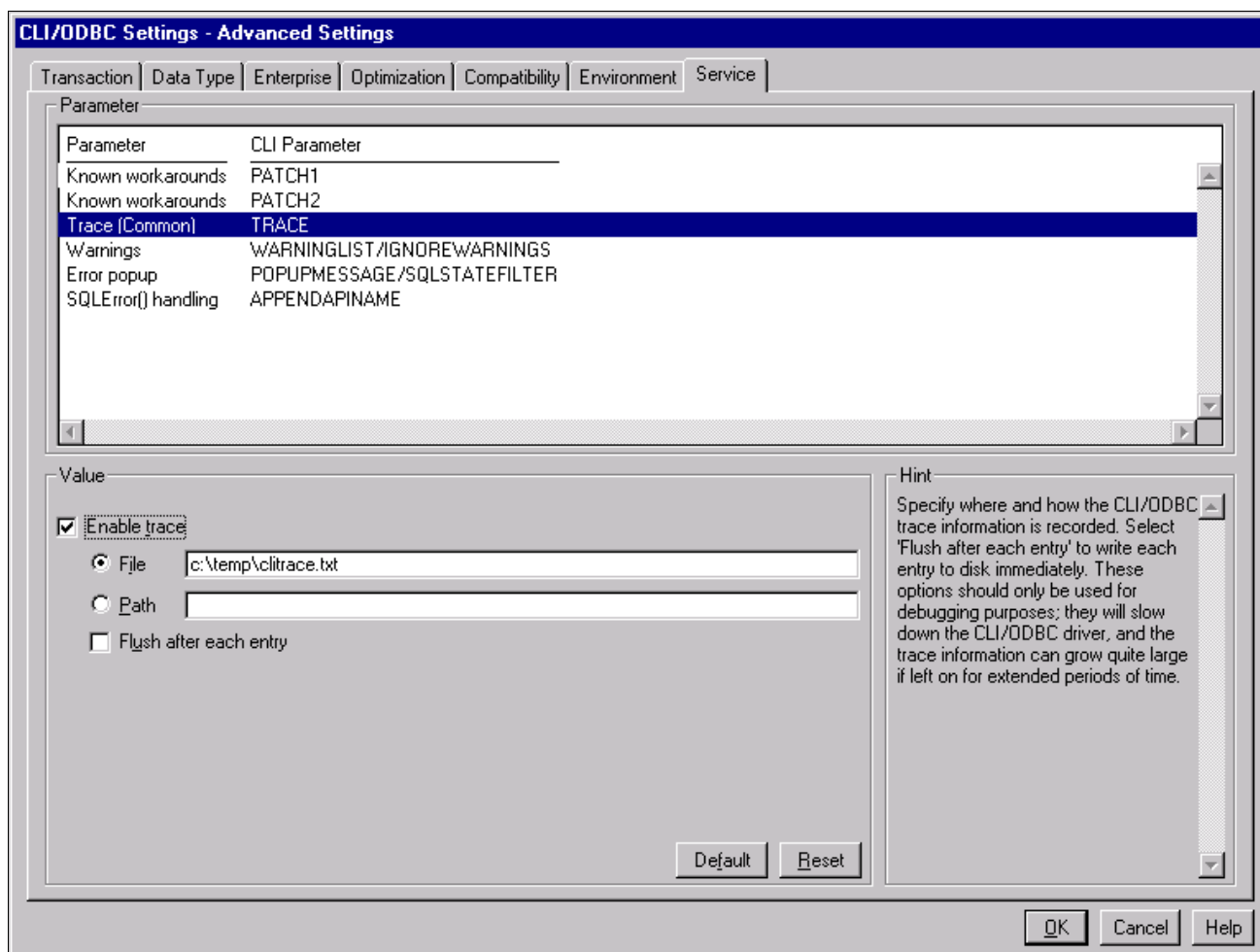
Task 18-10: Setting CLI/ODBC Trace with the Client Configuration Assistant

The DB2 CLI/ODBC trace is a valuable tool for debugging conversations between client workstations and the DB2 for z/OS database server. The trace can be set via the DB2CLI.INI file directly (see the previous section) or via the Client Configuration Assistant. You now need to alter the database settings specific for use with the PeopleSoft database.

To set CLI/ODBC Trace with the Client Configuration Assistant:

1. From the Client Configuration Assistant panel, highlight the database entry you just added and click on the Properties button. This brings up the Database Properties panel.
2. Click on the Settings button. This will give you the DB2 Message box requesting you to connect to the data source.
3. Choose No. This will take you to the CLI/ODBC Settings panel.

- Click on the Advanced button to open the Advanced Settings page.



CLI/ODBC Settings - Advanced Settings page: Service tab

- From the Advanced Settings page, verify that you are on the Transaction tab. Select the Service tab and enable the trace.

Select Trace in the Parameter list, select the Enable Trace option, and enter a path and filename in the "To" area to specify where the DB2 CLI/ODBC trace information is recorded, as shown in the example above.

- Click OK to save your changes.
- From here on, click OK until you return to the Client Configuration Assistant panel, and then close it.

Chapter 19

Installing PeopleSoft Change Assistant

This chapter discusses:

- Understanding PeopleSoft Change Assistant
- Using the Change Assistant Setup Script to Install, Upgrade, or Uninstall
- Configuring and Using PeopleSoft Change Assistant
- Validating Change Assistant Settings

Understanding PeopleSoft Change Assistant

Oracle's PeopleSoft Change Assistant is a standalone tool, provided with PeopleSoft PeopleTools, that enables you to assemble and organize the steps necessary to apply patches and fixes for maintenance updates as well as perform PeopleSoft upgrades. You use different modes of Change Assistant to carry out maintenance both for PeopleSoft applications using the PeopleSoft Update Manager, and those using the classic patching method.

To take advantage of all of the Change Assistant features, you must install on a Microsoft Windows-based operating system. On Linux, you can use a command-line version of Change Assistant, and run in Update Manager mode only.

When you run the setup script for the PeopleTools Client DPK, you can choose to install Change Assistant as part of the client installation. If you need to install, upgrade, or remove Change Assistant independently of the PeopleTools Client DPK deployment, use the instructions in this chapter.

See "Deploying the PeopleTools Client DPK."

For the current PeopleSoft PeopleTools release, the Change Assistant installation includes the following features:

- You can run the setup.bat script located in *PS_HOME\setup\PsCA* to install, update, or remove Change Assistant.

The *PS_HOME\setup\PsCA* directory includes setup.bat and a sample response file, resp_file.txt. The *PS_HOME\setup\PsCA* folder is available in both the PeopleTools Client DPK deployment and PeopleTools DPK server deployments.

Note. The *PS_HOME\setup\PsCA* directory includes scripts and files that are reserved for use by the software. You can ignore these files, including silentInstall.bat and CA-silentInstall-response-file.txt.

- You must run from *PS_HOME\setup\PsCA*.

Do not copy the PsCA folder alone to another location and try to install.

- You can specify the installation location on the command line, in response to the script prompts, or in a text file.

If you do not supply the installation location, the script prompts you for the necessary information. To upgrade or remove an existing installation, you run the script with no options, and the script prompts you for the necessary information.

- You can install multiple instances of Change Assistant from the current release on one physical machine.

Note. Multiple instances of Change Assistant can run in parallel on the same machine. However, when configuring Change Assistant, for example to set up update or upgrade jobs, you cannot run multiple instances against the same target database. That is, you cannot specify the same target database on different Change Assistant instances.

See *PeopleTools: Change Assistant and Update Manager*, "Running Multiple Instances of Change Assistant."

- You must remove installations of Change Assistant from PeopleSoft PeopleTools 8.55 or earlier before installing from the current release. Change Assistant from PeopleSoft PeopleTools 8.58 cannot coexist with that from earlier releases.
- You must install each Change Assistant instance in a separate installation location.
- You can remove or upgrade each Change Assistant instance separately.
- When you remove an installation instance, you have the option to save the existing configuration information in a group of files gathered in a zip archive. You can configure Change Assistant at a later time by importing the zip file.

For more information on using Change Assistant for updates and for software upgrades, see the PeopleSoft product documentation.

See Also

PeopleTools: Change Assistant and Update Manager

PeopleTools: Application Designer Lifecycle Management Guide

Task 19-1: Using the Change Assistant Setup Script to Install, Upgrade, or Uninstall

This section discusses:

- Running the Change Assistant Setup Script with Command-Line Parameters
- Running the Change Assistant Setup Script with a Response File
- Running the Change Assistant Setup Script Interactively to Install
- Running the Change Assistant Setup Script Interactively to Upgrade
- Running the Change Assistant Setup Script Interactively to Uninstall
- Using Change Assistant on Linux

Task 19-1-1: Running the Change Assistant Setup Script with Command-Line Parameters

You can use the following command-line parameters with the Change Assistant setup script.

Command-line Parameter	Description
<code>-p <installation_path></code>	Supply the full path for the Change Assistant installation location. If the location includes spaces, surround it with double quotes, such as "C:\PS\Change Assistant".
<code>-t <action_type></code>	Use one of the following value for <action_type>. - NEW or new Create a new Change Assistant instance. - UPGRADE or upgrade Upgrade an existing instance that was installed from the current PeopleSoft PeopleTools release. - UNINSTALL or uninstall Remove an existing Change Assistant instance.
<code>-bkp <backup or no backup></code>	Use one of these values: - BACKUP or backup Create a zip file containing files with configuration information. The backup file, changeassistantcfbak.zip, is saved in the installation location. - NOBACKUP or nobackup Do not create a backup file with the configuration information.
<code>-lp <log_file_location></code>	Specify the full path where you want the log file to be saved.

To use the Change Assistant setup script with command-line options:

1. Open a command prompt and change directory to *PS_HOME\setup\PsCA*.
2. Enter the following command to specify the installation location for a new installation.
For <installation_path>, supply the full path to the location where you want to install Change Assistant.

```
setup.bat -p <installation_path> -t new
```

For example:

```
setup.bat -p "C:\PS\Change Assistant" -t new
```
3. If you want to specify the installation location and a location for the log file, enter the following command.
For <installation_path>, supply the full path to the location where you want to install Change Assistant. For <log_file_location>, supply the full path to the location for the installation log file.

```
setup.bat -p <installation_path> -lp <log_file_location> -t new
```

4. If you want to upgrade an existing installation, enter the following command:

```
setup.bat -t upgrade
```

5. If you want to remove an existing installation, and save a backup, enter the following command:

```
setup.bat -t uninstall -bkp backup
```

See Also

Using Change Assistant on Linux

Task 19-1-2: Running the Change Assistant Setup Script with a Response File

To use the Change Assistant setup script with the installation location in a text file:

1. Open the sample response file *PS_HOME\setup\PsCA\resp_file.txt* for editing, for example in Notepad.
2. Modify the parameter `INSTALL_PATH="C:\PS\Change Assistant"` to specify the desired installation path.

If the installation location includes spaces, enclose it in double quotes. Save the file.

3. Open a command prompt and change directory to *PS_HOME\setup\PsCA*.
4. Run this command:

```
setup.bat -f resp_file.txt
```

Task 19-1-3: Running the Change Assistant Setup Script Interactively to Install

To use the Change Assistant setup script interactively, run without supplying parameters.

1. Open a command prompt and change directory to *PS_HOME\setup\PsCA*.
2. Run the script with no parameters.

```
setup.bat
```

The script checks for a response file and old installations, then prompts you for the necessary information.

3. Enter *1* for New Installation:

```
-----
PeopleSoft Change Assistant
-----
1) New Installation
2) Maintain or Update
q) Quit
Command to execute (1-2, q):1
```

4. Enter an installation location, or accept the default, *C:\PS\Change Assistant*.

```
PeopleSoft will install Change Assistant to the following directory .
Destination Folder [C:\PS\Change Assistant] :
```

5. Wait until the script completes.

```
PeopleSoft Change Assistant Successfully Installed in C:\PS\Change⇒
Assistant
```

Task 19-1-4: Running the Change Assistant Setup Script Interactively to Upgrade

Run the setup script with no parameters to upgrade an existing Change Assistant installation. You can only upgrade an existing Change Assistant instance that was installed from the same, current PeopleTools release. For example, upgrade Change Assistant based on PeopleTools 8.58.09 to Change Assistant based on PeopleTools 8.58.12.

1. Open a command prompt, and change directory to *PS_HOME\setup\PsCA*.

2. Run the script with no parameters:

```
setup.bat
```

3. Enter 2 for Maintain or Update.

```
-----
PeopleSoft Change Assistant
-----
1) New Installation
2) Maintain or Update
q) Quit
Command to execute (1-2, q):2
```

4. Select the instance of Change Assistant to update.

```
Please select the instance of Change Assistant :
1) Change Assistant 1 8.58.03 C:\Program Files\Change Assistant 2
2) Change Assistant 2 8.58.04 C:\Program Files\PeopleSoft\Change⇒
Assistant
3) Change Assistant 3 8.58.09 C:\PS\Change Assistant
q)Quit
Command to execute (1-3, q): 3
Selected
Change Assistant 3 8.58.09 C:\PS\Change Assistant
```

5. Enter 1 to update to the current PeopleTools patch release.

```
Please select the activity :
1) Upgrade Selected Instance
2) Uninstall Selected Instance
q)Quit
Command to execute (1-3, q):1
Selected
Change Assistant 3 8.58.09 C:\PS\Change Assistant
```

6. Enter 1 to upgrade without saving a configuration file.

Alternatively, if you want to retain a configuration file, enter 2 to create a zip file containing files with configuration information. The backup file, *changeassistantcfbak.zip*, is saved in the installation location.

```
Please select the activity :
1)Without Retaining existing configuration
```

```

2) Retaining existing configuration
q) Quit
Command to execute (1-3, q): 1

```

Task 19-1-5: Running the Change Assistant Setup Script Interactively to Uninstall

Run the setup script with no parameters to remove an existing Change Assistant installation.

1. Open a command prompt, and change directory to *PS_HOME\setup\PsCA*.

2. Run the script with no parameters:

```
setup.bat
```

3. Enter 2 for Maintain or Update.

```

-----
PeopleSoft Change Assistant
-----
1) New Installation
2) Maintain or Update
q) Quit
Command to execute (1-2, q): 2

```

4. Select the instance of Change Assistant to remove.

```

Please select the instance of Change Assistant :
1) Change Assistant 1 8.58.03 C:\Program Files\Change Assistant 2
2) Change Assistant 2 8.58.04 C:\Program Files\PeopleSoft\Change=>
   Assistant
3) Change Assistant 3 8.58.12 C:\PS\Change Assistant

q) Quit
Command to execute (1-3, q): 2
Selected
Change Assistant 3 8.58.04 C:\PS\Change Assistant

```

5. Enter 2 to remove the selected instance.

```

Please select the activity :
1) Upgrade Selected Instance
2) Uninstall Selected Instance
q) Quit
Command to execute (1-3, q): 2
Selected
Change Assistant 3 8.58.04 C:\PS\Change Assistant

```

6. Enter 1 to uninstall without saving a configuration file.

Alternatively, if you want to retain a configuration file, enter 2 to create a zip file containing files with configuration information. The backup file, *changeassistantcfgbak.zip*, is saved in the installation location.

```

Please select the activity :
1) Without Retaining existing configuration
2) Retaining existing configuration
q) Quit

```

Command to execute (1-3, q):1

Task 19-1-6: Using Change Assistant on Linux

You can use a command-line version of Change Assistant on Linux for Update Manager mode only. Change Assistant on Linux can not be used for target databases that are below PeopleTools 8.55.16.

To install Change Assistant on Linux:

1. In a terminal window, change directory to *PS_HOME/setup/PsCA*.
2. Verify that you are running as a user with permission for the files in PsCA.
For example, if your installation includes the default Linux users set up by the DPK, run as the *psadm1* user.
See *Using the PeopleSoft Installation*.
3. Run the setup script and specify the installation directory.

```
$ ./setup.sh -p /dsl/changeassistant -t new
```
4. Go to the installation directory, and run Change Assistant in Update Manager mode using the command-line options in the Change Assistant product documentation.
See *PeopleTools: Change Assistant and Update Manager*, "Running Change Assistant Job from the Command Line."

Task 19-2: Configuring and Using PeopleSoft Change Assistant

This section discusses:

- Verifying the Path Variable
- Specifying Options
- Scanning the Workstation
- Exporting Jobs to XML, HTML, or Microsoft Excel Format

Task 19-2-1: Verifying the Path Variable

After installing PeopleSoft Change Assistant, verify that the following values are the first entries in the PATH environment variable:

- *PS_HOME\bin\client\winx86*
- *PS_HOME\jre\bin*

See *PeopleTools: Change Assistant and Update Manager*, "Setting Up Change Assistant."

Task 19-2-2: Specifying Options

You can configure PeopleSoft Change Assistant modes to carry out updates, upgrades, work with upgrade templates, or access PeopleSoft Update Manager. The mode selection determines which menu options you see when you use PeopleSoft Change Assistant.

See Also

PeopleTools: Change Assistant and Update Manager

PeopleSoft Update Manager Home Page, My Oracle Support, Doc ID 1641843.2

Task 19-2-3: Scanning the Workstation

The first time you use PeopleSoft Change Assistant, it automatically scans your workstation for applications that it will use in order to automate the steps. For example, it automatically finds the SQL Query tool and uses it to run SQL commands or scripts.

If you add a new application or update an existing application, PeopleSoft Change Assistant must perform a scan of the system in order to discover the changes. To perform this scan, select Tools, Scan Configuration.

Task 19-2-4: Exporting Jobs to XML, HTML, or Microsoft Excel Format

Change Assistant allows users to export jobs to XML, HTML, or Microsoft Excel file formats. Do this by selecting File, Export Job in Change Assistant. Then, enter the desired exported filename and select the desired file type format.

Task 19-3: Validating Change Assistant Settings

After you have set up and configured PeopleSoft Change Assistant and the Environment Management components, you should validate your PeopleSoft Change Assistant and environment settings.

PeopleSoft Change Assistant validates settings by:

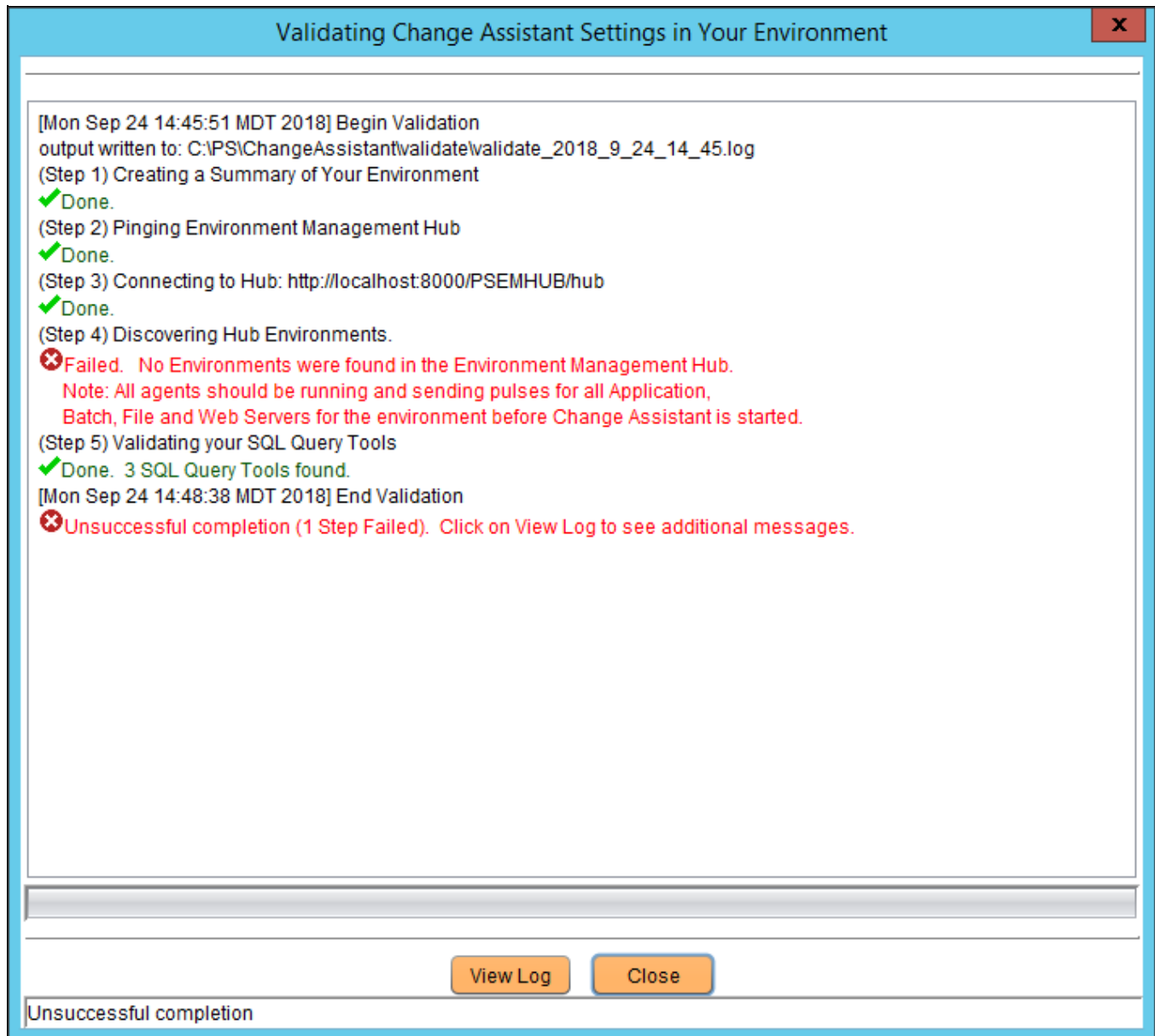
- Locating valid SQL query tools required to run SQL scripts.
- Testing the Environment Management hub and ensuring that PeopleSoft Change Assistant can communicate with it.
- Testing My Oracle Support and ensuring that PeopleSoft Change Assistant can communicate with it.

PeopleSoft Change Assistant sends a ping to My Oracle Support and then tests the connection. In order for the validation to succeed, the machine where you have PeopleSoft Change Assistant installed must have the ping feature enabled.

You can also print a summary of your environment, which can facilitate the diagnosis of problems by Oracle Software Support.

To validate your environment, select Tools, Options, Validate. Click Start Validation.

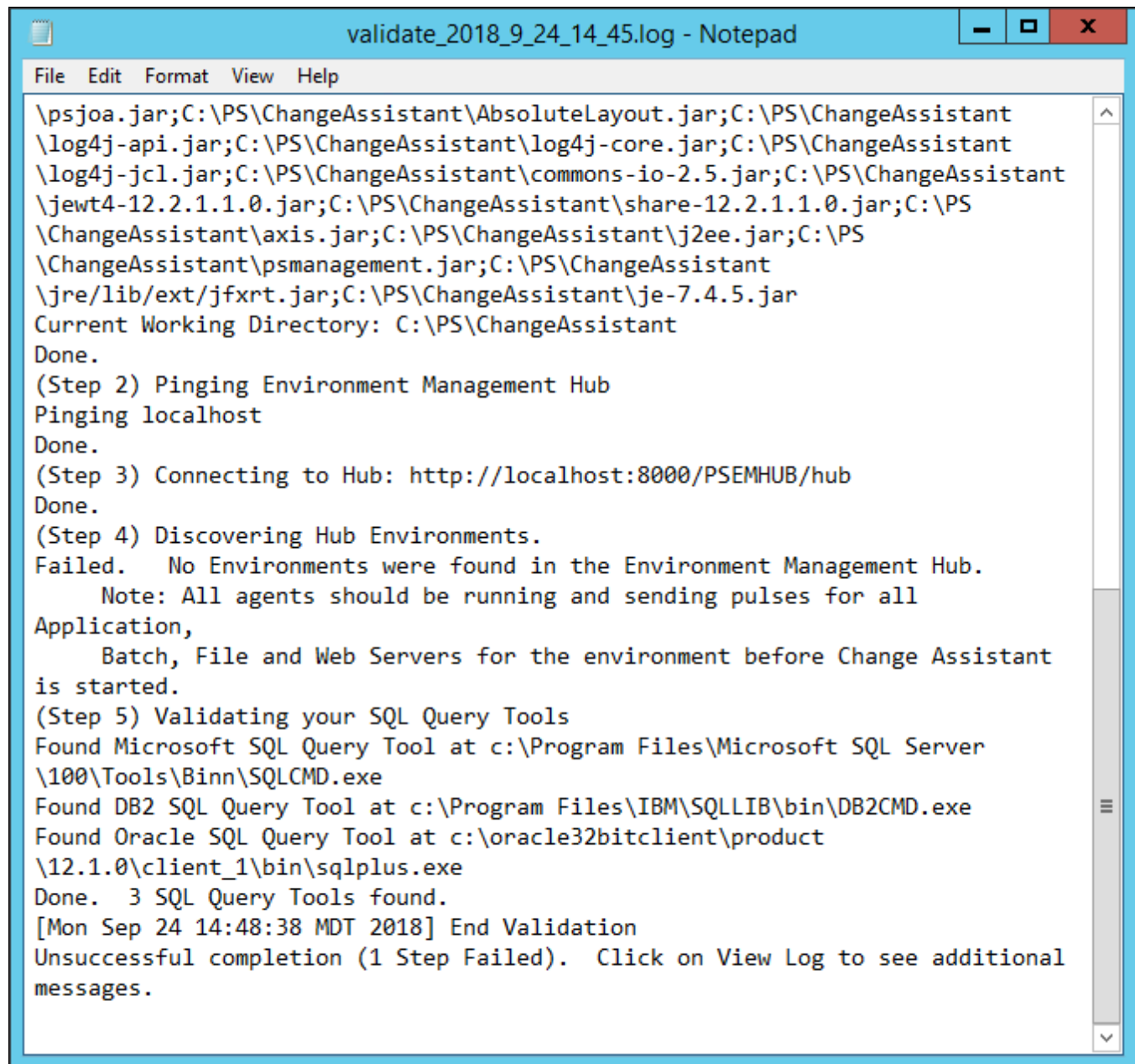
If any of the steps were unable to complete successfully, open the log file to determine the cause. This example shows a summary with both successful messages ("Done") and unsuccessful ("Failed" or "Unsuccessful completion"):



Validating Change Assistant Settings in Your Environment

Note. If you use proxy servers, the system will ping those and prompt for proxy server user ID and password. In this case, the validation step numbers would be different from the example.

To review the log file, click the View Log button at the bottom of the screen. This example shows the first several lines of a log file:



```
validate_2018_9_24_14_45.log - Notepad
File Edit Format View Help
\psjoa.jar;C:\PS\ChangeAssistant\AbsoluteLayout.jar;C:\PS\ChangeAssistant
\log4j-api.jar;C:\PS\ChangeAssistant\log4j-core.jar;C:\PS\ChangeAssistant
\log4j-jcl.jar;C:\PS\ChangeAssistant\commons-io-2.5.jar;C:\PS\ChangeAssistant
\jwt4-12.2.1.1.0.jar;C:\PS\ChangeAssistant\share-12.2.1.1.0.jar;C:\PS
\ChangeAssistant\axis.jar;C:\PS\ChangeAssistant\j2ee.jar;C:\PS
\ChangeAssistant\psmanagement.jar;C:\PS\ChangeAssistant
\jre\lib\ext\jfxrt.jar;C:\PS\ChangeAssistant\je-7.4.5.jar
Current Working Directory: C:\PS\ChangeAssistant
Done.
(Step 2) Pinging Environment Management Hub
Pinging localhost
Done.
(Step 3) Connecting to Hub: http://localhost:8000/PSEMHUB/hub
Done.
(Step 4) Discovering Hub Environments.
Failed. No Environments were found in the Environment Management Hub.
Note: All agents should be running and sending pulses for all
Application,
Batch, File and Web Servers for the environment before Change Assistant
is started.
(Step 5) Validating your SQL Query Tools
Found Microsoft SQL Query Tool at c:\Program Files\Microsoft SQL Server
\100\Tools\Binn\SQLCMD.exe
Found DB2 SQL Query Tool at c:\Program Files\IBM\SQLLIB\bin\DB2CMD.exe
Found Oracle SQL Query Tool at c:\oracle32bitclient\product
\12.1.0\client_1\bin\sqlplus.exe
Done. 3 SQL Query Tools found.
[Mon Sep 24 14:48:38 MDT 2018] End Validation
Unsuccessful completion (1 Step Failed). Click on View Log to see additional
messages.
```

Change Assistant Validation log

Chapter 20

Installing PeopleSoft Change Impact Analyzer

This chapter discusses:

- Understanding PeopleSoft Change Impact Analyzer
- Using the PeopleSoft Change Impact Analyzer Script to Install or Uninstall

Understanding PeopleSoft Change Impact Analyzer

Oracle's PeopleSoft Change Impact Analyzer is a tool you can use to evaluate the effect of changes you make on your installation. PeopleSoft Change Impact Analyzer can help you monitor the impact a Change Package has on your system, as well as monitor the impact from other changes such as customizations.

Ensure that your system meets the following requirements before you begin this installation:

- PeopleSoft Change Impact Analyzer runs on Microsoft Windows platforms. For database platforms that do not run on Microsoft Windows, install PeopleSoft Change Impact Analyzer on the Windows client.
- When you run the setup script for the PeopleTools Client DPK, you can choose to install PeopleSoft Change Impact Analyzer as part of the client installation. If you need to install, upgrade, or remove Change Assistant independently of the PeopleTools Client DPK deployment, use the instructions in this chapter.

See "Deploying the PeopleTools Client DPK."

- You can run the setup.bat script located in *PS_HOME\setup\PsCIA* to install or remove Change Impact Analyzer.

The *PS_HOME\setup\PsCIA* directory includes setup.bat and a sample response file, resp_file.txt. You modify the response file to correspond to your installation requirement.

The *PS_HOME\setup\PsCIA* folder is available in both the PeopleTools Client DPK deployment and PeopleTools DPK server deployments.

Note. The *PS_HOME\setup\PsCIA* directory includes scripts and files that are reserved for use by the software. You can ignore these files, including silentInstall.bat and CIA-silentInstall-response-file.txt.

- These instructions assume you have installed PeopleSoft PeopleTools on the machine on which you want to run PeopleSoft Change Impact Analyzer, and have completed the PeopleSoft Change Assistant installation.
- You must install JDBC drivers for connectivity to your database platform. PeopleSoft Change Impact Analyzer uses Type 4 JDBC drivers by default.

You can normally obtain JDBC drivers from your RDBMS vendor. Search the vendor's web site or contact the vendor for information.

See Also

PeopleTools: Change Impact Analyzer

Task 20-1: Using the PeopleSoft Change Impact Analyzer Script to Install or Uninstall

This section discusses:

- Installing PeopleSoft Change Impact Analyzer
- Removing PeopleSoft Change Impact Analyzer

Task 20-1-1: Installing PeopleSoft Change Impact Analyzer

To install, edit the response text file and then run the Change Impact Analyzer setup script.

1. Open the file `PS_HOME\setup\PsCIA\resp_file.txt` for editing, for example in Notepad.
2. Modify the following items, and then save the file.

- Installation location

The default location is `C:\Program Files\PeopleSoft\Change Impact Analyzer`. You can install to any location.

```
INSTALL_PATH="C:\Program Files\PeopleSoft\Change Impact Analyzer"
```

- JDBC driver type

Specify DB2 for dB2 z/OS.

```
JDBC_TYPE=DB2
```

- Path to JDBC driver

Enter the full path to the JDBC driver.

```
DB_PATH=C:\jdbc_drivers
```

3. In a command prompt, go to `PS_HOME\setup\PsCIA` and run the following command.

```
setup.bat -f resp_file.txt
```

Task 20-1-2: Removing PeopleSoft Change Impact Analyzer

To remove an existing installation of PeopleSoft Change Impact Analyzer::

1. Open a command prompt and change directory to `PS_HOME\setup\PsCIA`.
2. Enter the following command:

```
setup.bat -u U
```

Note. You may need to remove the Change Impact Analyzer shortcut on your desktop manually.

Chapter 21

Adding New Product Modules

Task 21-1: Adding New Modules to PeopleSoft Installations

This task explains how to add new application modules to an existing PeopleSoft installation. Follow this procedure if, for example, you already installed HCM Benefits Administration and now you need to install Pension Administration.

When you add new application modules to an existing installation, you may overwrite files that were included as part of a patch or fixes, or customizations that you applied. For example, suppose you customize a report that is updated in a subsequent PeopleSoft release. If you install the update into your current working directory, your customized report will be overwritten with the newly installed, updated report.

The PeopleSoft system does not currently provide an automated way to notify you before overwriting customized modules or patch files. You can make preparations to protect important files from being overwritten. For your customized modules, you need to maintain a backup of any customizations. It is also a good idea to make a copy of your *PS_HOME* directory before beginning this process, so that you can find and restore necessary patch files. Check My Oracle Support to identify any patches or fixes required for your installation.

See My Oracle Support, Patches & Updates.

To add new module(s) to PeopleSoft installations:

1. Back up the database, file server, application server, Process Scheduler Server, and web server components of your current system.
2. Install the PeopleSoft Application software on the file server.
3. Launch Data Mover in bootstrap mode by logging on with the access ID and password.

Data Mover is located in *PS_HOME\bin\client\winx86\psdmt.exe*.

See Checking the Log Files and Troubleshooting, Running Data Mover, in the chapters on creating a database.

4. Select File, Database Setup and choose your database type in the resulting dialog.
5. Select Next and select add new product.
6. Select Finish and a Data Mover script will be generated in Data Mover.
7. Select File, Run script and your database updates are complete.
8. Install software to your batch server.

See the chapters on setting up Process Scheduler in this documentation.

9. Reapply all code customizations if needed.

Note. Remember to maintain backup copies of your customizations.

10. Compile and link COBOL.

See the chapters on installing and compiling COBOL in this documentation.

11. Verify that the appropriate Installation Records are selected.

If they are not checked, check them and save the page. To open the page, select Set Up <apptype>, Install, Installation Options, where <apptype> is CRM, Financials/Supply Chain Management, and so on. For example, Set Up CRM, Install, Installation Options. (For HCM the navigation is Set Up HCM, Install, Installation Table.)

12. Run the dddaudit and sysaudit SQR reports.

If you are swapping the base language, also run swpaudit.sqr.

See "Completing the Database Setup," Checking the Database.

13. Shut down all application servers.

14. Install software to your application server.

See the chapters on configuring the Application Server in this documentation.

15. Restart all required application servers.

16. Shut down all web servers.

17. Install software to your web server.

See the chapters on setting up the PeopleSoft Pure Internet Architecture in this documentation.

Chapter 22

Using PeopleSoft Online Help

This chapter discusses:

- Understanding PeopleSoft Online Help (PeopleBooks)
- Installing PeopleSoft Online Help Locally

Understanding PeopleSoft Online Help (PeopleBooks)

The documentation for PeopleSoft PeopleTools and PeopleSoft software applications, formerly known as PeopleBooks, is now available in a dynamic, interactive, accessible HTML version, the hosted PeopleSoft Online Help Web site. The PeopleSoft Online Help documentation that is accessed with the Help link in the PeopleSoft navigation bar, and the Oracle's PeopleSoft Online Help on the Oracle Help Center, are developed for advanced users, administrators, and implementers of the application. End users should utilize embedded help or licensed UPK content for more specific help assistance.

PeopleSoft software applications will include translated embedded help. With the PeopleSoft 9.2 release, PeopleSoft documentation aligned with the other Oracle applications by focusing on embedded help. We offer very direct translated help at crucial spots within our application through our embedded help widgets. Additionally, we have a one-to-one mapping of application and help translations. This means that the software and embedded help translation footprint are identical, something we were never able to accomplish in the past.

The PeopleSoft Online Help is delivered for on-premise installations of PeopleSoft PeopleTools and every PeopleSoft application. You have several options for deploying PeopleSoft Online Help to benefit your organization.

- *Hosted PeopleSoft Online Help:* Use PeopleSoft Online Help over the Internet with the hosted content on the hosted PeopleSoft Online Help.

You can access the PeopleSoft online help from the PeopleSoft area on Oracle Help Center. Select PeopleTools or your PeopleSoft application from the menu on the left. Select your PeopleTools release or PeopleSoft application update image, and locate the section Online Help and PeopleBooks.

See Oracle Help Center, PeopleSoft, <https://docs.oracle.com/en/applications/peoplesoft/index.html>.

- *Context-sensitive help:* Configure PeopleSoft PeopleTools to call PeopleSoft Online Help as context-sensitive help from both Internet applications and Microsoft Windows-based programs. For instance, when a user clicks the Help link in a browser or presses F1 in Windows, the appropriate documentation appears. You can set up context-sensitive help for both local installations and to access the hosted content on the PeopleSoft Online Help Web site.

Note. The F1 button accesses PeopleSoft Online Help only for the PeopleTools Development Environment (the Windows-based client). If you press F1 while using the portal, you invoke the help for your current browser. For context-sensitive help in the portal, users need to click the Help link to call PeopleSoft Online Help.

In the PeopleSoft Hosted Online Help, select the link *About This Help* from the navigation pane on the left to

find information on configuring context-sensitive help.

- *PDF format:* You can download a PDF version of PeopleSoft Online Help, organized in the traditional PeopleBooks format, from the PeopleSoft area on the Oracle Help Center.

Select PeopleTools or your PeopleSoft application from the menu on the left. Select your PeopleTools release or PeopleSoft application update image, and locate the section Online Help and PeopleBooks.

See Oracle Help Center, PeopleSoft, <https://docs.oracle.com/en/applications/peoplesoft/index.html>.

- *Local installation:* For on-premise environments, use the instructions in this section to install and configure PeopleSoft Online Help so you can deploy the documentation at your site. You can also install a search utility for full-text search.

See Installing PeopleSoft Online Help Locally.

See Also

PeopleTools: Applications User's Guide, "Accessing Embedded Help"

About This Help, PeopleSoft Hosted Online Help, <https://docs.oracle.com/en/applications/peoplesoft/index.html>

Task 22-1: Installing PeopleSoft Online Help Locally

This section discusses:

- Understanding the PeopleSoft Online Help Local Installation
- Prerequisites
- Obtaining the PeopleSoft Documentation Files from Oracle Software Delivery Cloud
- Installing the PeopleSoft Online Help on a Web Server
- Installing the PeopleSoft Online Help and the Search Utility
- Removing the PeopleSoft Online Help Deployment
- Setting Up Help for Multiple Product Lines on the Same Machine

Understanding the PeopleSoft Online Help Local Installation

This section explains using the installation files for PeopleSoft Online Help and the search utility for a local installation. You can install the online help with an Oracle WebLogic web server to view the web site. You can also install a search utility based on Elasticsearch, which enables full-text search.

Prerequisites

Before installing the PeopleSoft online help:

- Obtain the installation file for the PeopleSoft Online Help from Oracle Software Delivery Cloud, as described in the next section.
- Install a supported web server and verify that it is up and running.

This task describes the steps for Oracle WebLogic on Microsoft Windows. Determine the URL, user name, and password for the Oracle WebLogic administration console.

Note. If you install Oracle WebLogic as part of the PeopleSoft DPK deployment, you can find the port number and user name in the `psft_configuration.yaml` file. In this case, the default port is 8000 and the default name is `system`. You supply the password during the deployment.

- You have the option of using the search utility documented here to set up the PeopleSoft Online Help for full-text search on Linux and Microsoft Windows.

The "Search Utility for locally installed PeopleSoft Documentation" contains a customized version of Elasticsearch for PeopleSoft Online Help that is independent of the Elasticsearch that is used for the PeopleSoft search framework. The search utility is available on Oracle Software Delivery Cloud in the same delivery package as the PeopleSoft online help documentation. The downloaded zip file includes a text file with instructions.

Note. For the sake of brevity, this task refers to the "Search Utility for locally installed PeopleSoft Documentation" as the "search utility."

- The PeopleSoft Online Help installation requires Java 8.

Task 22-1-1: Obtaining the PeopleSoft Documentation Files from Oracle Software Delivery Cloud

To obtain files for the PeopleSoft Online Help installation:

1. Sign in to Oracle Software Delivery Cloud.
See Oracle Software Delivery Cloud, <https://edelivery.oracle.com>.
2. Search for the current PeopleSoft PeopleTools release.
3. In the search results, locate the PeopleSoft PeopleTools download package, and click Add to Cart.
4. If you want to obtain the PeopleSoft Online Help installation files for a PeopleSoft application, search for the name of a specific PeopleSoft application product, and locate the download package.
For example, for PeopleSoft Human Capital Management, enter and select PeopleSoft Enterprise Human Resources. For PeopleSoft Financials and Supply Chain Management, enter and select PeopleSoft Enterprise Financials.
5. Click Checkout.
6. On the Selected Software page, locate and select the PeopleSoft PeopleTools or PeopleSoft application documentation files.
Clear the check boxes for any software you do not want.
7. Click Continue.
8. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
9. On the file download window, select the links for the online help zip file and the search utility.
10. Download the zip files into a convenient local directory.

Task 22-1-2: Installing the PeopleSoft Online Help on a Web Server

After you download the online help installation files, use these steps to view the PeopleSoft Online Help web site on your local system. If you want to set up the help with full-text search, skip this section and go to the section, Installing the PeopleSoft Online Help and the Search Utility.

To install the PeopleSoft Online Help with web server software:

1. Go to the directory where you downloaded the PeopleSoft Online Help installation zip file.
2. Extract the contents of the zip file.

The zip file contains a folder with a name based on the product line and release, such as pt858pbr1. The folder includes the following:

- buildindex.bat — batch file used on Microsoft Windows to create a context-sensitive help index for the online help for several products.
- buildindex.sh — shell script file used on UNIX and Linux to create a context-sensitive help index for the online help for several products.
- online-help.zip — the PeopleSoft Online Help content files
- psHelpIndexBuilder.jar — jar file that is invoked by buildindex.bat or buildindex.sh to generate a context-sensitive help index
- README.txt

3. Extract the contents of the online-help.zip file to your web server root.

The zip file includes a folder with the same name as that of the initial extracted file, such as pt858pbr1, which is referred to here as the *docroot*.

For example, if you installed the PeopleSoft Pure Internet Architecture (PIA) to *<PIA_HOME>*, with PIA domain name *<domain_name>*, the web server root directory is:

<PIA_HOME>/webserv/<domain_name>/applications/peoplesoft/PORTAL.war

4. To view PeopleSoft Online Help, open a browser and enter a URL with the following format:

http://<weblogic_server>:<weblogic_port>/<docroot>/eng/<product_line>/index.html.

For example:

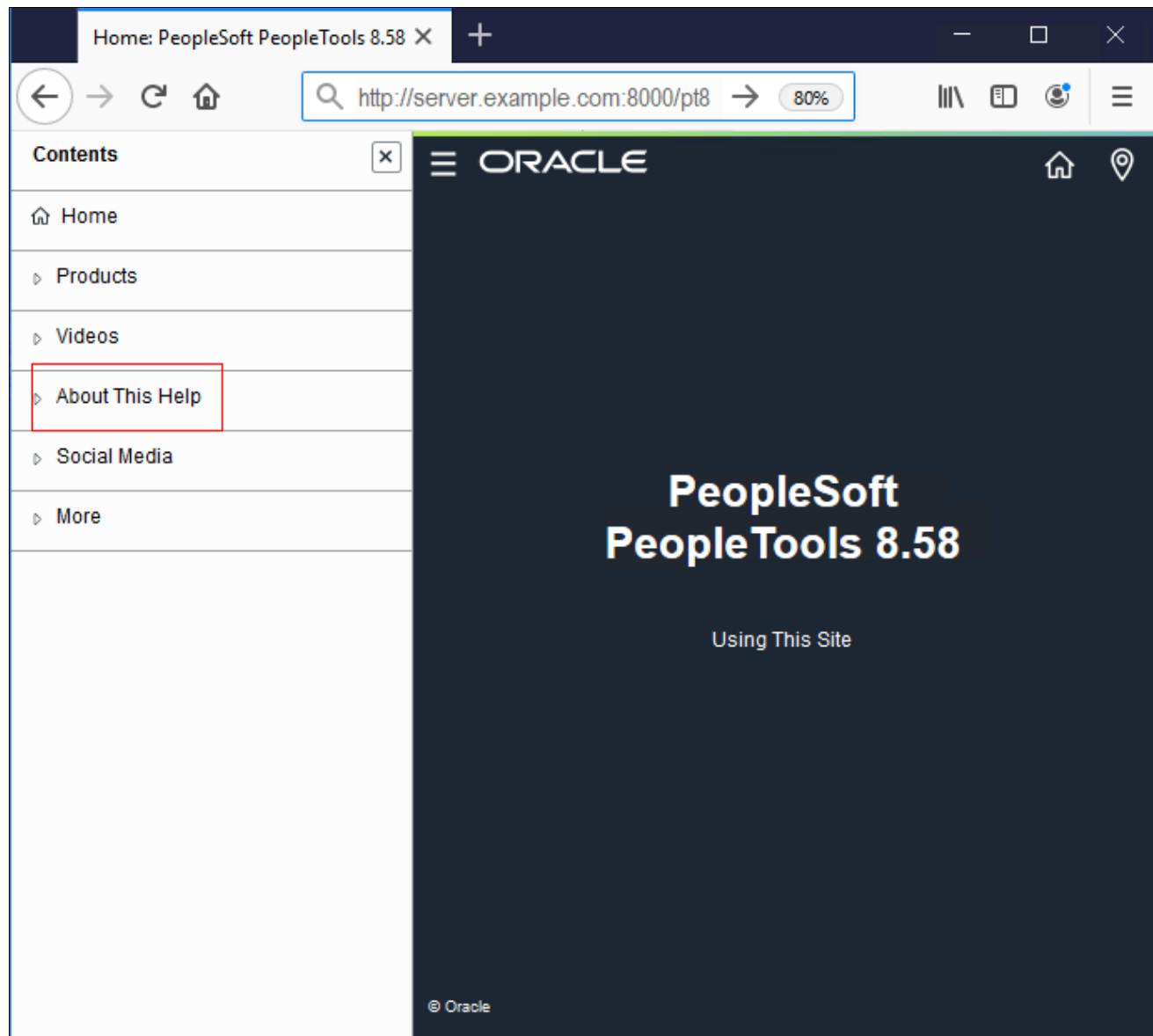
http://server.example.com:8000/pt858pbr1/eng/pt/index.html

The URL is comprised of these components:

- *<weblogic_server>* — the fully-qualified machine name for the Oracle WebLogic server
- *<weblogic_port>* — the port for the web root server
- *<docroot>* — the extracted PeopleSoft Online Help contents folder
- *<product_line>* — an abbreviation for the product line, such as pt for PeopleSoft PeopleTools or hcm for PeopleSoft Human Capital Management

5. For information on the file structure of the downloaded online help and using the buildindex scripts, see About This Help.

From the PeopleSoft PeopleTools Online Help site, select About This Help from the Contents frame, and review the information on managing locally installed PeopleSoft Online Help.



PeopleSoft PeopleTools 8.58 Help Home Page

Task 22-1-3: Installing the PeopleSoft Online Help and the Search Utility

After you download the online help installation files and the search utility, use these steps to set up the PeopleSoft Online Help web site with the search utility. This task uses the PeopleSoft PeopleTools 8.58 online help as an example.

1. Go to the folder where you downloaded the PeopleSoft Online Help installation zip file.
2. Extract the contents of the zip file.

The zip file contains a folder with a name based on the product line and release, such as pt858pbr1. The folder

includes the following:

- buildindex.bat — batch file used on Microsoft Windows to create a context-sensitive help index for the online help for several products.
- buildindex.sh — shell script file used on UNIX and Linux to create a context-sensitive help index for the online help for several products.
- online-help.zip — the PeopleSoft Online Help content files
- psHelpIndexBuilder.jar — jar file that is invoked by buildindex.bat or buildindex.sh to generate a context-sensitive help index
- README.txt

3. Extract the contents of the online-help.zip file to a convenient folder.

The zip file includes a folder with the same name as that of the initial extracted file, such as pt858pbr1, which is referred to here as the *docroot*.

For the examples given in these instructions, the *docroot* folder, with the PeopleSoft Online Help file contents, resides under a higher-level folder, *doc_global*. In these examples, *<doc_global>\<docroot>* is C:\PeopleBooks\pt858pbr1.

4. Install and set up the search utility.

Follow the instructions in the INSTALL.txt file included with the search utility zip file to:

- Set up Elasticsearch for PeopleSoft Online Help
This documentation refers to the location where you extract the search utility zip file as *srch_utility_install*.
- Deploy Elasticsearch for PeopleSoft Online help search page
- After you complete the deployment, follow the instructions at the end of the script and in INSTALL.txt to copy the pssearch folder from the Elasticsearch installation directory to the application root, which is *doc_global* in these examples.
- If desired, follow the instructions in INSTALL.txt to create a service to manage Elasticsearch on Microsoft Windows, or a daemon on Linux.

Note. Before creating the Elasticsearch service on Microsoft Windows, close the cmd.exe window that is running elasticsearch.bat.

5. Create a folder WEB-INF under the *doc_global* folder.
6. In the WEB-INF folder create a file named "web.xml" that has the following content:

```
<?xml version="1.0" encoding="UTF-8"?>

<!DOCTYPE web-app PUBLIC

"-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"

"http://java.sun.com/j2ee/dtds/web-app_2_3.dtd">

<web-app>

</web-app>
```

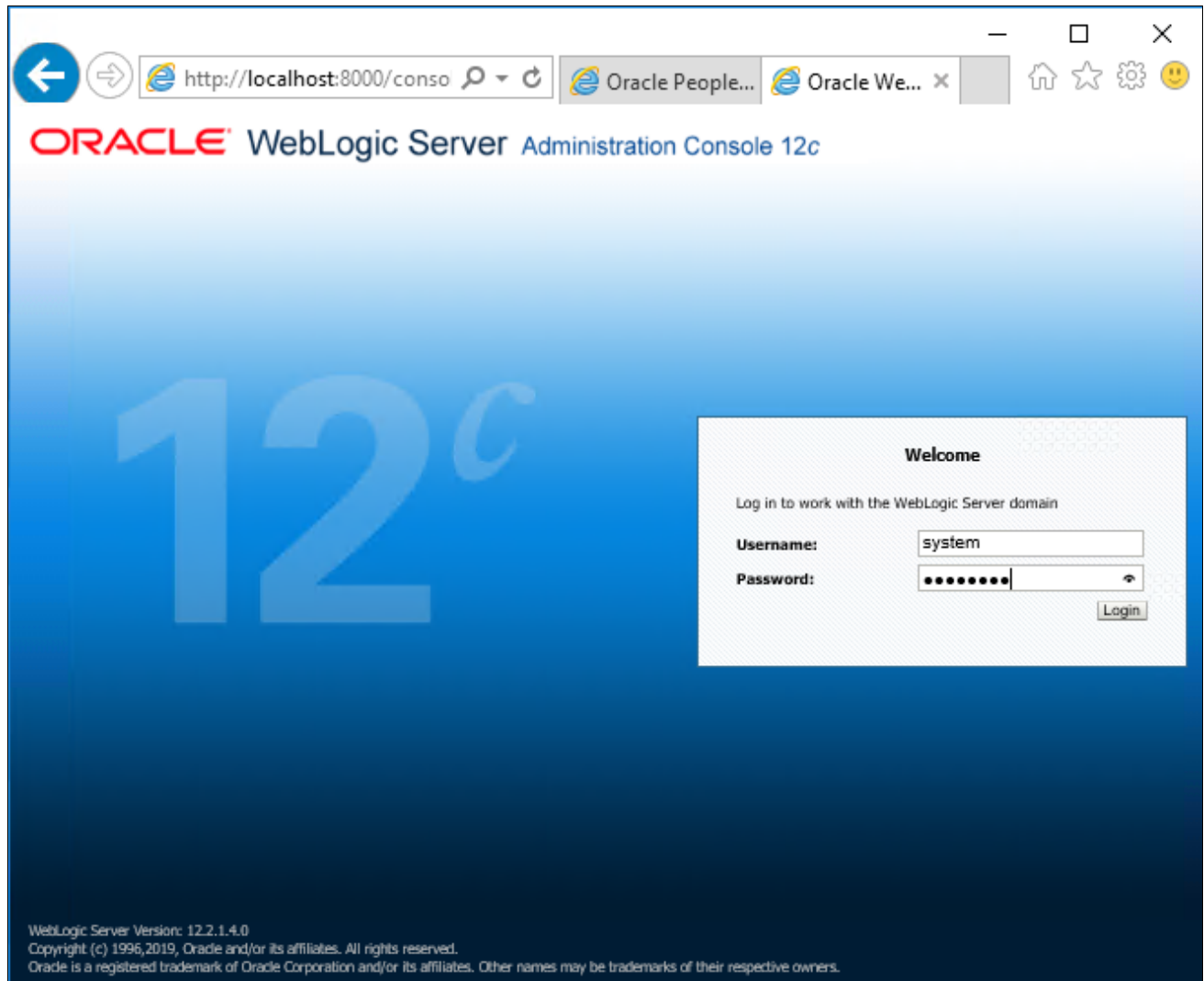
This allows Oracle WebLogic to recognize the *doc_global* folder as a valid deployment.

7. Open the Oracle WebLogic administration console by entering the following URL in a browser:

`http://<weblogic_server>:<weblogic_port>/console`

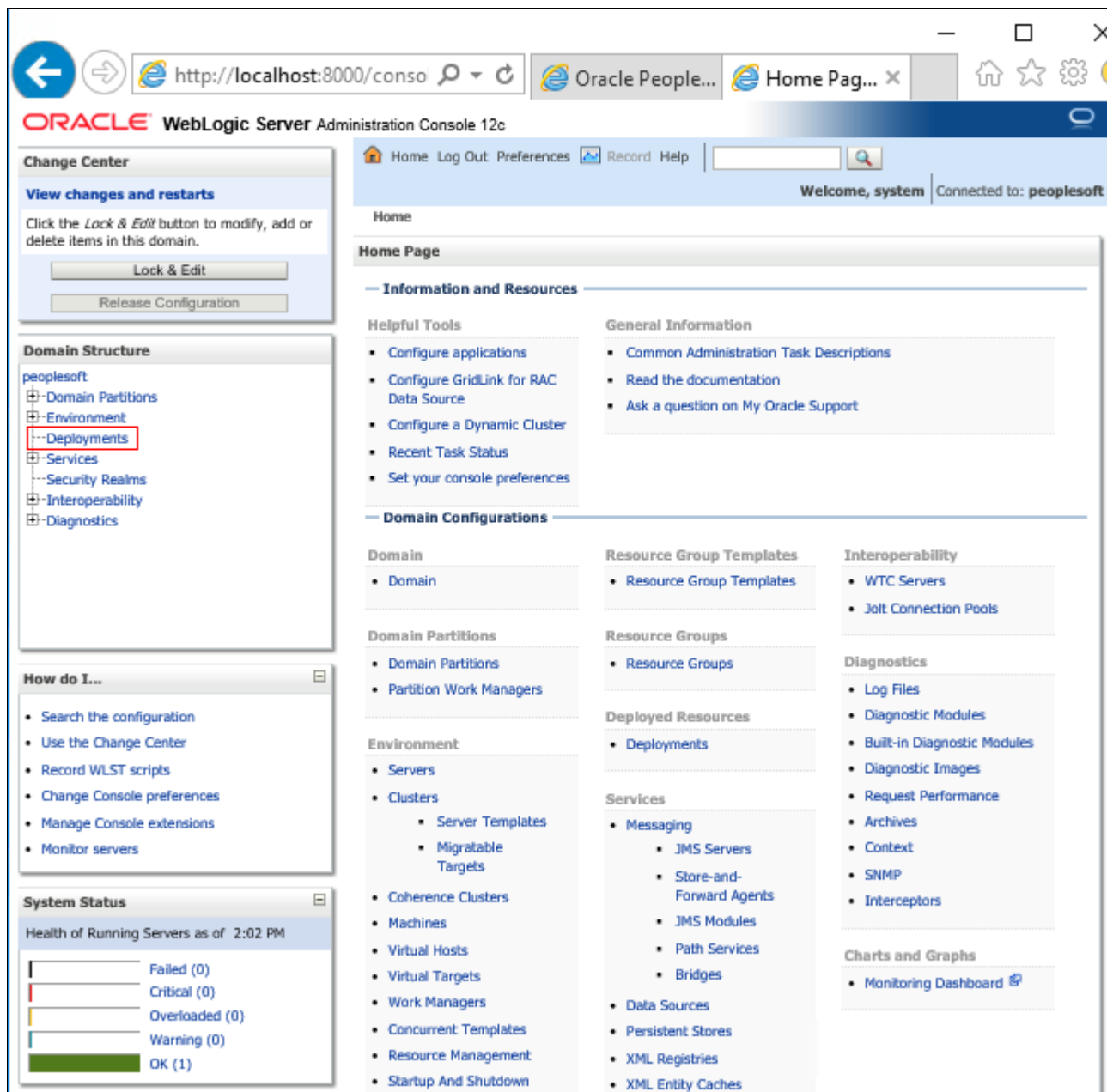
For example, `http://server.example.com:8000/console`

8. Log in using Oracle WebLogic administrator credentials.



Oracle WebLogic Server Administration Console 12c

9. Select Deployments from the Domain Structure section on the left side of the window:



Oracle WebLogic Administration Console Home Page

10. Click Install on the Deployments section of the Configuration tab under Summary of Deployments.

If the Install button is not enabled, click Lock & Edit under Change Center on the left.

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The browser address bar displays `http://localhost:8000/conso`. The page title is "ORACLE WebLogic Server Administration Console 12c". The left sidebar contains a "Change Center" section with a "Lock & Edit" button highlighted by a red rectangle. Below it is the "Domain Structure" tree, which includes "peoplesoft" and its sub-items: "Domain Partitions", "Environment", "Deployments" (selected), "Services", "Security Realms", "Interoperability", and "Diagnostics". At the bottom of the sidebar is a "How do I..." section with links to various installation and configuration tasks.

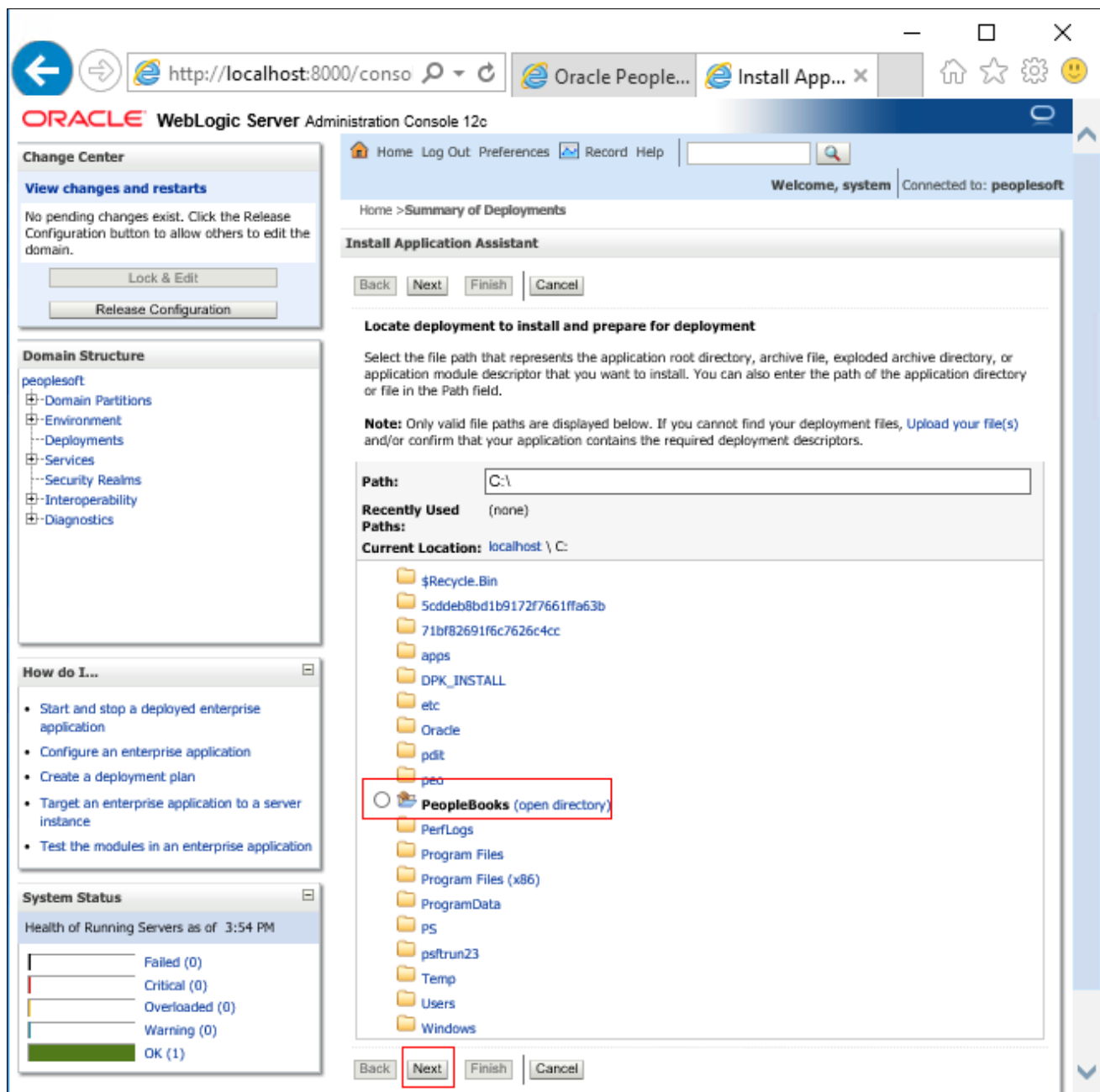
The main content area shows the "Summary of Deployments" page. The "Configuration" tab is selected, and the "Install" button in the "Deployments" section is highlighted with a red box. The page displays a table of installed applications and modules.

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deploym
HttpClusterServlet	Installed		Web Application		Global	1	
HttpProxyServlet	Installed		Web Application		Global	1	
peoplesoft	Active	OK	Enterprise Application	PIA	Global	1	

Configuration tab on the Summary of Deployments page

11. If necessary, enter C:\ for the path.

You see the computer directory structure. The entry for PeopleBooks in this example, which is the *doc_global* location containing the online help files, includes a radio button indicating that this folder can be deployed as an application.



Locate deployment to install and prepare for deployment page

12. Select PeopleBooks (open directory) and then click Next.

13. On the Choose installation type and scope page, select the option Install this deployment as an application. Accept Global as the Scope, and then click Next.

The screenshot displays the Oracle WebLogic Server Administration Console 12c interface. The main content area is titled "Install Application Assistant" and contains the "Choose installation type and scope" section. This section has two radio buttons: "Install this deployment as an application" (which is selected and highlighted with a red box) and "Install this deployment as a library". Below these options, there is a "Scope:" label and a dropdown menu set to "Global" (also highlighted with a red box). At the bottom of this section, the "Next" button is highlighted with a red box. The left sidebar includes a "Change Center" section with "View changes and restarts", a "Domain Structure" tree, a "How do I..." section with a list of tasks, and a "System Status" section showing the health of running servers.

Choose installation type and scope page

14. Accept the default entries on the Optional Settings page, and click Next.

The page includes sections General, Security, Source Accessibility, and Plan Source Accessibility. The name in the General section will appear in the URL that you use to access the online help, referred to as here *help_deployment_name*.

The screenshot shows the Oracle WebLogic Server Administration Console at the URL `http://localhost:8000/conso`. The main content area is titled "Install Application Assistant" and contains the "Optional Settings" section. The "General" section asks "What do you want to name this deployment?" with a text input field containing "PeopleBooks". The "Security" section asks "What security model do you want to use with this application?" and has three radio button options: "DD Only: Use only roles and policies that are defined in the deployment descriptors." (selected), "Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.", and "Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console." There is also an "Advanced" option for a custom model.

Change Center
View changes and restarts
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.
Lock & Edit
Release Configuration

Domain Structure
peoplesoft
- Domain Partitions
- Environment
- Deployments
- Services
- Security Realms
- Interoperability
- Diagnostics

How do I...
• Start and stop a deployed enterprise application
• Configure an enterprise application
• Create a deployment plan
• Target an enterprise application to a server instance

Optional Settings
You can modify these settings or accept the defaults.
* Indicates required fields

General
What do you want to name this deployment?
* Name: PeopleBooks

Security
What security model do you want to use with this application?
☒ **DD Only:** Use only roles and policies that are defined in the deployment descriptors.
☐ **Custom Roles:** Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.
☐ **Custom Roles and Policies:** Use only roles and policies that are defined in the Administration Console.
☐ **Advanced:** Use a custom model that you have configured on the realm's configuration page.

Top section of the Optional Settings page

- Test the modules in an enterprise application

System Status

Health of Running Servers as of 3:59 PM

	Failed (0)
	Critical (0)
	Overloaded (0)
	Warning (0)
	OK (1)

Source Accessibility

How should the source files be made accessible?

☒ Use the defaults defined by the deployment's targets

Recommended selection.

☐ Copy this application onto every target for me

During deployment, the files will be copied automatically to the Managed Servers to which the application is targeted.

☐ I will make the deployment accessible from the following location

Location:

Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the application files exist in this location and that each target can reach the location.

Plan Source Accessibility

How should the plan source files be made accessible?

☒ Use the same accessibility as the application

Recommended selection.

☐ Copy this plan onto every target for me

During deployment, the plan files will be copied automatically to the Managed Servers to which the application is targeted.

☐ Do not copy this plan to targets

You must ensure the plan files exist in the shared location and that each target can reach the location.

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Bottom section of the Optional Settings page

15. On the Review your choices and click Finish page, select the option Yes, take me to the deployment's configuration screen.

Click Finish.

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The browser address bar displays `http://localhost:8000/conso`. The console title is "ORACLE WebLogic Server Administration Console 12c". The left sidebar contains several panels: "Change Center" with "View changes and restarts" and "Release Configuration" buttons; "Domain Structure" showing a tree view with "peoplesoft" expanded; "How do I..." with a list of tasks; and "System Status" showing "Health of Running Servers as of 4:01 PM" with a bar chart indicating "Failed (0)", "Critical (0)", "Overloaded (0)", "Warning (0)", and "OK (1)".

The main content area is titled "Home > Summary of Deployments" and "Welcome, system | Connected to: peoplesoft". It displays the "Install Application Assistant" with navigation buttons "Back", "Next", "Finish", and "Cancel". The section "Review your choices and click Finish" includes the instruction: "Click Finish to complete the deployment. This may take a few moments to complete." Below this is the "Additional Configuration" section with the question: "In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?" Two radio buttons are present: "Yes, take me to the deployment's configuration screen." (which is selected and highlighted with a red box) and "No, I will review the configuration later." Below this is the "Summary" section with the following details:

- Deployment:** C:\PeopleBooks
- Name:** PeopleBooks
- Staging Mode:** Use the defaults defined by the chosen targets
- Plan Staging Mode:** Use the same accessibility as the application
- Security Model:** DDOOnly: Use only roles and policies that are defined in the deployment descriptors.
- Scope:** Global

The "Target Summary" section contains a table:

Components	Targets
PeopleBooks	PIA

At the bottom of the assistant, there are navigation buttons "Back", "Next", "Finish" (highlighted with a red box), and "Cancel".

Review your choices and click Finish page

16. Click Save.

If necessary, click Activate Changes under Change Center on the left to save and Activate the deployment.

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The browser address bar displays `http://localhost:8000/conso`. The page title is "ORACLE WebLogic Server Administration Console 12c".

Change Center: A sidebar on the left contains a "View changes and restarts" section with a message: "Pending changes exist. They must be activated to take effect." Below this message, the "Activate Changes" button is highlighted with a red rectangle. Below it is the "Undo All Changes" button.

Domain Structure: A tree view on the left shows the hierarchy: `peoplesoft` > `Domain Partitions` > `Environment` > `Deployments` > `Services` > `Security Realms` > `Interoperability` > `Diagnostics`.

How do I...: A section with a list of links: "Deploy Web applications", "Configure Web applications", "Create a deployment plan", "Test the deployment", and "Monitor Web applications and servlets".

System Status: A section titled "Health of Running Servers as of 4:04 PM" showing a bar chart with the following status: Failed (0), Critical (0), Overloaded (0), Warning (0), and OK (1).

Settings for PeopleBooks: The main content area shows the "Overview" tab selected. Below the tabs, the "Notes" section contains a "Save" button, which is highlighted with a red rectangle. Below the "Notes" section, a message states: "Use this page to view the installed configuration of a Web application."

Name:	PeopleBooks	The name of this application deployment. More Info...
Scope:	Global	Specifies if this Web application is accessible within the domain, a partition, or a resource group template. More Info...
Context Root:	PeopleBooks	The specific path at which this Web application is found by a servlet. More Info...
Path:	C:\PeopleBooks	The path to the source of the deployable unit on the Administration Server. More Info...
Deployment Plan:	(no plan specified)	The path to the deployment plan document on the Administration Server. More Info...
Staging Mode:	(not specified)	Specifies whether an application's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. More Info...
Plan Staging Mode:	(not specified)	Specifies whether a deployment plan's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. More Info...
Security Model:	DDOnly	The security model specifies how this deployment should be secured. More Info...

At the bottom, the "Deployment Order" is set to 100, with a description: "An integer value that indicates when this".

Top portion of Settings for PeopleBooks page

Deployment Order:

An integer value that indicates when this unit is deployed, relative to other deployable units on a server, during startup. [More Info...](#)

Deployment Principal Name:

A string value that indicates the principal that should be used when deploying the file or archive during startup and shutdown. This principal will be used to set the current subject when calling out into application code for interfaces such as ApplicationLifecycleListener. If no principal name is specified, then the anonymous principal will be used. [More Info...](#)

Modules and Components

Showing 1 to 1 of 1 Previous Next

Name	Type
☒ PeopleBooks	Web Application
☐ REST Services	None to display
☐ Web Services	None to display

Showing 1 to 1 of 1 Previous Next

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Bottom portion of Settings for PeopleBooks page

17. After the deployment is activated, select Deployments from the Domain Structure frame on the left.
18. Select the Control tab in the Summary of Deployments section

19. Select the check box for the deployment, and click Start.

Choose Servicing all requests from the Start menu. Click Yes on the window asking for confirmation.

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The browser address bar indicates the URL is `http://localhost:8000/conso`. The console title is "ORACLE WebLogic Server Administration Console 12c". The user is logged in as "system" and is connected to the "peoplesoft" domain.

The main content area is titled "Summary of Deployments" and has three tabs: "Configuration", "Control" (selected), and "Monitoring". Below the tabs, a message states: "This page displays the list of Java EE applications and standalone application modules installed to this domain. You can start and stop applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page."

There is a link "Customize this table" and a section titled "Deployments". It includes "Start" and "Stop" buttons and a pagination control showing "Showing 1 to 4 of 4". Below this is a table with the following data:

	Name	State	Health	Type	Targets	Scope	Domain Partitions
☐	HttpClusterServlet	Installed		Web Application		Global	
☐	HttpProxyServlet	Installed		Web Application		Global	
☒	PeopleBooks	Prepared	OK	Web Application	PIA	Global	
☐	peoplesoft	Active	OK	Enterprise Application	PIA	Global	

Below the table, there are "Start" and "Stop" buttons. A red box highlights the "Start" button, and a dropdown menu is open, showing two options: "Servicing all requests" (selected) and "Servicing only administration requests".

On the left side of the console, there are several panels: "Change Center" (with "Lock & Edit" and "Release Configuration" buttons), "Domain Structure" (a tree view showing the hierarchy of the domain), "How do I..." (a list of links for help), and "System Status" (showing the health of running servers as of 4:08 PM, with a green bar indicating "OK (1)").

At the bottom of the console, there is a footer with the following text: "WebLogic Server Version: 12.2.1.4.0. Copyright (c) 1996, 2019, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners."

Start deployment on Summary of Deployments page

20. Log out of the Oracle WebLogic Administration console.

21. Crawl the online help site to list the help indexes.

- In a command prompt, change directory to `srch_utility_install\pscrawler`.
- Run this command, and enter the fully qualified machine name for `<elasticsearch host>`, the search engine port for `<elasticsearch port>`, and URL from the previous step for `<online help URL>`. For example:

```
crawler.<ext> <elasticsearch host> <elasticsearch port> index =>
<online help URL>
```

For example, on Microsoft Windows:

```
crawler.bat hostname.example.com 9260 index http=>
//hostname.example.com:8000/PeopleBooks/pt858pbr1/eng/pt/index.html
```

For example, on Linux:

```
./crawler.sh hostname.example.com 9260 index http=>
//hostname.example.com:8000/PeopleBooks/pt858pbr1/eng/pt/index.html
```

22. To list all indexes:

- a. In a command prompt, change directory to `srch_utility_install\pscrawler`.
- b. Run this command, and enter the fully qualified machine name for `<elasticsearch host>` and the search engine port for `<elasticsearch port>`. For example:

```
crawler.<ext> <elasticsearch host> <elasticsearch port> display
```

For example, on Microsoft Windows:

```
crawler.bat hostname.example.com 9260 display
```

For example, on Linux:

```
./crawler.sh hostname.example.com 9260 display
```

23. To enable the search capability on the PeopleSoft Online Help pages, so that when you click the search icon the PeopleSoft Online Help Search Console appears:

- a. Locate the `common.js` file and open it for editing.
The `common.js` file is located in `<doc_global>\<docroot>\js`, for example, `C:\PeopleBooks\pt858pbr1\js`.
- b. Edit the variables `searchURL`, `searchOpt` and `queryTextParamName`.

For example:

```
var searchURL = "/PeopleBooks/psessesearch/index.html";
var altHelpURL = "";
var searchOpt = "product=PeopleSoft PeopleTools 8.58";
var queryTextParamName = "query";
```

- c. Save the file.

24. To access the PeopleSoft Online Help in a browser, enter a URL with this format:

```
http://<weblogic_server>:<weblogic_port>/<help_deployment_name>/<docroot>/eng/<product_line>/
index.html
```

For example, this URL displays the PeopleSoft PeopleTools 8.58 documentation home page:

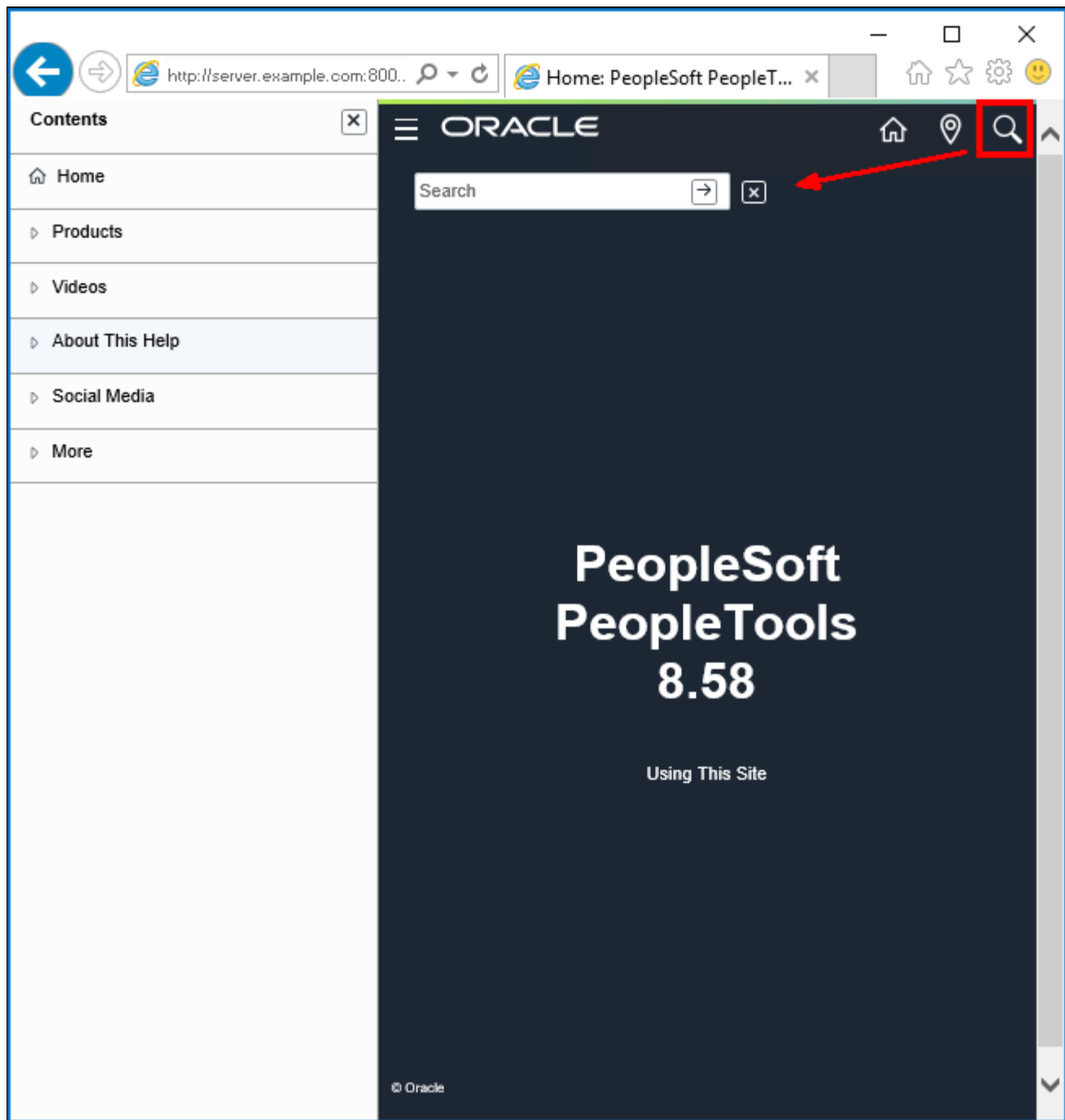
```
http://server.example.com:8000/PeopleBooks/pt858pbr1/eng/pt/index.html
```

The URL format includes:

- `<weblogic_server>` — the fully-qualified machine name for the Oracle WebLogic server
- `<weblogic_port>` — the port for the web root server
- `<help_deployment_name>` — the name in the General section on the Optional Settings page
- `<docroot>` — the extracted PeopleSoft Online Help contents folder

- *<product_line>* — an abbreviation for the product line, such as pt for PeopleSoft PeopleTools or hcm for PeopleSoft Human Capital Management

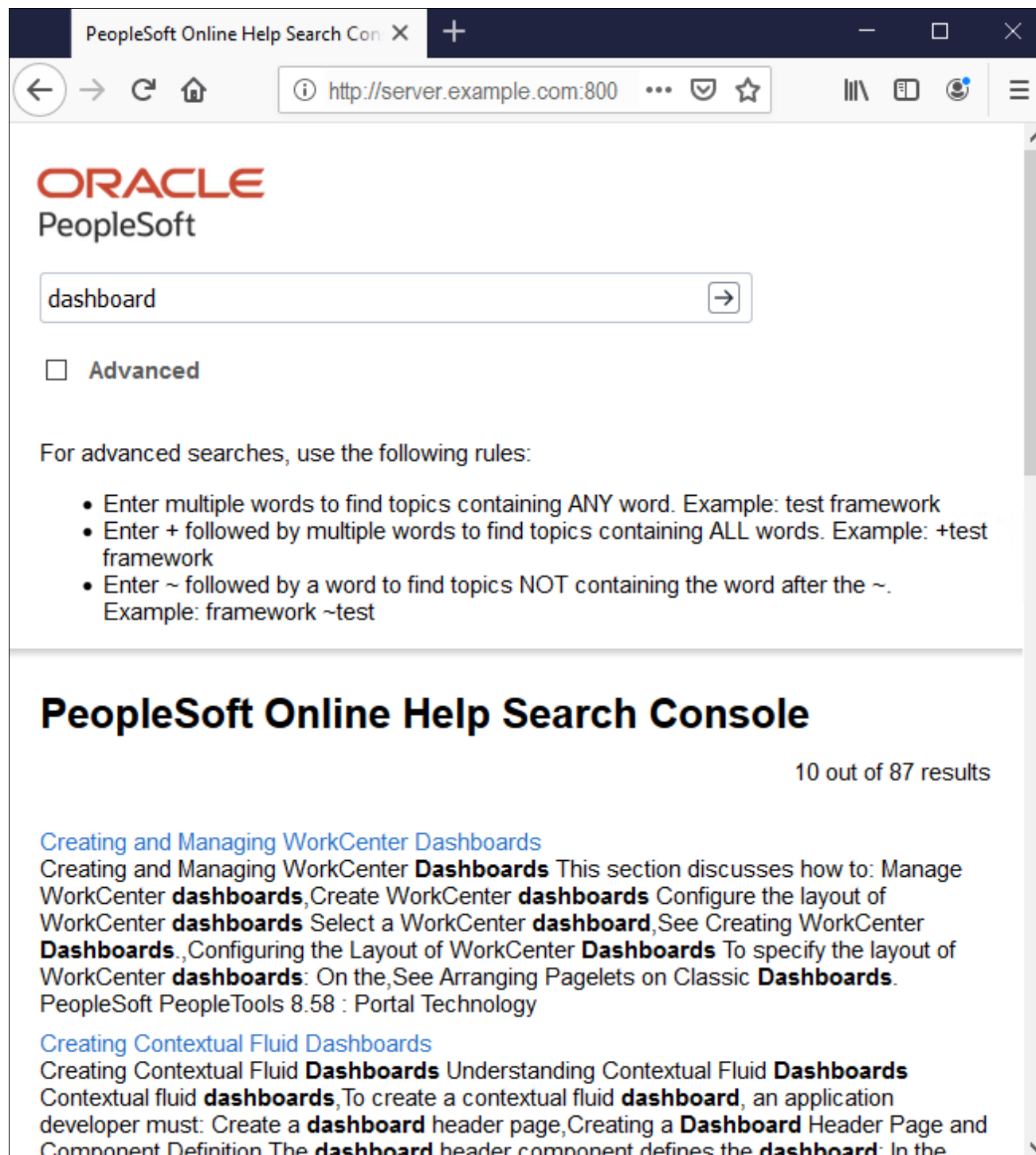
25. Click the search icon and enter the search term.



PeopleSoft PeopleTools 8.58 Help Home Page with search icon

26. Select the search result links that appear in the PeopleSoft Online Help Search Console to view the help topics.

The search is case insensitive.



PeopleSoft Online Help Search Console

27. If you want to limit the search results, select the Advanced option and use these formats for the queries:

- Enter words separated by a space to find topics with either of the words.

For example, to find topics with either of the words test or framework, use the query *"test framework"*. This is similar to the Boolean expression "test OR framework".

- Enter a plus sign (+) followed by two or more words to find topics with both the words.

For example, to find topics with both the words fluid and dashboard, use the query *"+fluid dashboard"*. This is similar to the Boolean expression "fluid AND dashboard".

- Use a tilde (~) to exclude a word.

For example, to find topics that contain SQL but not SQR, use the query *"sql ~ sqr"*. This is similar to the Boolean expression "sql NOT sqr".

For more information on using locally installed online help, see About This Help. From the PeopleSoft PeopleTools Online Help site, select About This Help from the Contents frame. Then select Managing Locally Installed PeopleSoft Online Help, Enabling the Search Button and Field.

In some cases you may want to reset the online help installation, for example if you change something and find you can no longer see the help. Here are steps to try to reset the installation:

1. In the Oracle WebLogic console, stop and restart the deployment.
2. Stop and restart the Elasticsearch service (on Microsoft Windows) or daemon (on Linux).
3. Crawl the indexes again.

Task 22-1-4: Removing the PeopleSoft Online Help Deployment

Use this procedure if you need to remove the deployed PeopleSoft Online Help to redeploy or upgrade. You must first remove the deployment from the Oracle WebLogic administration console, and then remove the index in the search crawler.

1. If the PeopleSoft Online Help and the search console are open, close them.
2. Log in to the Oracle WebLogic administration console using Oracle WebLogic administrator credentials.
3. Select Deployments from the Domain Structure section on the left side of the window.

- Go to the Control page, select the check box beside the PeopleBooks deployment, and click Stop. Select Force Stop Now. Click Yes on the window asking you to confirm that you want to stop.

Note. Depending upon your Oracle WebLogic configuration, this step may not be necessary.

The screenshot displays the Oracle WebLogic Server Administration Console 12c. The main content area is titled "Summary of Deployments" and includes tabs for Configuration, Control, and Monitoring. The "Control" tab is active. Below the tabs, there is a description of the page and instructions on how to start and stop applications. A table titled "Deployments" lists the installed applications. The "PeopleBooks" application is selected, and the "Stop" button is highlighted. A dropdown menu is open for the "Stop" button, showing three options: "When work completes", "Force stop now", and "Stop, but continue servicing administration requests".

	Name	State	Health	Type	Targets	Scope
☐	HttpClusterServlet	Installed		Web Application		Global
☐	HttpProxyServlet	Installed		Web Application		Global
☒	PeopleBooks	Active	OK	Web Application	PIA	Global
☐	peoplesoft	Active	OK	Enterprise Application	PIA	Global

Summary of Deployment, Control page

- Go to the Configuration page, select the check box beside the PeopleBooks deployment, and click Delete. Click Yes on the window asking you to confirm that you want to delete.

The screenshot shows the Oracle WebLogic Server Administration Console 12c. The main content area is titled "Summary of Deployments" and includes a "Configuration" tab. Below the tabs, there is a table of deployments. The table has columns for Name, State, Health, Type, Targets, and Scope. The "PeopleBooks" deployment is selected, and its "Delete" button is highlighted with a red box.

	Name	State	Health	Type	Targets	Scope
☐	HttpClusterServlet	Installed		Web Application		Global
☐	HttpProxyServlet	Installed		Web Application		Global
☒	PeopleBooks	Prepared	OK	Web Application	PIA	Global
☐	peoplesoft	Active	OK	Enterprise Application	PIA	Global

Summary of Deployments, Configuration page

6. Wait until you see messages saying the deployment was removed.

Verify that the deployment name, PeopleBooks in this example, does not appear in the Deployments section.

The screenshot shows the Oracle WebLogic Administration Console interface. The main content area is titled "Summary of Deployments" and includes a "Messages" section with two green checkmark notifications: "Selected deployments were deleted." and "You must also activate the pending changes to commit this, and other updates, to the active system." Below this is a "Summary of Deployments" section with tabs for "Configuration", "Control", and "Monitoring". The "Configuration" tab is active, showing a table of deployments. The table has columns for Name, State, Health, Type, Targets, and Scope. It lists three deployments: HttpClusterServlet (Installed), HttpProxyServlet (Installed), and peoplesoft (Active, OK). The "peoplesoft" deployment is highlighted. The "System Status" section at the bottom left shows "Health of Running Servers as of 12:34 PM" and "Failed (0)".

Name	State	Health	Type	Targets	Scope
HttpClusterServlet	Installed		Web Application		Global
HttpProxyServlet	Installed		Web Application		Global
peoplesoft	Active	OK	Enterprise Application	PIA	Global

Summary of Deployments, Configuration page after PeopleBooks deployment was removed

7. Click Activate Changes under Change Center if necessary.
8. Log out of the Oracle WebLogic administration console.
9. Open a command prompt and change directory to the location where the search utility was installed; for example:

```
cd srch_utility_install\pscrawler
```

10. Run this command to remove the search index:

```
crawler.bat <elasticsearch host> <elasticsearch port> delete <product_line>
```

Enter the fully qualified machine name for *<elasticsearch host>*, the search engine port for *<elasticsearch port>*, and the PeopleSoft product name for *<product_line>*. For example:

```
crawler.bat server.example.com 9260 delete "PeopleSoft PeopleTools 8.58"
```

11. Wait until the process is complete, as indicated by "Deletion completed"

```
SUCCESS: Specified value was saved.
Checking for running Elasticsearch instance
Starting deletion of product-PeopleSoft PeopleTools 8.58
Deletion completed
```

12. If you created a service on Microsoft Windows or a daemon on Linux for Elasticsearch, follow the instructions in *INSTALL.txt* to remove them.

Task 22-1-5: Setting Up Help for Multiple Product Lines on the Same Machine

Use these steps if you want to deploy multiple product line online help sites, such as PeopleSoft PeopleTools and Financials/Supply Chain Management (FSCM) on a single server, with the search utility.

This section assumes that you have set up a web server and the search utility as previously mentioned.

1. Extract the contents of the documentation library zip file for product line 1 (referred to as *docroot*, for example, *pt858pbr1.zip*) to the folder where the *pssearch* folder resides; *doc_global*.
In the examples earlier in this section *doc_global* is *C:\PeopleBooks*.
2. Extract the contents of the documentation library zip file for product line 2 (for example, *fscm92pbr35.zip*) to the same folder where the product line 1 was extracted.
3. Repeat step 2 for other product lines as needed. The contents of the folder includes these folders (plus others depending upon your web server):

```
doc_global\fscm92pbr35
```

```
doc_global\pssearch
```

```
doc_global\pt858pbr1
```

4. Open a command prompt and change directory to the location where the search utility was installed; for example:

Microsoft Windows

```
cd srch_utility_install\pscrawler
```

Linux

```
cd srch_utility_install/pscrawler
```

5. Run this command for each product line:

```
crawler.<ext> <elasticsearch host> <elasticsearch port> index <online>
help URL>
```

For example, to crawl FSCM and PeopleTools on Microsoft Windows:

```
crawler.bat server.example.com 9260 index http://server.example.com=>
```

```
/PeopleBooks/pt858pbr1/eng/pt/index.html
crawler.bat server.example.com 9260 index http://server.example.com⇒
/PeopleBooks/fscm92pbr35/eng/fscm/index.html
```

- Use .bat for <ext> on Microsoft Windows, and .sh on Linux.
 - Enter the fully qualified machine name for the online help web server <elasticsearch host>
 - Enter the search engine port for <elasticsearch port>.
 - The <online help URL> is the URL used to view the documentation home page.
6. For each product line, locate the common.js file and open it for editing.
The common.js file is located in <doc_global>\<docroot>\js, such as C:\PeopleBooks\pt858pbr1\js. and C:\PeopleBooks\fscm92pbr35\js.
 7. For all product lines, edit the variables searchURL, searchOpt and queryTextParamName.

Note. The lines beginning with two slashes (//) are sample entries.

For example, for product line 1, pt858pbr1:

```
var searchURL = "/PeopleBooks/psessesearch/index.html"; // "http://host:⇒
port/search/query";
var altHelpURL = ""; // "http://www.oracle.com/pls/topic/lookup?id⇒
%CONTEXT_ID%&ctx=fscm92pbr30"
// "http://host/path/help.html?ContextID=%CONTEXT_⇒
ID%&LangCD=%Lang%
var searchOpt = "product=PeopleSoft PeopleTools 8.58";
var queryTextParamName = "query";
```

For product line 2, fscm92pbr35:

```
var searchURL = "/PeopleBooks/psessesearch/index.html"; // "http://host:⇒
port/search/query";
var altHelpURL = ""; // "http://www.oracle.com/pls/topic/lookup?id⇒
%CONTEXT_ID%&ctx=fscm92pbr30"
// "http://host/path/help.html?ContextID=%CONTEXT_⇒
ID%&LangCD=%Lang%
var searchOpt = "product=PeopleSoft Financials and Supply Chain⇒
Management 9.2";
var queryTextParamName = "query";
```


Chapter 23

Installing Software for PS/nVision Drilldowns

This chapter discusses:

- Understanding PS/nVision DrillDown Add-ins
- Installing the DrillToPIA Add-In
- Installing the nVisionDrill Add-In
- Installing the nVisionDrill Add-Ins for Multi-Language Installations
- Setting Up PeopleSoft Integration Broker for Using Web Service Capability with nVisionDrill Add-in

Understanding PS/nVision DrillDown Add-ins

When you use PS/nVision to view reports, you can use the DrillDown feature to select a cell in your report and expand it according to criteria contained in a special DrillDown layout.

See *PeopleTools: PS/nVision*, "Using DrillDown."

To use the PS/nVision DrillDown feature with Microsoft Excel reports, you need to install one of the following add-ins, as described in this chapter:

Note. DrillToPIA and nVisionDrill VSTO add-ins do not coexist. You can use only one add-in at a time.

- DrillToPIA add-in
- nVisionDrill VSTO add-in (Visual Studio tools for Microsoft Office SE Runtime).

See *PeopleTools: PS/nVision*, "Understanding PS/nVision Reporting on the Web."

Here is the way the two drilldown add-ins work with the supported version of Microsoft Excel:

If the nVisionDrill VSTO add-in was installed, the nVisionDrill add-in runs and the nVisionDrill VSTO drilldown menu is available when Microsoft Excel opens.

Optionally, you can disable the nVisionDrill VSTO add-in and run the DrillToPIA add-in.

Note. To disable the nVisionDrill VSTO add-in and use the DrillToPIA add-in, access the Add-Ins dialog box and select the DrillToPIA check box. This selection replaces the nVisionDrill VSTO add-in with the DrillToPIA add-in, and the DrillToPIA drilldown menu appears until you reinstall the nVisionDrill VSTO add-in.

To reinstall the nVisionDrill VSTO, double-click the setup.exe file and select the Repair option.

Task 23-1: Installing the DrillToPIA Add-In

This section discusses:

- Understanding Drilldown with DrillToPIA Add-in
- Installing the DrillToPIA Add-in on the Microsoft Excel Environment

Understanding Drilldown with DrillToPIA Add-in

DrillDowns are run on the PS/nVision report server – like Report Requests and Report Books – and are accessible through Report Manager. You can also select to run the DrillDown using the output type of *Window*, which automatically delivers the results to a new browser window. A copy of the results will also be accessible through Report Manager.

You can drill down on individual cells within the report by selecting the cell and using Drill from the nVisionDrill menu for a Microsoft Excel report.

Note. A drilldown result report inherits the output format of its parent report. So, if the parent instance is in Excel format, then the drilldown result is in Excel format.

DrillDown in a web browser does not include the AutoDrill, Drill-to-Query, and Drill-to-Panel options.

Task 23-1-1: Installing the DrillToPIA Add-in on the Microsoft Excel Environment

To drill down on Microsoft Excel reports, the Microsoft Visual Basic Application (VBA) add-in DrillToPIA.xla file needs to be installed on the Microsoft Excel environment. This file is stored in the *PS_HOME*\Excel directory on the Application Server. Your System Administrator needs to distribute a copy of this file to all users who need to drill down on Microsoft Excel reports on the Web.

Note. If a non-English version of Microsoft Excel is used, translated versions of DrillToPIA.xla can be found in the *<PS_HOME>\Excel\<Language>* directory on the Application Server.

In Apple Macintosh systems, PS/nVision DrillToPIA add-in launches Microsoft Internet Explorer for the drilldown page when drilling is performed on a Microsoft Excel report, regardless of the browser from which the original report is opened.

To install the add-in DrillToPIA.xla file into the Microsoft Excel environment:

1. Copy the *PS_HOME*\Excel\DrillToPIA.xla file, and paste it into the Excel add-in directory.
If Microsoft Office is installed in the directory *MS_OFFICE*, the Excel add-ins directory is *MS_OFFICE*\Office\Library.
2. Launch Microsoft Excel and select Tools, Add-ins from Excel toolbar.
3. Select the DrillToPIA option in the Add-ins dialog box.
The nVisionDrill menu appears in the Excel menu bar.

Note. To remove the add-in from the Excel menu, clear the DrillToPIA option from the Add-Ins dialog box.

Task 23-2: Installing the nVisionDrill Add-In

This section discusses:

- Understanding PS/nVision DrillDown Using Web Services
- Understanding Security for DrillDown Using nVisionDrill VSTO Add-in
- Installing the nVisionDrill Add-in for Microsoft Excel

Understanding PS/nVision DrillDown Using Web Services

For PeopleSoft PeopleTools 8.50 and later releases, you are able to use the web service capability when drilling from summarized to detailed PS/nVision reports using the nVisionDrill VSTO add-in.

PeopleSoft PeopleTools supports 64-bit Microsoft Excel 2010 and Excel 2013 for the nVisionDrill VSTO add-in.

Note. During the installation for the nVisionDrill VSTO add-in, if there is a message that pre-requisites are not found, run `PIARedist.exe` and `vstor_redist.exe` available in the `PS_HOME\setup\nVisionDrill` folder.

In addition, take note of the following requirements:

- You must set up and configure Integration Broker to use the nVision Drilldown feature as a web service.
See [Setting Up Integration Broker for Using Web Service Capability with nVisionDrill Add-in](#).
- The web servers should be SSL enabled.

This is because all the web service calls happen through secure channels.

When you create the SSL-enabled web server domain, you need to provide the optional parameter Authentication Token Domain with the appropriate domain name.

Note. The new nVisionDrill VSTO add-in is mainly designed for remote standalone file drilldown (where the end user doesn't have access to the PeopleSoft Pure Internet Architecture system). For all other purposes and Web drilldown, the nVision users are still encouraged to use the DrillToPIA add-in.

Understanding Security for DrillDown Using nVisionDrill VSTO Add-in

The nVisionDrill VSTO Add-in allows users to perform drilldown without having to access the PeopleSoft Pure Internet Architecture pages. This necessitates that the end users of nVisionDrill must sign in to the PeopleSoft system to be able to submit the drilldown process and access the subreports. The users of nVisionDrill VSTO add-in will be prompted to enter a user ID and password for the first time. This user ID and password are validated. If the users have access, they are taken to the menu with the list of DrillDown layouts for further drilldown operation.

When the users attempt another drilldown using the same parent report instance which is already open, the system does not prompt for the credentials, and the credentials of the first login are re-used. But for each new report instance or new drilldown report instance, the credentials must be entered again.

Note. All web service calls between the Microsoft Excel and PeopleSoft applications are SSL-enabled.

Task 23-2-1: Installing the nVisionDrill Add-in for Microsoft Excel

To install the nVisionDrill VSTO add-in for Microsoft Excel:

1. Go to *PS_HOME*\setup\nVisionDrill.
2. Run the nVisionDrillSetup.msi file.

If all required software items have been installed, the nVisionDrill add-in installation will run to success.

During the installation, if you see a message that pre-requisites are not found, run PIARedist.exe and vstor_redist.exe available in the *PS_HOME*\setup\nVisionDrill folder.

3. Ensure that the web server domain's SSL Root certificate is installed on the machine where the nVisionDrill VSTO add-in is installed.

The Root Certificate should be installed correctly on the default browser of the machine. For example, on Microsoft Internet Explorer 8 the SSL Root Certificate should be installed under Trusted Root Certification Authorities.

Task 23-3: Installing the nVisionDrill Add-Ins for Multi-Language Installations

If you have a multi-language installation, first install NVisionDrillSetup.msi for English, as described above, and then install the NVisionDrillSetup_XXX.msi for the desired languages, where the extension XXX is the three-letter language code.

See *PeopleTools: Global Technology*.

Task 23-4: Setting Up PeopleSoft Integration Broker for Using Web Service Capability with nVisionDrill Add-in

To set up Integration Broker for using web service capability with PS/nVision DrillDown:

1. Select PeopleTools, Integration Broker, Configuration, Gateways.
2. Select the Integration Gateway ID for which the Local Gateway is enabled from the search results.
An enabled Local Gateway is marked as "Y" in the search results.

3. In the URL field, enter the following value, where <machine_name> is the Web server machine name, including the domain name, and <port> is the HTTP port number of the PeopleSoft web server:

http://<machine_name>:<port>/PSIGW/PeopleSoftListeningConnector

This example shows the Integration Broker Gateways page with the URL

http://webs07.dom1.com:8000/PSIGW/PeopleSoftListeningConnector, where webs07.dom1.com is the combined machine name and domain name, and 8000 is the HTTP port:

Gateways

Gateway ID: LOCAL [Inbound Gateways](#)

☒ Local Gateway ☐ Load Balancer

URL:

[Gateway Setup Properties](#)

Connectors				Personalize Find First 1-9 of 9 Last	
	*Connector ID	Description	*Connector Class Name	Properties	
1	AS2TARGET		AS2TargetConnector	Properties	
2	FILEOUTPUT		SimpleFileTargetConnector	Properties	
3	FTPTARGET		FTPTargetConnector	Properties	
4	GETMAILTARGET		GetMailTargetConnector	Properties	
5	HTTPTARGET		HttpTargetConnector	Properties	
6	JMSTARGET		JMSTargetConnector	Properties	
7	PSFT81TARGET		ApplicationMessagingTargetConnector	Properties	
8	PSFTTARGET		PeopleSoftTargetConnector	Properties	
9	SMTPTARGET		SMTPTargetConnector	Properties	

Integration Broker Gateways page

4. Click Ping Gateway.

A message appears saying "Gateway URL has changed. Existing connector information will be cleared". Click OK on this message.

You should see a message with the status ACTIVE, indicating a successful connection. Close this message.

5. On the Gateways page, click the Load Gateway Connectors button to load the list of connectors, and then click Save.

If the ping is unsuccessful, check the Web server URL entered, and also make sure Pub/Sub servers are enabled in the Application Server configuration.

6. Select PeopleTools, Integration Broker, Service Operations Monitor, Administration, Domain Status.
7. Purge the unnecessary domains and enable the required domain.

You should be able to see at least three dispatchers under Dispatcher Status. This is required for running asynchronous requests through Integration Broker.

Note. PeopleSoft Integration Broker must process all nVision web service requests that are sent from nVisionDrill VSTO add-in, so the Local PeopleSoft Node of PeopleSoft Integration Broker gateway must include at least three dispatchers.

8. Select PeopleTools, Integration Broker, Configuration, Gateways.

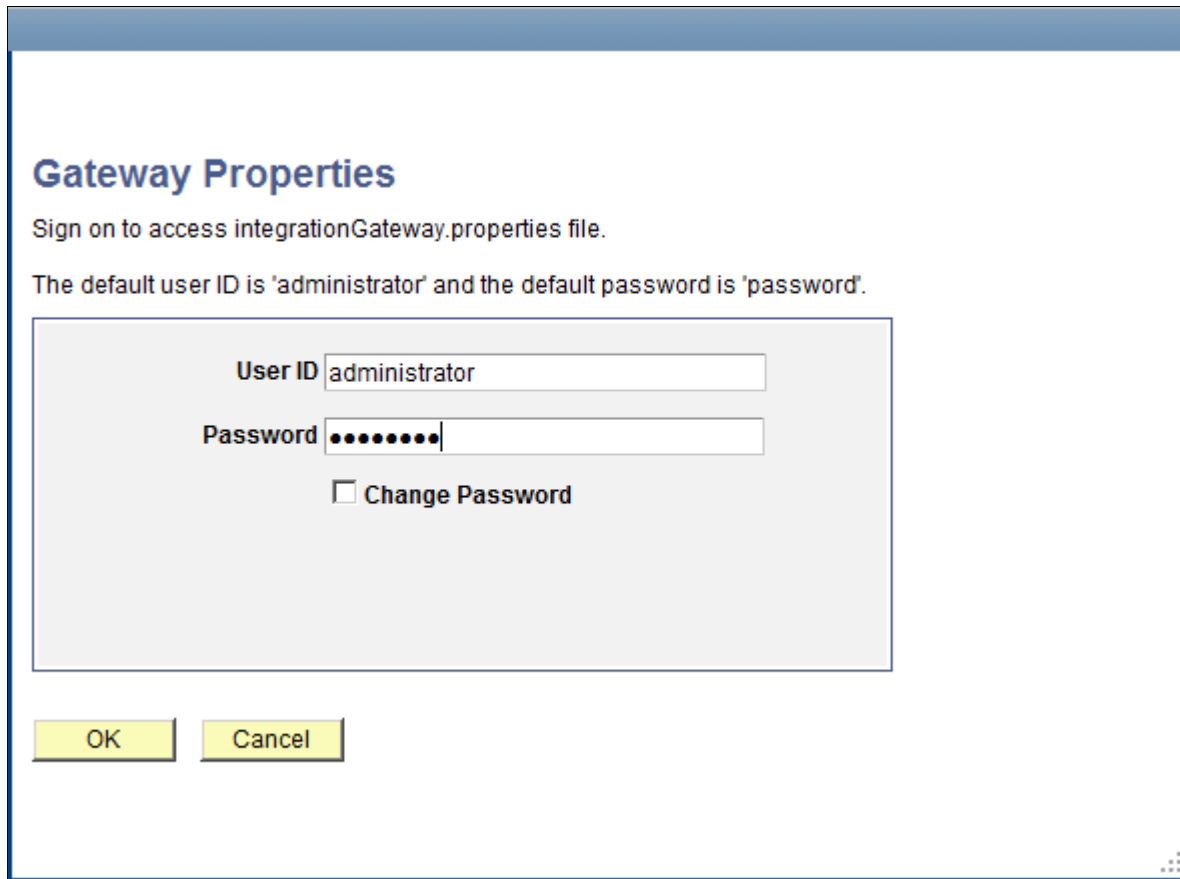
Select the same Integration Gateway ID that you chose in step 1.

9. On the Gateways page, select the link Gateway Setup Properties.

The Gateways Properties page appears.

10. Enter the Integration Gateway administrator user ID and password.

The default User ID is administrator, as shown in this example. Enter the password that you specified when setting up the PeopleSoft Pure Internet Architecture.



Gateway Properties

Sign on to access integrationGateway.properties file.

The default user ID is 'administrator' and the default password is 'password'.

User ID

Password

☐ Change Password

Gateway Properties sign on page

11. Add a new node in the PeopleSoft Node Configuration page.

PeopleSoft Node Configuration

URL: http://webs07.dom1.com:8000/PSIGW/PeopleSoftListeningConnector

Gateway Default App. Server

App Server URL: //<machine name>:<jolt port> User ID: <database user> Password: Tools Release: <peopletools> Domain Password: Virtual Server Node:

PeopleSoft Nodes

Node Name	App Server URL	User ID	Password	Tools Release	Domain Password	
\$NODENAME	//<machine name>:<jolt port>	<database user>		<peopletools>		Ping Node + -

[Advanced Properties Page](#)

OK Cancel Save

PeopleSoft Node Configuration page

Node Name: Enter the name of the active default node.

This example uses \$NODENAME.

To find the active default node, navigate to Integration Broker, Integration Setup, Nodes. Do a search, and choose the node for which the Local Node value is "1" and the Default Local Node value is "Y".

Enter the following values to complete the page:

Note. The following information can be retrieved by pressing CTRL+J on the PeopleSoft Node Configuration page.

- App Server URL: Enter the application server machine name and the Jolt port.
- User ID: Enter PeopleSoft user ID
- Password: Enter the password for the PeopleSoft user ID specified in the User ID field.
- Tools Release: Provide the exact PeopleSoft PeopleTools release that your application server is using.

12. Click Save.

13. Click Ping Node to be sure the node is accessible, and then exit.

See *PeopleTools: Integration Broker Administration*.

Chapter 24

Installing Web Application Deployment Tools

This chapter discusses:

- Prerequisites
- Installing the Web Application Deployment Tool in Silent Mode
- Testing and Troubleshooting the Web Application Deployment

Prerequisites

This chapter includes instructions for installing the Web Application Deployment tool on Oracle WebLogic. When you install your PeopleSoft application, consult the product-specific installation guide to determine whether the Web Application Deployment tool is required. If the Web Application Deployment tool is not referenced in the product-specific installation guide, you can skip this chapter.

Before you install the Web Application Deployment tool, confirm that you have completed the following requirements.

- Java 8 must be installed and working properly. Your PATH environment variable must include an entry for Java 8 (for example, `<java>/bin`). If you do not install Java 8 the deployment will fail due to the absence of a Java compiler.
- The PeopleSoft web server must be installed during the PeopleSoft PeopleTools installation.
- Oracle WebLogic 12.2.1 must be installed.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

See Also

"Installing Web Server Products"

"Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode"

"Setting Up the PeopleSoft Pure Internet Architecture in Console Mode"

"Using the PeopleSoft Installer"

PeopleTools: System and Server Administration

PeopleSoft Customer Relationship Management Installation

Task 24-1: Installing the Web Application Deployment Tool in Silent Mode

This section discusses:

- Understanding the Web Application Deployment Tool Silent Mode Installation and the Response File
- Editing the Web Application Deployment Tool Response File to Deploy DES
- Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES

Understanding the Web Application Deployment Tool Silent Mode Installation and the Response File

You can carry out a silent installation of the Web Application Deployment tool by providing all the required settings in a response file. With silent installation there is no user interaction after the installation begins.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, HP-UX Itanium, or Linux); however, for simplicity the word UNIX is often used to refer to all UNIX-like operating systems, including Linux.

Task 24-1-1: Editing the Web Application Deployment Tool Response File to Deploy DES

You need a response file to start the installer in silent mode. The Web Application Deployment tool installer comes with a response file template (responsefile.txt) that can be found under *PS_HOME\setup\PsMpWebAppDeployInstall*. Modify the values in the response file according to your installation requirements. The response file should contain all the input parameters that are needed for deploying Web Application Deployment tool. To exclude sections that are not needed, begin the line with a pound sign (#).

The sample response file template includes the following sections:

- Comments and instructions, including the command to run the silent installation.
See Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES.
- The directory where you want to deploy the web server domain for the Web Application Deployment. The default directory is *PS_CFG_HOME*. You can deploy to any directory on your machine.

```
PS_CFG_HOME=
```

- Specify a name for the Web Application Deployment domain, such as *PSWebApp*.
Use a fully qualified domain name, and do not use an IP address.

Note. The domain that you create for the Web Application Deployment cannot be the same as any existing PeopleSoft Pure Internet Architecture domains. Be sure you do not enter a name that you used for a PeopleSoft Pure Internet Architecture domain.

```
DOMAIN_NAME=PSWebApp
```

- Enter *weblogic* for the web server type, Oracle WebLogic.

```
SERVER_TYPE=weblogic
```

- Specify the root directory where you installed Oracle WebLogic for BEA_HOME.

On Microsoft Windows, use two back slashes (\\) to specify the path.

```
BEA_HOME=C:\\oracle
```

On UNIX, use a forward slash to specify the path.

```
BEA_HOME=/opt/oracle/bea
```

- The login ID and password for the new web server domain that you are creating.

Note. The default login ID is system, as shown on this example. The password, which you specified during the PeopleSoft Pure Internet Architecture setup, must be at least 8 alphanumeric characters with at least one number or special character.

```
USER_ID=system
USER_PWD=
USER_PWD_RETYPE=
```

- Specify HTTP and HTTPS port numbers.

Do not use the same values that you used for the HTTP and HTTPS ports when setting up the PeopleSoft Pure Internet Architecture.

```
HTTP_PORT=8000
HTTPS_PORT=4430
```

- The domain type and install action values in the sample response file are mandatory.

Do not change these parameters.

```
# DES support only NEW_DOMAIN , so please do not change the
below variable.
DOMAIN_TYPE=NEW_DOMAIN
```

```
# DES support only CREATE_NEW_DOMAIN , so please do not change the
below variable.
INSTALL_ACTION=CREATE_NEW_DOMAIN
```

- Specify one of the following values for the INSTALL_TYPE parameter.

```
INSTALL_TYPE=singleserver
```

- Singleserver (Single Server Domain)** — This configuration is intended for single user or very small scale, non-production environments.
- Multiserver (Multi-Server Domain)** — This configuration is intended for a production environment.
- Distributedmanagedserver (Distributed Managed Server)** — This option is an extension of the Multi-Server Domain selection and installs the necessary files to boot a managed server.

This option requires a Multi Server installation to be performed to some other location, which will contain the configuration for this managed server.

- Specify the *PS_APP_HOME* location.

Note that the DPK installation requires that the *PS_APP_HOME* location be different from the *PS_HOME* location; that is, a decoupled *PS_APP_HOME*.

```
PS_APP_HOME=
```

- Specify the information about your database.

```
# Please enter the CRM specific DB information

# possible values for DB_TYPE are MSSQL,ORACLE,DB2UDB
DB_TYPE=MSSQL
DB_SERVER_NAME=
DB_PORT=1433
DB_SERVER_INSTANCE=
DB_USER=Admin
DB_PASSWORD=
```

- DB_TYPE — The RDBMS type, Microsoft SQL Server (MSSQL) or Oracle.
- DB_SERVER_NAME — the name of the machine that is hosting the database
- DB_PORT — Consult with your database administrator for the correct port number.
- DB_SERVER_INSTANCE — the database name.
- DB_USER — the user name for the database
- DB_PASSWORD — the password for the database user

Task 24-1-2: Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES

To install the Web Application Deployment tool in silent mode, use the response file that you modified for your configuration. Substitute the location where you saved the response file for *<path_to_response_file>* in the following procedures:

1. Open *PS_HOME\setup\PsmPWebAppDeployInstall\responsefile.txt* for editing.
2. Modify the file for your environment, and then save the file.
3. In a command prompt, go to *PS_HOME\setup\PsmPWebAppDeployInstall*.
4. On Microsoft Windows, run the following command, using "\\" as a separator in the file path:

```
setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
```

For example:

```
setup.bat -i silent -DRES_FILE_PATH=C:\\psft\\pt\\ps_home8.58\\setup⇒
\\PSMpWebAppDeployInstall\\responsefile.txt
```

5. On UNIX, run the following command, using "/" as a separator in the file path:

```
setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
```

For example:

```
setup.sh -i silent -DRES_FILE_PATH=/opt/psft/pt/ps_home8.58/setup/PsmP⇒
WebAppDeployInstall/responsefile.txt
```

Task 24-2: Testing and Troubleshooting the Web Application Deployment

Check the log file for any problems encountered during installation. The log file is saved in the following location:

`<WebAppDeploy_DIR>/webserv/webappinstall<domain_name>.log`

The *WebAppDeploy_DIR* is the directory where the web server domain for the Web Application Deployment was installed. The *<domain_name>* is the name you specified for the Web Application Deployment web server domain, such as PSWebApp.

If you need to start or stop Oracle WebLogic, use the commands given in the chapter on installing the PeopleSoft Pure Internet Architecture.

See Testing the PeopleSoft Pure Internet Architecture Installation in the chapters on setting up the PeopleSoft Pure Internet Architecture.

Chapter 25

Setting Up a Unicode Database

This chapter discusses:

- Prerequisites
- Defining Conversion Pages for Unicode Conversion Services
- Fulfilling Connectivity Requirements

Prerequisites

PeopleSoft PeopleTools Unicode support for the z/OS operating system requires the following:

- DB2 for z/OS in New Function Mode
See My Oracle Support, Certifications, for supported versions.
- IBM z/OS
See My Oracle Support, Certifications, for supported versions.
- Search on My Oracle Support for a list of mandatory APARs and PTFs.
See "Important PTFs for PeopleSoft on DB2 for z/OS," My Oracle Support.
- Review the hardware and software requirements and recommendations for running Unicode on DB2 z/OS.
See My Oracle Support, Certifications

Task 25-1: Defining Conversion Pages for Unicode Conversion Services

The following conversion images must be defined to successfully operate a PeopleSoft Unicode database:

- CCSID 367 (7-bit ASCII) <-> ASCII & EBCDIC System CCSID(s)
- CCSID 1208 (UTF-8) <-> ASCII & EBCDIC System CCSID(s)
- CCSID 1200 (UTF-16) <-> ASCII & EBCDIC System CCSID(s)
- Client CCSID(s) <-> Unicode CCSIDs (367, 1208, 1200)
- CCSID 367 <-> CCSID 1047
- CCSID 1200 <-> CCSID 1047
- CCSID 1208 <-> CCSID 1047

Task 25-2: Fulfilling Connectivity Requirements

Set DB2CodePage to 1208 for Unicode databases as follows:

1. From a command prompt issue the db2set command:

```
c:\apps\DB\DB2ODBC8\bin    db2set DB2CODEPAGE=1208
```

2. Issue the following command to verify that it has been set:

```
C:\Apps\DB\db2odbc8>db2set -all
```

Sample output:

```
[e] DB2PATH=C:\Apps\DB\db2odbc8
[i] DB2INSTPROF=c:\Apps\DB\db2odbc8
[i] DB2CODEPAGE=1208
```


Appendix A

Using the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces

This appendix discusses:

- Understanding the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces
- Understanding PSTAAT Workstation Requirements
- Understanding the PSTAAT Graphical User Interface
- Understanding the Various PSTAAT Input and Output Files
- Using PSTAAT to Create TBDDL and IXDDL
- Using PSTAAT to Customize DDL
- Using PSTAAT to Reassign Temporary Tables to Additional Tablespaces
- Using PSTAAT to Isolate Other Tables to Individual Tablespaces
- Using PSTAAT to Convert EBCDIC DDL to Unicode DDL
- Using PSTAAT to Install PeopleSoft Databases

Understanding the PeopleSoft Tablespace DDL Automation Assistance Tool for Segmented Tablespaces

The PeopleSoft Tablespace DDL Automation Assistance tool (PSTAAT) is a DDL script parsing utility intended to assist you in customizing your PeopleSoft PeopleTools and Application DDL. The utility provides greater flexibility in allowing you to override the supported PeopleSoft PeopleTools DDL parameters for DB2 for z/OS so that they more closely fit your shop standards, and to better optimize the mapping of tables among tablespaces and databases.

Note. PSTAAT only supports segmented tablespaces. It does not support universal tablespaces, so it cannot be used if you have enabled or plan to enable universal tablespace support for your installation.

See *Creating a Db2 z/OS Database Using Segmented Tablespaces* for more details on installing with segmented tablespaces.

See *Creating a Db2 z/OS Database Using Universal Tablespaces* for more details on installing with universal tablespaces.

Note. The use of PSTAAT to customize the installation DDL is optional. You may elect not to use PSTAAT and complete the installation of your database as documented in the chapter, "Creating a Database." The next several sections describe the basic functions of this utility. Be sure to review the final section, Using PSTAAT to Install PeopleSoft Databases, before attempting to use PSTAAT for the first time.

PSTAAT serves the following functions:

- Generates the TBDDL and IXDDL scripts for the *traditional* installation.

PSTAAT is capable of dynamically creating the default TBDDL and IXDDL scripts. Note that the TBDDL and IXDDL scripts created by PSTAAT will be identical to those found with your installation files. You are free to optimize either set of scripts with PSTAAT.

See "Creating a Database."

- Optimizes DDL for installation.

PSTAAT may be used to parse and rewrite the default XXDDL, TBDDL, and IXDDL scripts to more optimally distribute the PeopleSoft PeopleTools and Applications objects among additional tablespaces and databases. It provides basic override capability of certain tablespace DDL parameters, and allows you to control the number of tables created per tablespace, and the number of tablespaces created per database.

- PSTAAT can be used to isolate Application Engine temporary tables intended to be used with the %UpdateStats metaSQL function to individual tablespaces.
- Converts EBCDIC DDL data types to Unicode DDL data types.

PSTAAT may be used to "convert" EBCDIC DDL data types to those data types required to create a PeopleSoft Unicode database. Note that this is simply one step in a multi-step process when converting an EBCDIC PeopleSoft environment to Unicode. Complete instructions for converting an EBCDIC PeopleSoft environment to Unicode are beyond the scope of this manual. For more details, consult the white paper titled Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS.

See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).

Understanding PSTAAT Workstation Requirements

PSTAAT is a C++ Microsoft Windows application. It automatically invokes both Data Mover and Application Designer in command line mode depending on the particular functionality that is being used.

- PSTAAT must run from a PeopleSoft PeopleTools install workstation, or traditional Microsoft Windows-based development client. For more details regarding the requirements of such a workstation, consult the Certifications information on My Oracle Support.
- Both Data Mover and Application Designer require DB2 Connect, and thus it must also be installed on the client workstation from which you intend to run PSTAAT. See "Installing and Configuring DB2 Connect" for more details regarding the installation and configuration of DB2 Connect.
- The PeopleSoft PeopleTools installation process places the PSTAAT executable file in the *PS_HOME\bin\client\winx86* directory of the PeopleSoft PeopleTools install workstation, file server, or Microsoft Windows-based two-tier development client.

Understanding the PSTAAT Graphical User Interface

This section describes the tabs found on the PSTAAT graphical user interface (GUI) and the input expected for each text box.

Generate DDL tab:

	Parameter Description	Parameter Value
1	PeopleSoft Database Name	FSCM89
2	Unicode?	NO
3	Database Input File	C:\PT848106R2\DATA\epends.db
4	Output Directory for Generated DDL Scripts	C:\PT848106R2\SCRIPTS\PSTAAT
5	Tablespace Storage Group	PSRTD1SG
6	Index Storage Group	PSRTX1SG
7	Database Object Owner	FPROD
8	Output Table DDL File	TBDDL

☒ Table
☐ Temp Table

Exit Run Help

Database Setup page: Generate DDL tab (1 of 2)

	Parameter Description	Parameter Value
7	Database Object Owner	FPROD
8	Output Table DDL File	TBDDL
9	Output Index DDL File	
10	Application Designer Project Name	
11	Application Designer Output Log File	
12	User ID	PSOFT
13	Password	*****

☒ Table
☐ Temp Table

Exit Run Help

Database Setup page: Generate DDL tab (2 of 2)

Table and Temp Table radio buttons Enable the Temp Table radio button to generate a DDL script for the creation of Application Engine temporary tables and indexes. Enable the Table radio button to generate a DDL script for the creation of all other table and index types.

(1) PeopleSoft Database Name This is the logical database name of the PeopleSoft database to be created. It *must* match the alias cataloged in DB2 Connect as shown in the Configuration Assistant (see figure below).

Alias	Name	Target D...	Location	Direct...	Proto...	Instance
FSCM89	DCSA475F	DB2DS4I	NDE9211B	Remote	TCP/IP	NDE9211

Configuration Assistant page

(2) Unicode?	Indicates whether PSTAAT should create DDL with EBCDIC or Unicode data types.
(3) Database Input File	Name of the database input file located in <i>PS_HOME\data</i> .
(4) Output Directory for Generated DDL Scripts	Specify a folder on the workstation where PSTAAT will store the generated DDL scripts. Note. The path must already exist—PSTAAT will not create it for you.
(5) Tablespace Storage Group	Storage group to be used for tablespace data sets
(6) Index Storage Group	Storage group to be used for Index data sets.
(7) Database Object Owner	The name of the table owner ID as previously determined from the "Preparing for Installation" chapter. This value qualifies all tables as belonging to the logical PeopleSoft database. This value will be stored in the Creator field of SYSIBM.SYSTABLES.
(8) Output Table DDL File	Name of the output file that contains DDL to create all tables. (TBDDL.SQL)
(9) Output Index DDL File	Name of the output file that contains DDL to create all indexes. (IXDDL.SQL)
(10) Application Designer Project Name	Name of PeopleSoft PeopleTools project that contains the temporary table record definitions. This is only used when creating temporary table DDL. See Using PSTAAT To Reassign Temporary Tables To Additional Tablespaces.
(11) Application Designer Output Log File	Application Designer log file. This is only used when creating Application Engine temporary table DDL. See Using PSTAAT To Reassign Temporary Tables To Additional Tablespaces.
(12) User ID	The userid specified must either be a valid mainframe ID such as the database Access ID, or a PeopleSoft user ID depending on which of the Table/Temp Table radio buttons has been enabled. Recall from the section titled Understanding PSTAAT Workstation Requirements, that PSTAAT invokes Data Mover and Application Designer, which in turn make connections to the DB2 z/OS database server through DB2 Connect. When creating the TBDDL.SQL and IXDDL.SQL, the Table radio button must be enabled. PSTAAT will invoke Data Mover in bootstrap mode to extract the default table and index DDL, thus this ID must be a valid mainframe ID such as the Access ID because it will be validated by your security software package (RACF, Top Secret, and so on). When creating temporary table DDL with the Generate DDL tab, the Temp Table radio button must be enabled. In this case, PSTAAT will invoke Application Designer through a command line, thus the ID passed will be validated by PeopleSoft security. This id must be a valid PeopleSoft user id such as VP1 or PS.
(13) Password	This is the password that matches the ID supplied for input parameter 12 (above).

General Parameters Tab:

PSTAAT is a text parsing and DDL generation utility. It requires input files such as the default TBDDL.SQL and IXDDL.SQL scripts to operate. PSTAAT parses the text of the original files to create new versions of each script using the input supplied for the parameters below to override default values.

	Parameter Description	Parameter Value
1	Input Directory for DDL Scripts	C:\PT848106R2\SCRIPTS\PSTAAT
2	Input Database/Tablespace DDL File	EPDDL.SQL
3	Input Table DDL File	TBDDL.SQL
4	Input Index DDL File	IXDDL.SQL
5	Input Temp Table DDL File	
6	Input Individual Table File	
7	Output Directory for Generated DDL Scripts	C:\PT848106R2\SCRIPTS\PSTAAT
8	Primary Database Prefix	FSCM

Exit Run Help

Database Setup page: General Parameters tab (1 of 3)

Database Setup

General Parameters | TableSpace Override | Generate DDL | Unicode DDL Conversion

	Parameter Description	Parameter Value
9	Database Object Owner	FPROD
10	Maximum Number of Tablespaces per Database	20
11	Maximum Number of Tables per Tablespace (Regular)	30
12	Maximum Number of Tables per Tablespace (Large)	1
13	Commit Frequency	10
14	Recalculate Tablespace Allocation?	YES
15	Minimum PRIQTY/SECQTY Allocation	720
16	Bufferpool for PeopleTools Tables	BP1

Exit Run Help

Database Setup page: General Parameters tab (2 of 3)

	Parameter Description	Parameter Value
17	Bufferpool for Application Tables	BP3
18	Bufferpool for 32K Tables	BP32K1
19	Bufferpool for Indexes	BP5
20	Bufferpool for Temp Tables	BP7
21	Tablespace Storage Group	PSRTD1SG
22	Index Storage Group	PSRTX1SG
23	Segment Size	4
24	Close Data Set?	NO

Database Setup page: General Parameters tab (3 of 3)

(1) Input Directory for DDL Scripts	Enter the path that contains the mandatory DDL input files. (See input parameters 2-6 below.) Note that a value for this Input text box is also required to use the Unicode DDL Conversion Tab.
(2) Input Database/Tablespace DDL File	The name of the default database, tablespace, and stogroup DDL file for the traditional installation path. (The XXDDL.SQL script.)
(3) Input Table DDL File	A TBDDL.SQL DDL script such as one that was created by the Generate DDL tab or delivered with the installation.
(4) Input Index DDL File	An IXDDL.SQL DDL script such as one that was created by the Generate DDL tab or delivered with the installation.
(5) Input Temp Table DDL File	Temporary table DDL script as generated by Application Designer.
(6) Input Individual Table File	Input file of non-temporary PeopleSoft PeopleTools and Application tables for which the %UpdateStats metaSQL function is called.
(7) Output Directory for Generated DDL Scripts	Enter the path where you would like PSTAAT to write the newly generated output DDL scripts. Note that a value for this Input text box is also required to use the Unicode DDL Conversion Tab.

(8) Primary Database Prefix	Prefix to be used as the constant portion of the naming convention for the individual databases (DBDs) that comprise the "logical" PeopleSoft database. PSTAAT will use the prefix entered here as the first part of the database naming convention. It will generate an ascending sequence for the remainder of the eight characters to be used for the DB2 z/OS database name. We recommend a primary database prefix of five characters or less.
(9) Database Object Owner	Enter the 'owner' id that will qualify each of the objects in the logical PeopleSoft database. This is the name previously determined from the "Preparing for Installation" chapter. It will be the value stored in the Creator field of SYSIBM.SYSTABLES.
(10) Maximum Number of Tablespaces per Database	Enter the maximum number of tablespaces that you want PSTAAT to allocate per database.
(11) Maximum Number of Tables per Tablespace (Regular)	Enter the maximum number of tables that you want PSTAAT to allocate per tablespace.
(12) Maximum Number of Tables per Tablespace (Large)	Enter the desired maximum number of tables per tablespace for those tables assigned to the XX LARGE tablespaces by default. These have been identified as high growth tables. An input value of one (1) would segregate each of the tables delivered in these tablespaces to its own tablespace.
(13) Commit Frequency	An explicit commit is issued after each table and index is created in the default DDL scripts. It is possible to vary the commit frequency between tables and indexes with this input parameter. A commit frequency of 10, for example, will indicate that PSTAAT should force an explicit commit after approximately every ten DDL statements.
(14) Recalculate Tablespace Allocation	Indicates whether you want PSTAAT to recalculate the Primary and Secondary space allocations for tablespaces, or use the defaults as indicated in the XXDDL script. For more details regarding the algorithm used to recalculate PRI and SEC space allocation, see the section titled Using PSTAAT to Customize DDL; Recalculating Primary and Secondary Space Allocations and Setting a Minimum Secondary Space Allocation.
(15) Minimum PRIQTY/SECQTY Allocation	Allows you to specify a minimum Primary and Secondary space allocation for tablespaces when allowing PSTAAT to recalculate the Primary and Secondary allocations. See the section titled Recalculating Primary and Secondary Space Allocations and Setting a Minimum Secondary Space Allocation for more details regarding the manner in which PSTAAT uses this input parameter.
(16) Bufferpool for PeopleTools Tables	PSTAAT will allocate PeopleSoft PeopleTools tables to this bufferpool.
(17) Bufferpool for Application Tables	PSTAAT will allocate Application tables to this bufferpool.
(18) Bufferpool for 32K Tables	Indicate the particular 32K bufferpool to be used for tables automatically allocated to 32K bufferpools.
(19) Bufferpool for Indexes	PSTAAT will allocate index data sets to this bufferpool.
(20) Bufferpool for Temp Tables	PSTAAT will allocate Temporary Tables to this bufferpool.
(21) Tablespace Storage Group	Stogroup to be used for tablespaces. Note. All tablespaces will be created using this stogroup. PSTAAT is not capable of assigning multiple tablespace stogroups.

(22) Index Storage Group	Stogroup to be used for indexes.
(23) Segment Size	Select a default segment size to be used for all tablespaces.
(24) Close Data Set?	Default close rule for VSAM data sets.
	Note. All tablespaces will use this close rule.

Note. LOCKSIZE does not appear as an override parameter on the GUI. LOCKSIZE is controlled automatically by PSTAAT. Those tables originally delivered in tablespaces set to a LOCKSIZE of ROW will be remapped to tablespaces also set to a LOCKSIZE of ROW automatically. All other tablespace DDL will be generated with a LOCKSIZE of ANY.

TableSpace Override Tab:

The Tablespace Override tab works in conjunction with the General Parameters tab. After completing the General Parameters tab, click the TableSpace Override tab to determine the exact object mapping as delivered by the default (traditional) installation.

PSTAAT determines the values in the TableSpace Override grid by parsing the following input from the General Parameters tab:

- Input Database/Tablespace DDL File, also known as the XXDDL script (General Parameters tab, parameter 2).
- Input Table DDL File, or TBDDL.SQL script (General Parameters tab, parameter 3).

	TableSpace	Table Count	PRIQTY	SECQTY	New Name
1	PTTBL	1211	100800	7200	
2	PTPRC	53	1440	1440	
3	PTPRJWK	1	1440	1440	
4	PTAPP	581	43200	4320	
5	PTAPPE	28	7200	1440	
6	PTAUDIT	1	1440	1440	
7	PTTREE	15	14400	1440	
8	PTTLRG	34	172800	8640	
9	PTAMSG	52	7200	1440	
10	PSIMAGE	174	172800	8640	
11	PSIMGR	9	7200	1440	
12	PTWORK	52	7200	1440	
13	PSIMORK	0	7200	1440	

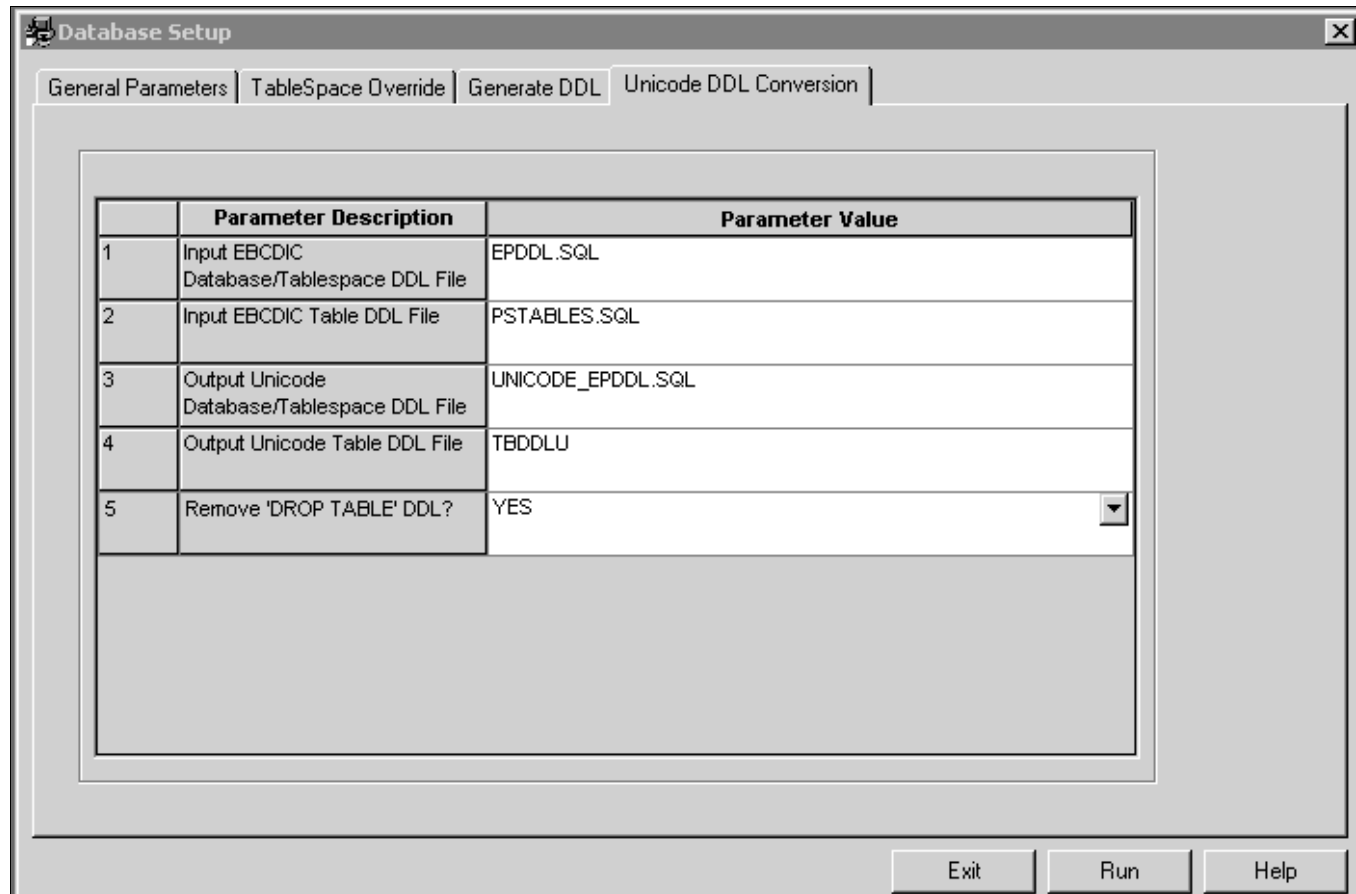
Database Setup page: TableSpace Override tab

Tablespace	There is one row in the grid for each tablespace found in the XXDDL script. The name of each tablespace is listed in this column.
Table Count	This is the number of tables that will be assigned to the tablespace by the default installation.
PRIQTY	Default Primary space allocation for the tablespace.
SECQTY	Default Secondary space allocation for the tablespace.
New Name	Allows you to override the default tablespace name with a custom tablespace name. Although it is possible to completely override the name of any tablespace, for documentation purposes, we recommend that you use the default PSTAAT behavior of using part of the default tablespace name as a prefix in generating new tablespace names for you. Use of the New Name input parameter is required in a specific circumstance that is documented later in this appendix. See Understanding How PSTAAT Assigns An Object Naming Convention later in this appendix for a more detailed explanation of how PSTAAT determines the tablespace naming convention.
Run Button	Click the Run button to optimize the DDL. PSTAAT will recreate the table-tablespace-database mapping based on the input parameters supplied in the General Parameters tab.

Unicode DDL Conversion tab:

The Unicode DDL Conversion Tab is used to 'convert' EBCDIC DDL data types to those data types required to create a PeopleSoft Unicode database. Note that this is simply one step in a multi-step process when converting an EBCDIC PeopleSoft environment to Unicode. Complete instructions for converting an EBCDIC PeopleSoft environment to Unicode are beyond the scope of this guide.

See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support (search for the article title).



	Parameter Description	Parameter Value
1	Input EBCDIC Database/Tablespace DDL File	EPDDL.SQL
2	Input EBCDIC Table DDL File	PSTABLES.SQL
3	Output Unicode Database/Tablespace DDL File	UNICODE_EPDDL.SQL
4	Output Unicode Table DDL File	TBDDLU
5	Remove 'DROP TABLE' DDL?	YES

Exit Run Help

Database Setup page: Unicode DDL Conversion tab

(1) Input EBCDIC/Tablespace DDL File	Enter the name of the EBCDIC Database/Tablespace DDL script (that is, <i>XXDDL.SQL</i>) for conversion. Note that the path where this file is located must be entered in input box 1 (Input Directory for DDL scripts) of the General Parameters tab.
(2) Input EBCDIC Table DDL File	Enter the name of the EBCDIC table DDL script to be converted to Unicode data types. This can be a DDL script created from an Application Designer project that contains PeopleSoft PeopleTools record definitions; or, a default <i>TBDDL.SQL</i> script. Note that this file must also be located in the folder specified by input parameter 1 (Input Directory for DDL scripts) on the General Parameters tab. See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).
(3) Output Unicode Database/Tablespace DDL File	Enter the name of the newly generated DDL script for creating databases, tablespaces, and stogroups using the Unicode encoding scheme. This output file will be written to the folder identified by input parameter 7, Output Directory for Generated DDL scripts on the General Parameters tab.
(4) Output Unicode Table DDL File	Enter the name of the newly created DDL script to create tables for storing data using the Unicode encoding scheme. This output file will also be written to the folder specified by input parameter 7, Output Directory for Generated DDL scripts on the General Parameters tab.
(5) Remove 'Drop Table' DDL	DDL created by Application Designer (when building a PeopleSoft PeopleTools project) may contain Drop Table statements for tables that Application Designer has determined already exist. When <i>YES</i> is selected from the drop down, PSTAAT will comment the Drop Table statements in the newly generated DDL. When <i>NO</i> is selected, the Drop Table statements are left uncommented in the new DDL script.

Understanding the Various PSTAAT Input and Output Files

PSTAAT is completely file driven. Although PSTAAT invokes Data Mover and Application Designer, each of which require a connection to the database server, PSTAAT itself does not communicate directly with DB2 z/OS and thus it is not capable of querying DB2. PSTAAT operates entirely by parsing various types of files (primarily DDL scripts), and then rewriting those files based on the input parameters specified in the General Parameters tab.

The following table describes the various input files, organized by location:

GUI Tab	File	Description
Generate DDL Tab	Database Input File	Located in <i>PS_HOME\data</i> . This is the same file used by Data Mover to populate the PeopleSoft database.
General Parameters Tab	Input Database/Tablespace DDL File	The name of the default database, tablespace, and stogroup DDL script (i.e. <i>XXDDL.SQL</i>)
General Parameters Tab	Input Table DDL File	The <i>TBDDL.SQL</i> DDL script that was generated from the Generate DDL tab or delivered with the installation files.

GUI Tab	File	Description
General Parameters Tab	Input Index DDL File	The IXDDL.SQL DDL script that was generated from the Generate DDL tab or delivered with the installation files.
General Parameters Tab	Input Temp Table DDL File	A temporary table DDL script as generated by Application Designer.
General Parameters Tab	Input Individual Table File	Input file of non-temporary PeopleSoft PeopleTools and Application tables for which the %UpdateStats metaSQL function is called. This file is delivered with the installation files.
Unicode Conversion Tab	EBCDIC/Tablespace DDL File	An EBCDIC default database, tablespace, and stogroup DDL script (i.e. XXDDL.SQL).
Unicode Conversion Tab	Input EBCDIC Table DDL File	An EBCDIC table DDL script to be converted to Unicode data types. This can be a DDL script created from an Application Designer project that contains PeopleSoft PeopleTools record definitions; or, a default TBDDL.SQL script. See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).

The following table describes the various output (new) files:

GUI Tab	File	Description
Generate DDL Tab PSTAAT will write five files to the folder specified in 'Output Directory for Generated DDL Scripts', input parameter four (4), of the Generate DDL tab.	Output Table DDL File Log File	Default table DDL script (i.e. TBDDL.SQL). The actual script name will depend on the value entered in Output Table DDL File, parameter eight (8), of the Generate DDL tab. To maintain consistency with previous releases of PeopleSoft PeopleTools, we recommend that you name the Table DDL script 'TBDDL.SQL' as shown in the examples in these instructions. A file with extension ".log" is also created with a name similar to the table DDL script (i.e. TBDDL.log). Each table name is written to this output log as Data Mover 'extracts' the table DDL from the database input file.

GUI Tab	File	Description
Generate DDL Tab	Output Index DDL File Log File	Default index DDL script (i.e. IXDDL.SQL). The actual script name will depend on the value entered in Output Index DDL File, parameter nine (9), of the Generate DDL tab. To maintain consistency with previous releases of PeopleSoft PeopleTools, we recommend that you name the Index DDL script 'IXDDL.SQL' as shown in the examples in these instructions. A file with extension ".log" is also created with a name similar to the index DDL script (i.e. IXDDL.log). Each index name is written to this output log as Data Mover 'extracts' the index DDL from the database input file.
Generate DDL Tab	pstaatExtractDDL.DMS	Data Mover extract script generated by PSTAAT. This is the actual script passed to Data Mover for the extraction of the default table and index DDL (TBDDL.SQL and IXDDL.SQL).
General Parameters and Tablespace Override Tabs PSTAAT will write several new DDL scripts to the folder specified in 'Output Directory for Generated DDL Scripts', parameter seven (7), of the General Parameters tab. Each will be prefaced with a lower case 'n'. In addition to the DDL scripts, PSTAAT also produces a log file.	nXXDDL.SQL	This is the new tablespace and database (DBD) DDL script. Non-temporary tables will be re-mapped among these tablespaces and databases based on the input parameters supplied to the General Parameters tab (that is, parameters 10-12; Maximum Number of Tables per Tablespace; Maximum Number of Tablespaces per Database, Bufferpool allocations, and so on).
General Parameters and Tablespace Override Tabs	nTBDDL.SQL	This is the new table DDL script. Non-temporary tables will be re-mapped among the tablespaces and databases found in the new nXXDDL.SQL script. The object mapping is based on the input parameters supplied to the General Parameters tab.
General Parameters and Tablespace Override Tabs	nIXDDL.SQL	This is the new index DDL script for all tables except temporary tables.

GUI Tab	File	Description
General Parameters and Tablespace Override Tabs	nTEMP.SQL	This is the new temporary table DDL script. It contains DDL to create temporary tables and indexes. Tables will be re-mapped among the tablespaces and databases generated in the tXXDDL.SQL script (see below) The DBD mapping is based on the input parameters supplied to the General Parameters tab. Tablespace names for temporary tables only, are hard-coded with the following naming convention: TMPnnnn, where nnnn is an ascending sequence number. Note. This file is produced only when the Input Temp Table DDL File parameter has been entered. See the task Using PSTAAT To Reassign Temporary Tables To Additional Tablespaces elsewhere in this appendix for further details.
General Parameters and Tablespace Override Tabs	tXXDDL.SQL	This script contains database and tablespace DDL for temporary tables
General Parameters and Tablespace Override Tabs	PTlog.txt	This log file summarizes the re-mapped object counts by tablespace and database in the new nXXDL.SQL and nTBDDL.SQL scripts. See the sample PTlog.txt output following this table. Note. The PTlog.txt log file contains non-temporary tables <i>only</i>.
Unicode Conversion Tab	Output Unicode Database/Tablespace DDL File	This is the new Database/Tablespace DDL script for creating databases and tablespaces. All 'Create Database' DDL statements are appended to include 'CCSID Unicode'.
Unicode Conversion Tab	Output Unicode Table DDL File	This is the new table DDL script with the converted Unicode data types. Note that all character and long character fields are converted to vargraphic and long vargraphic respectively; while date, integer, small integer, decimal, timestamp, and long varchar for bit data types remain unchanged.

Sample PTlog.txt output:

Database Summary:

PeopleSoft Primary Database: PSDB

Name	TableSpace	Count
PSDB0000		20
PSDB0001		20
PSDB0002		20
PSDB0003		20
PSDB0004		20
PSDB0005		20
PSDB0006		20
PSDB0007		20
PSDB0008		20
PSDB0009		20
PSDB000A		20
PSDB000B		20
Etc..		

Tools TableSpace Summary:

Name	Database	Table	Count
PTTBL			
PTTBL01	PSDB0000		30
PTTBL02	PSDB0000		30
Etc..			

Application TableSpace Summary:

Name	Database	Table	Count
OMAPP			
OMAPP01	PSDB000H		30
OMAPP02	PSDB000H		30
Etc.			
EXLARGE			
EXLARG01	PSDB0020		1
Etc.			

Task A-1: Using PSTAAT to Create TBDDL and IXDDL

The Generate DDL tab of the PSTAAT interface is capable of extracting TBDDL.SQL and IXDDL.SQL scripts from the database import file located in *PS_HOME\data*. Note that the TBDDL and IXDDL scripts extracted from PSTAAT will be identical to those delivered with the installation files. You are free to use either set of scripts

Perform this task on a workstation with the ability to connect to the DB2 z/OS database server. PSTAAT will invoke Data Mover to extract the default table and index DDL from the database file. Data Mover requires DB2 Connect. Recall that the User ID and Password input parameters require a valid mainframe ID (such as the database Access ID) and password because Data Mover will be invoked in bootstrap mode. Your mainframe security package (such as RACF or Top Secret) must be able to authenticate this ID.

To create the TBDDL.SQL and IXDDL.SQL scripts:

1. Start PSTAAT by double-clicking the PSTAAT executable file found in *PS_HOME\bin\client\winx86*.
2. Enter input values for parameters 1-9; and 12-13 of the Generate DDL tab.

Refer to Generate DDL tab Input Parameters under the section titled Understanding the PSTAAT Graphical User Interface for a detailed explanation of each input parameter. To maintain consistency with previous releases of PeopleSoft PeopleTools, we recommend that you use *TBDDL* and *IXDDL* as the DDL script file names for input parameters eight (8) and nine (9).

3. Select the Table radio button.

- Click the Run button.

	Parameter Description	Parameter Value
1	PeopleSoft Database Name	FSCM89
2	Unicode?	NO
3	Database Input File	C:\PT848106R2\DATA\epends.db
4	Output Directory for Generated DDL Scripts	C:\PT848106R2\SCRIPTS\VPSTAAT
5	Tablespace Storage Group	PSRTD1SG
6	Index Storage Group	PSRTX1SG
7	Database Object Owner	FPROD
8	Output Table DDL File	TBDDL

☒ Table
☐ Temp Table

Exit Run Help

Generate DDL page (1 of 2)

	Parameter Description	Parameter Value
7	Database Object Owner	FPROD
8	Output Table DDL File	TBDDL
9	Output Index DDL File	
10	Application Designer Project Name	
11	Application Designer Output Log File	
12	User ID	PSOFT
13	Password	*****

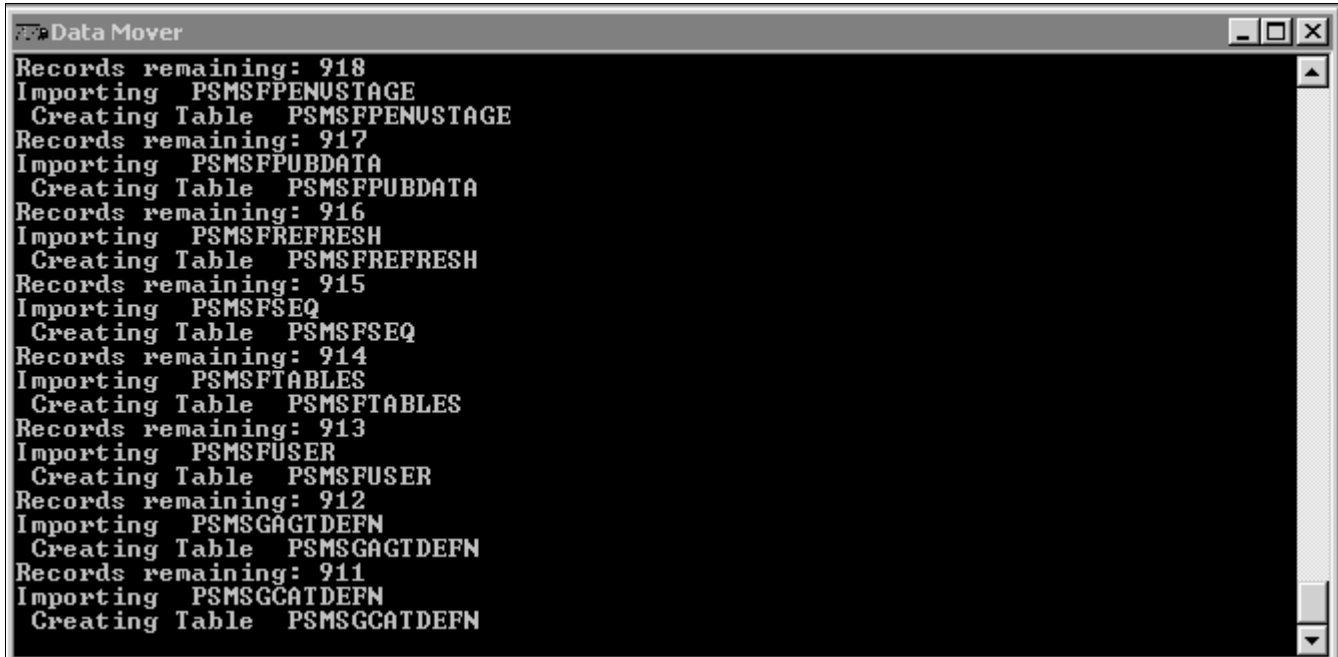
☒ Table
☐ Temp Table

Exit Run Help

Generate DDL page (2 of 2)

Clicking the run button invokes Data Mover. Data Mover will open a window similar to the following two examples as it writes the TBDDL and IXDDL scripts to the path specified in input parameter four (4), Output Directory for Generated DDL Scripts. Table DDL is extracted first, followed by the index DDL. The example displays messages such as **Importing PSMSFPENVSTATE, Creating Table PSMSFPENVSTATE, and Records Remaining 917.**

Note. 'Creating Table ..' and 'Building required indexes for..' messages will scroll to the output window as Data Mover generates the DDL. These windows will close automatically as soon as Data Mover has completed. Data Mover is simply writing the DDL to an output file—it is *not* creating any database objects in the DB2 subsystem.

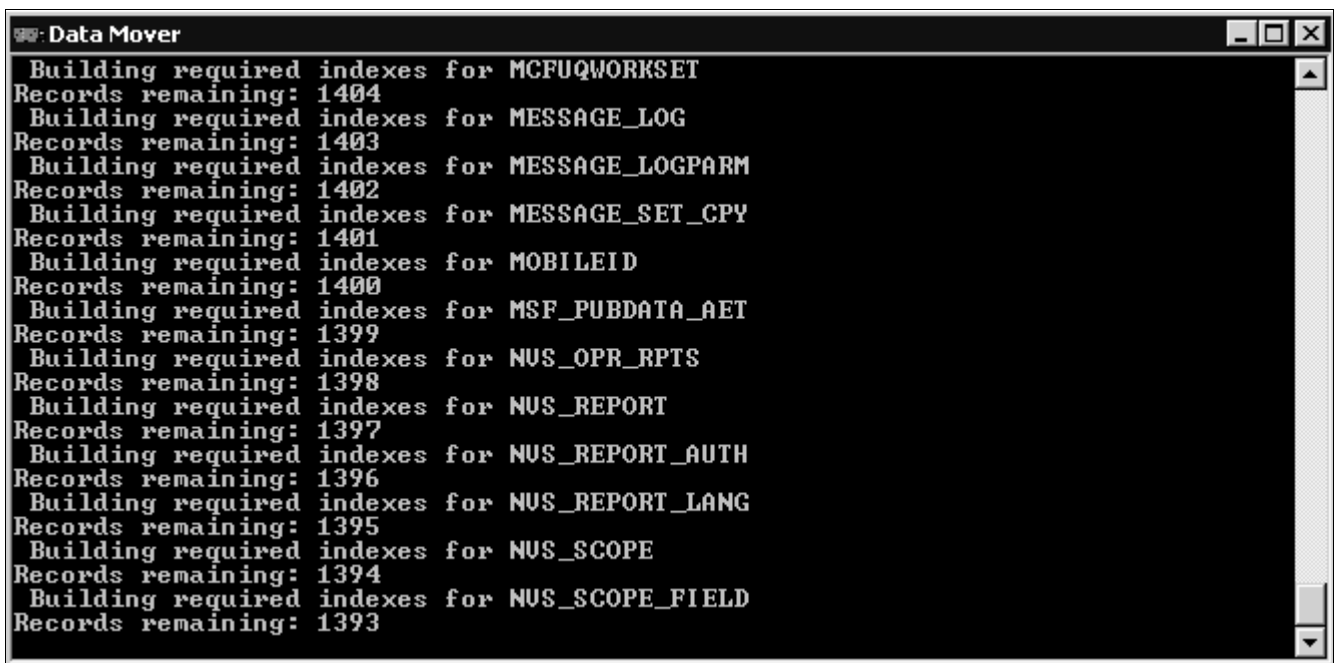


```

Data Mover
Records remaining: 918
Importing PSMSFPENUSTAGE
Creating Table PSMSFPENUSTAGE
Records remaining: 917
Importing PSMSFPUBDATA
Creating Table PSMSFPUBDATA
Records remaining: 916
Importing PSMSFREFRESH
Creating Table PSMSFREFRESH
Records remaining: 915
Importing PSMSFSEQ
Creating Table PSMSFSEQ
Records remaining: 914
Importing PSMSFTABLES
Creating Table PSMSFTABLES
Records remaining: 913
Importing PSMSFUSER
Creating Table PSMSFUSER
Records remaining: 912
Importing PSMSGAGTDEFN
Creating Table PSMSGAGTDEFN
Records remaining: 911
Importing PSMSGCATDEFN
Creating Table PSMSGCATDEFN

```

Data Mover extracting Table DDL



```

Data Mover
Building required indexes for MCFUQWORKSET
Records remaining: 1404
Building required indexes for MESSAGE_LOG
Records remaining: 1403
Building required indexes for MESSAGE_LOGPARM
Records remaining: 1402
Building required indexes for MESSAGE_SET_CPY
Records remaining: 1401
Building required indexes for MOBILEID
Records remaining: 1400
Building required indexes for MSF_PUBDATA_AET
Records remaining: 1399
Building required indexes for NUS_OPR_RPTS
Records remaining: 1398
Building required indexes for NUS_REPORT
Records remaining: 1397
Building required indexes for NUS_REPORT_AUTH
Records remaining: 1396
Building required indexes for NUS_REPORT_LANG
Records remaining: 1395
Building required indexes for NUS_SCOPE
Records remaining: 1394
Building required indexes for NUS_SCOPE_FIELD
Records remaining: 1393

```

Data Mover extracting Index DDL

Note. At this point, you have the option of executing the default TBDDL.SQL and IXDDL.SQL scripts as directed by the "Creating a Database" chapter; or you may continue to use PSTAAT to optimize them as described in the subsequent sections of this appendix.

Task A-2: Using PSTAAT to Customize DDL

This section discusses:

- Understanding How PSTAAT Assigns an Object Naming Convention
- Choosing a Primary Database Prefix and Maximum Number of Tables per Tablespace and Tablespaces per Database
- Using the New Name Parameter to Override Tablespace Name
- Customizing DDL Scripts
- Recalculating Primary and Secondary Space Allocations and Setting a Minimum Secondary Space Allocation With PSTAAT
- Using PSTAAT to Override the Default Bufferpool Assignment
- Using PSTAAT to Override the Default Segment Size
- Validating Input

Understanding How PSTAAT Assigns an Object Naming Convention

For databases, PSTAAT uses the Primary Database Prefix of the General Parameters tab as a constant when deriving the naming convention to be used for the individual physical databases that will comprise the logical PeopleSoft database. PSTAAT will use the prefix entered here as the first part of the database naming convention, and generate an ascending sequence for the remainder of the eight character DB2 z/OS database name.

For example, entering *HCMPD* as the Primary Database Prefix on the General Parameters tab allows PSTAAT to use the remaining three "free" characters to generate database names with the following ascending naming convention:

HCMPD000, HCMPD001, HCMPD002, HCMPD003, ...HCMPD009, HCMPD00A, HCMPD00B...etc.

Choosing a Primary Database Prefix and Maximum Number of Tables per Tablespace and Tablespaces per Database

Databases:

Note. Depending on the desired number of tables to be assigned per tablespace, desired number of tablespaces to be assigned per database, and the total number of tables to be created, entering a Primary Database Prefix value greater than five characters may cause PSTAAT to exhaust the possible unique values to use in generating the ascending sequence. *This can result in duplicate database names, causing the DDL to fail when it is ultimately executed on the DB2 z/OS database server.*

A primary database prefix of three characters, or five characters at the most, is highly recommended to prevent duplicate database names in the generated DDL script.

Note. The maximum number of databases that can be created in a DB2 subsystem is approximately 65,271 (see Appendix A of the DB2 for z/OS SQL Reference for details). Be aware that it is possible to reach this limit when using PSTAAT to install large PeopleSoft applications and in doing so, allocating very few tables per tablespace and grouping very few tablespaces per database. Hence, a complete one table per tablespace, one tablespace per database configuration may not be possible depending on the number of tables contained in the application. It is also possible to reach the internal DB2 database limit in situations where PeopleSoft applications share the subsystem with other applications.

IBM has suggested the following very general guidelines with respect to "object mapping" for DB2 z/OS:

- If possible, create no more than 50 tables per individual physical database.
- Try to limit the total number of objects created per database descriptor (DBD) to no more than 1000. Objects that constitute the DBD include, but are not limited to, all tablespaces, tables, indexes, index spaces, relationships, and so on, that reside in a single physical DB2 database.

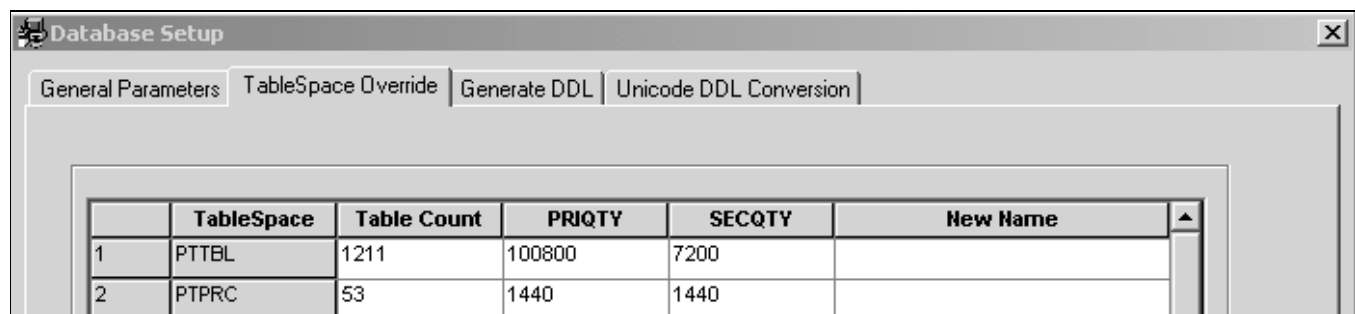
Note that these are only general guidelines and may not be adequate for every installation.

Tablespaces:

The tablespace naming convention is controlled internally by PSTAAT. PSTAAT derives an ascending sequence for tablespace names similarly to the manner in which it does so for database names. Depending on the length of the default tablespace name and the number of tables to be assigned per tablespace, PSTAAT will use up to five or six characters of the default tablespace name, and then append an ascending sequence for the remainder of the eight character DB2 z/OS tablespace name.

For example, the TableSpace Override tab (in the following example) indicates that there are 1,211 tables by default in tablespace PTTBL. Requesting a one table per tablespace configuration by entering one (1) in the Maximum Number of Tables per Tablespace text box of the General Parameters tab causes PSTAAT to create 1,211 tablespaces—one for each table delivered in tablespace PTTBL. The 1,211 tablespaces will be named as follows:

PTTBL01, PTTBL02, PTTBL03, PTTBL04...PTTBL0A, PTTBL0B...etc., through⇒
PTTBLXN



	TableSpace	Table Count	PRIQTY	SECQTY	New Name
1	PTTBL	1211	100800	7200	
2	PTPRC	53	1440	1440	

Reviewing Table Count on the TableSpace Override tab

Using the New Name Parameter to Override Tablespace Name

As indicated previously, the New Name input parameter, found on the TableSpace Override tab, allows you to override the default tablespace name with a custom tablespace name. Although it is possible to completely override the name of any tablespace, we do recommend that you allow PSTAAT to determine new tablespace names for you except for the circumstance described in this section.

Use this information to prevent duplicate Tablespace names when the default XXDDL script contains similarly named Tablespaces.

Some of the delivered *XXDDL.SQL* scripts contain default tablespace names that are similar to the naming convention used by PSTAAT. The following example is from the *EPDDL.SQL* script:

	TableSpace	Table Count	PRIQTY	SECQTY	New Name
22	CULARGE	27	720	3600	CULG
23	CULARG1	0	720	3600	
24	CULARG2	0	720	3600	
25	CULARG3	10	720	3600	CULG1

Using the New Name parameter on the TableSpace Override tab

Because PSTAAT may use up to five or six of the original characters when determining the new tablespace name, it is possible that PSTAAT will create duplicate tablespace names when it encounters multiple tablespaces in the default *XXDDL.SQL* script named with as many identical, consecutive characters. For example:

CULARGE, CULARG1, CULARG2, CULARG3

To prevent duplicate tablespace names in this circumstance, review the list of default tablespace names in the TableSpace Override grid before clicking the Run button in the procedure below, Customizing DDL Scripts, to generate optimized DDL. Add an override value to the New Name text box next to any series of tablespaces for which the default naming convention includes 5 or more identical consecutive characters. PSTAAT will substitute the specified override value when it is generating tablespace names for optimized DDL.

Task A-2-1: Customizing DDL Scripts

PSTAAT can assist you in the following:

- Customizing the DDL by allowing you to override the supported PeopleSoft PeopleTools DDL parameters for DB2 z/OS so they more closely fit standards at your site.
- Creating a more optimal mapping of non-temporary tables among tablespaces and databases.
- Isolating temporary tables and certain PeopleSoft application and PeopleSoft PeopleTools tables to individual tablespaces for use with the %UpdateStats metaSQL function and to enhance concurrency.

To optimize the default *XXDDL.SQL*, *TBDDL.SQL*, and *IXDDL.SQL* scripts:

1. If it is not already running, start PSTAAT by double-clicking on the executable file found in *PS_HOME\bin\client\winx86*.
2. Select the General Parameters tab.
3. Enter the desired General Parameters input values.

For a detailed explanation of each of these input parameters, refer to the previous section titled General Parameters Tab Input under the section called Understanding the PSTAAT Graphical User Interface.

4. Select the TableSpace Override tab to view the table count per tablespace as defined by the default *XXDDL.SQL* and *TBDDL.SQL* scripts; and the default Primary and Secondary space allocations.
5. Click the Run button.

PSTAAT will parse the default *XXDDL*, *TBDDL*, *IXDDL* and Temp scripts, and the Individual table file table script (input parameters 2-6), and write the corresponding new DDL scripts.

6. View the PTlog.txt file to see the database and tablespace names generated by PSTAAT, and the new object count per tablespace and database.

If you are unsatisfied with the object mapping and want to regenerate the DDL, you may do so by repeating steps 2-6 above using new input parameters. Each of the output scripts (nTBDDL.SQL, nIXDDL.SQL, Temp, and nXXDDL.SQL and so on) will be rewritten.

See the previous sections for important details to keep in mind when choosing the primary database prefix, table and tablespace counts per DBD, Bufferpool allocations, and the default Segsize.

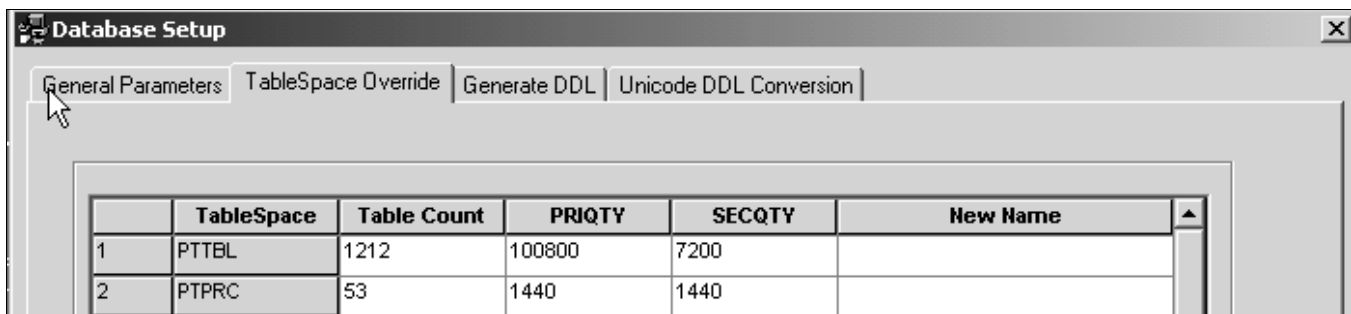
See Understanding How PSTAAT Assigns an Object Naming Convention.

See Choosing a Primary Database Prefix and Maximum Number of Tables per Tablespace and Tablespaces per Database.

See Using the New Name Parameter to Override Tablespace Name.

Task A-2-2: Recalculating Primary and Secondary Space Allocations and Setting a Minimum Secondary Space Allocation With PSTAAT

As PSTAAT parses the Database and Tablespace DDL script (XXDDL.SQL) and writes new tablespace DDL based on the table count provided, it always applies the original primary and secondary space allocation to each new tablespace that is generated unless the Recalculate Tablespace Allocation text box (General Parameters) is set to *YES*. The original primary and secondary allocations as read from the XXDDL.SQL input file are always displayed in the TableSpace Override tab, as shown in this example:



	TableSpace	Table Count	PRIQTY	SECQTY	New Name
1	PTTBL	1212	100800	7200	
2	PTPRC	53	1440	1440	

Reviewing primary and secondary space allocations on the TableSpace Override tab

Once again using PTTBL as an example, and a hypothetical value of one (1) for input parameter ten (10) of the General Parameters tab, Maximum Number of Tables per Tablespace (Regular), PSTAAT will create all 1,211 individual tablespaces for each table originally assigned to PTTBL with the original Primary and Secondary space allocations of 100800 and 72000, respectively.

The default allocation may be less than ideal for each of the 1,211 tables when assigned to an individual tablespace. PSTAAT will thus recalculate these allocations when Input parameter 14, Recalculate Tablespace Allocation, is set to YES, and a value is provided for Minimum PRIQTY/SECQTY Allocation, as shown in this example:

	Parameter Description	Parameter Value
11	Maximum Number of Tables per Tablespace (Regular)	100
12	Maximum Number of Tables per Tablespace (Large)	1
13	Commit Frequency	10
14	Recalculate Tablespace Allocation?	YES
15	Minimum PRIQTY/SECQTY Allocation	1400

Setting up recalculation of tablespace allocation on General Parameters tab

This example shows the allocations for PTTBL and PTAPP on the TableSpace Override tab:

	TableSpace	Table Count	PRIQTY	SECQTY	New Name
1	PTTBL	1211	100800	7200	
2	PTPRC	53	1440	1440	
3	PTPRJWK	1	1440	1440	
4	PTAPP	581	43200	4320	

Reviewing allocations on TableSpace Override tab

The recalculation method is described here using tablespaces PTTBL and PTAPP as examples:

Example with Tablespace PTTBL:

PSTAAT creates DDL for 13 tablespaces each with a PRIQTY of 7753 and SECQTY of 5538.

```
CREATE TABLESPACE PTTBL01 IN HCMPD000
  USING STOGROUP PSRTDISG PRIQTY 7753 SECQTY 5538
  FREPAGE 20 PCTFREE 0
  SEGSIZE 4 BUFFERPOOL BP1 LOCKSIZE ANY CLOSE NO ;
```

- 1211 tables / 100 tables per tablespace = 13 tablespaces
- PRIQTY becomes 7753 (100800 / 13)
- SECQTY becomes 5538 (72000 / 13)

- The value for Input Parameter 15, Minimum PRIQTY/SECQTY Allocation (1440) was not used because it is less than the SECQTY calculated by PSTAAT.

Example with Tablespace PTAPP:

PSTAAT creates DDL for six tablespaces each with a PRIQTY of 7200 and SECQTY of 1440.

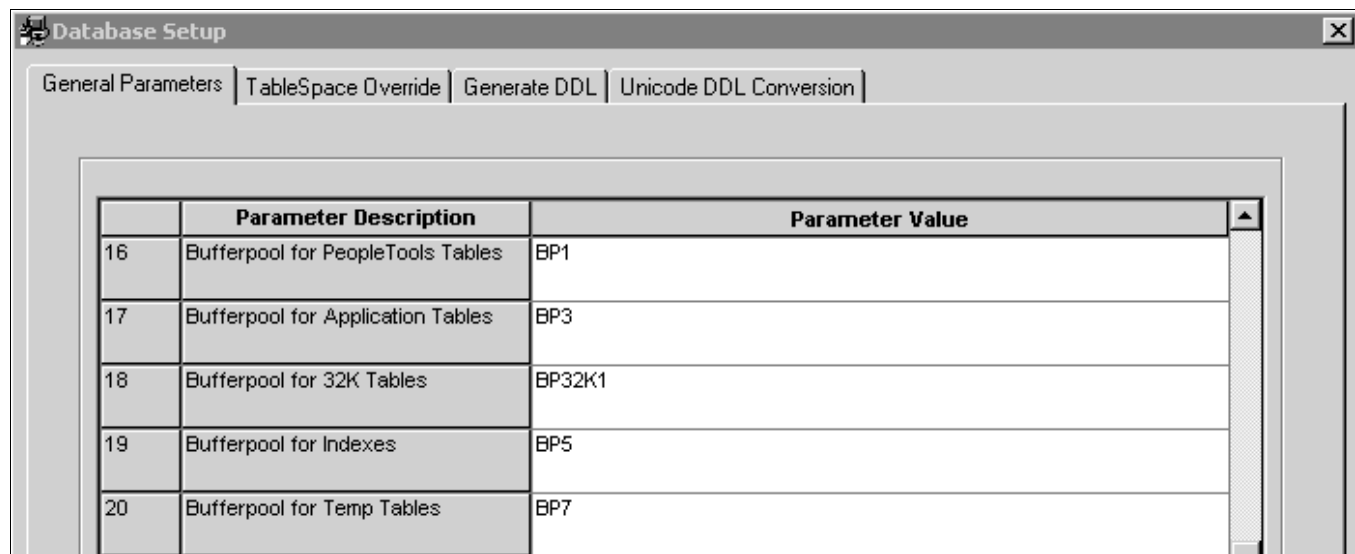
```
CREATE TABLESPACE PTAPP01 IN HCMPD001
    USING STOGROUP PSRTDISG PRIQTY 7200 SECQTY 1440
    FREEPAGE 20 PCTFREE 0
    SEGSIZE 4 BUFFERPOOL BP1 LOCKSIZE ANY CLOSE NO ;
```

- 581 tables / 100 tables per tablespace = 6 tablespaces
- PRIQTY becomes 7200 (43200 / 6)
- The value for Input Parameter 15, Minimum PRIQTY/SECQTY Allocation, is substituted (1440) in this case because it is greater than the quantity calculated by PSTAAT: (4320 / 6 = 720).

Note. PSTAAT will always choose the greater value between the value that it calculates and the value specified in the Minimum PRIQTY/SECQTY Allocation text box.

Task A-2-3: Using PSTAAT to Override the Default Bufferpool Assignment

It is possible to override the default bufferpool assignments found in the XXDDL.SQL script with PSTAAT as follows:



Reviewing bufferpool assignments on General Parameters tab

- PeopleSoft PeopleTools tables and PeopleSoft application tables will be assigned to two separate bufferpools. On the example shown here, note that all PeopleSoft PeopleTools tables will be assigned to the bufferpool specified for General Parameters tab, Input parameter 16; and all PeopleSoft applications tables will be assigned to the bufferpool specified for Input parameter 17.
- Determine the specific 32 KB bufferpool (such as BP32K, BP32K1, and BP32K2) that you want to use for those objects that require a 32 KB bufferpool and enter it into input parameter 18. Certain PeopleSoft PeopleTools and PeopleSoft applications tables are assigned to BP32K through the default XXDDL.SQL and TBDDL.SQL scripts because their row length requires the larger page size. PSTAAT will substitute the value of input parameter 18 for each table originally assigned to BP32K in the default script.

- Indexes will be assigned to a specific bufferpool (input parameter 19).
- Temporary tables will be assigned to a specific bufferpool (input parameter 20).

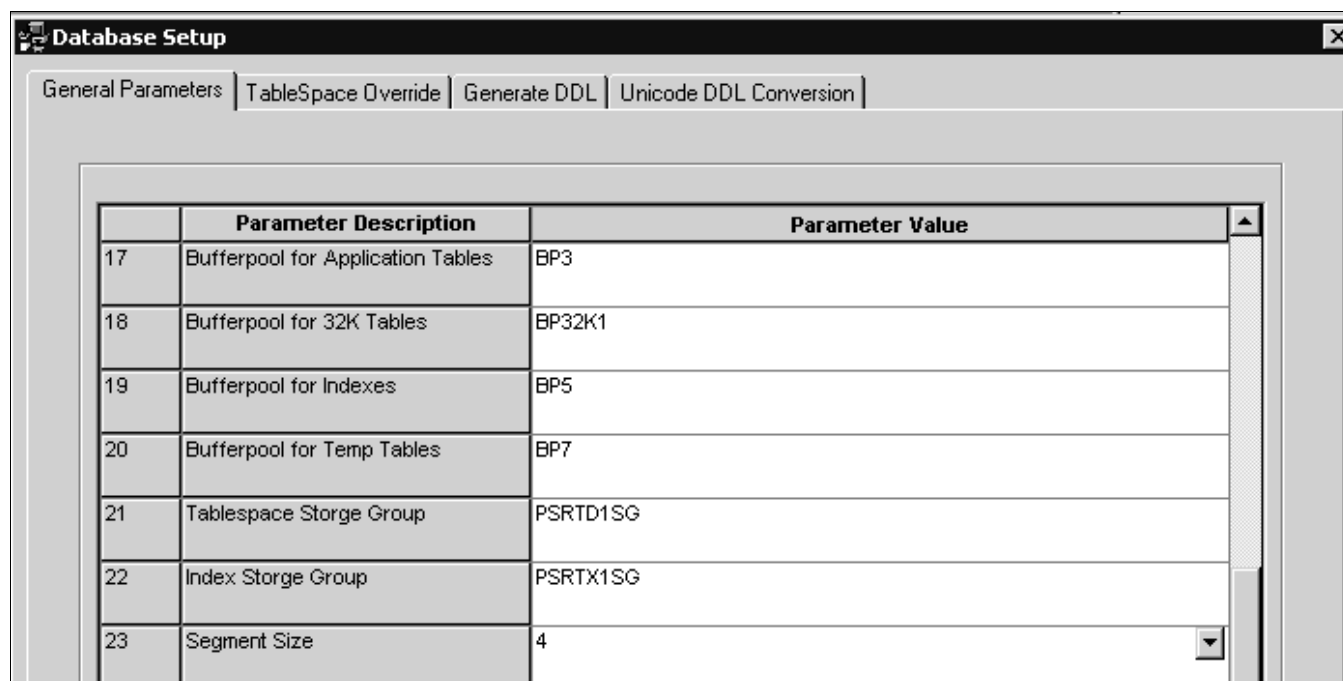
The default Unicode *XXDDL*.SQL script alternates bufferpool assignments between BP8K0, BP8K1, BP8K2, and BP8K3. When given an *XXDDL*.SQL script as input, PSTAAT simply substitutes the values of input parameters 16-20 for the default assignments in the original Unicode script. Be careful to specify legitimate 8 KB bufferpools when optimizing a *Unicode XXDDL*.SQL with PSTAAT. PSTAAT will not validate the validity of the bufferpools specified in the graphical user interface for a Unicode installation.

Note. You must enter legitimate, active bufferpools for input parameters 16-20, or the DDL generated by PSTAAT will fail. PSTAAT will not validate the syntax or legitimacy of the bufferpools entered for any of these input parameters.

The bufferpool override capability of PSTAAT is merely intended to provide a modest level of additional flexibility in making bufferpool assignments over the default assignments found in the *XXDDL*.SQL scripts. It is not possible for PSTAAT to determine an optimal run time configuration for production environments based on its script parsing and reformatting capabilities.

Task A-2-4: Using PSTAAT to Override the Default Segment Size

It is possible to override the default SEGSIZE assignment for each tablespace found in the *XXDDL*.SQL script with PSTAAT as follows:



	Parameter Description	Parameter Value
17	Bufferpool for Application Tables	BP3
18	Bufferpool for 32K Tables	BP32K1
19	Bufferpool for Indexes	BP5
20	Bufferpool for Temp Tables	BP7
21	Tablespace Storage Group	PSRTD1SG
22	Index Storage Group	PSRTX1SG
23	Segment Size	4

Reviewing segment size on General Parameters tab

- Select a valid SEGSIZE from the drop-down list box provided for input parameter 23 of the General Parameters tab, as shown in this example.
- PSTAAT will substitute the value selected from the list box of input parameter 23 for the SEGSIZE of *all* tablespaces.

Note. Obviously, using the same SEGSIZE value for all tablespaces leads to a less than optimal configuration for a production run-time environment. Using a particularly large SEGSIZE for a table that consumes few pages will waste excessive amounts of disk space.

Similar to the bufferpool override capability of PSTAAT, the SEGSIZE override is merely intended to provide a modest level of additional flexibility in making SEGSIZE assignments over the default assignments found in the *XXDDL.SQL* scripts. It is not possible for PSTAAT to provide an optimal run time configuration for a production environment based on its script parsing and reformatting capabilities.

For more details regarding the use of the SEGSIZE parameter, consult the DB2 for z/OS Administration Guide.

Task A-2-5: Validating Input

As previously alluded, PSTAAT is not capable of validating the legitimacy of certain input parameters that will ultimately be substituted into the reformatted *nXXDDL.SQL*, *nTBDDL.SQL*, and *nIXDDL.SQL* scripts.

Warning! Caution must be exercised when entering certain input parameters because PSTAAT does not validate the syntax or legitimacy of these items. Review all DDL scripts generated by PSTAAT before executing them.

Invalid input for the following parameters could lead to DDL that will fail when executed on the DB2 z/OS database server:

Generate DDL Tab:

- **Input Parameter 1: PeopleSoft Database Name**
PSTAAT is incapable of determining whether the logical database name that you have chosen already exists in PS.PSDBOWNER, nor can it validate that it has been properly cataloged with DB2 Connect.
- **Input Parameters 5 and 6: Tablespace and Index Storage Group**
PSTAAT is not capable of pre-determining whether the STOGROUPs provided exist in the DB2 subsystem, nor can it validate the names for the presence of typographical errors.
- **Input Parameter 7: Database Object Owner**
PSTAAT is incapable of determining whether the value entered as the Database Object Owner has already been used within the DB2 z/OS subsystem for a non-PeopleSoft application. Using an owner id previously used by a non-PeopleSoft application can create problems when auditing the PeopleSoft database. PSTAAT is also incapable of determining whether the proper security setup steps have been completed with respect to the Database Object Owner. Review the section Understanding Database Creation in the first chapter of this documentation for more details regarding the specific requirements of the Owner Id.
See "Preparing for Installation," Planning Database Creation.
- **Input Parameter 10: Application Designer Project Name**
PSTAAT is incapable of determining whether this project exists in the PeopleSoft database. This project must already exist, as PSTAAT will pass the project name directly to Application Designer to create temporary table DDL.

Any error messages that indicate a problem with the Application Designer project are directed to the log file specified in the Logging tab of the Build Settings dialog. Here is an example of the log file error output:

```
PeopleSoft Project Command Line
Build Project
Project Name: WRONG
Tools Release: 8.51
-CT Source Database Type = DB2ODBC
-CD Source Database Name = PTAAT848
```

-CO Source Database Operator = QEDMO

**Project WRONG is not valid or does not exist in the database.
Error - failure in command line build**

See Using PSTAAT to Isolate Temporary Tables To Individual Tablespaces.

- Input Parameters 12 and 13: User Id and Password

PSTAAT will pass the user id and password entered in input parameters 12 and 13 directly to a command line initiated Data Mover or Application Designer task depending on the settings of the Table/Temporary Table radio buttons. Data Mover or Application Designer (not PSTAAT) will subsequently make a connection to DB2 z/OS through DB2 Connect when creating the default TBDDL.SQL and IXDDL.SQL scripts, or creating temporary table DDL.

PSTAAT is incapable of validating the accuracy of the user ID and password prior to passing them on to Data Mover or Application Designer. Both the Data Mover task initiated to extract default table and index DDL, and the Application Designer task initiated to create temporary tables run asynchronously to PSTAAT, and there will be no Windows message boxes sent to the workstation in the event that the user ID and password combination is invalid.

- Invalid ID and/or password passed to Data Mover:

When attempting to extract table and index DDL with an invalid ID or password, an error message is displayed temporarily as Data Mover scrolls data to its output window (see Using PSTAAT to Create TBDDL and IXDDL); and the task will end without generating DDL. In most cases, if PSTAAT runs but fails to generate the TBDDL.SQL and IXDDL.SQL, the cause will be an incorrect user ID-password combination, or a failed Data Mover connection to DB2 z/OS due to problems with the DB2 Connect configuration.

- Invalid ID and/or password passed to Application Designer:

When creating temporary table DDL, any messages issued by Application Designer due to an invalid ID and/or password will be written to the log file specified for input parameter 11, Application Designer Output Log File.

General Parameters Tab:

- Input Parameter 8: Primary Database Prefix

PSTAAT is incapable of determining whether the value supplied as the Primary Database Prefix will cause database names to be generated that already exist in the DB2 z/OS subsystem as it creates the new nXX DDL.SQL script.

- Input Parameter 9: Database Object Owner

The same restrictions apply to those for input parameter 7 of the Generate DDL tab (see above).

- Input Parameters 16-20: Bufferpool Overrides

PSTAAT cannot validate the syntax or legitimacy of the bufferpools entered for any of these input parameters. It cannot determine whether a particular bufferpool has been activated in the DB2 subsystem, or whether 32 KB or 8 KB bufferpools have been supplied when required.

See Using PSTAAT to Override the Default Bufferpool Assignment.

- Input Parameters 21-22: Tablespace and Index Storage Groups

The same restrictions apply to those for input parameters 5 and 6 of the Generate DDL tab (see above).

Task A-3: Using PSTAAT to Reassign Temporary Tables to Additional Tablespaces

PSTAAT can be used to reassign temporary table instances to additional tablespaces. Doing so can improve the performance and concurrency of Application Engine and %UpdateStats processing.

Here is an overview of the process:

1. Generate the temporary table and index DDL from an Application Designer project.
2. Create the project as described in the task Building the Temporary Tables and their Indexes (steps 1-8).
See "Creating a Database," Building Temporary Tables.
3. After the project has been created:
Use PSTAAT to invoke Application Designer through the command line to build the project (write the table DDL script). This procedure is described below.
OR
Build the project manually by selecting the Build Script File option on the Build Execute Options dialog box as described in the task Building the Temporary Tables and their Indexes (steps 9-18).
See "Creating a Database," Building Temporary Tables.

The result is identical whether you let PSTAAT call Application Designer to build the project, or build it yourself (by following steps 1-18 of the task Building the Temporary Tables and their Indexes)—the default temporary table and index DDL file.

4. Use PSTAAT to parse the default temporary table DDL, create the additional databases, and remap the tablespace assignments.

Instructions for obtaining the default temporary DDL script by allowing PSTAAT to invoke Application Designer to build the project follow:

1. Start PSTAAT by double-clicking on the PSTAAT.exe found in *PS_HOME\bin\client\winx86*.
Select the Generate DDL tab.
2. Enter the name of the database into Parameter 1, PeopleSoft Database Name on the Generate DDL tab.
Recall that a database connection is required to invoke Application Designer, so this database name must match the alias name cataloged with DB2 Connect.
3. Create an Application Designer project that contains the temporary table object definitions as described in steps 1-8 of the task Building the Temporary Tables and their Indexes.
Save the project name as TEMPTBL.
4. From Application Designer, choose Build, Project.

5. In the Build Settings dialog box, enter a log file name on the Logging tab, and select Log to File if it is not already checked.

Enter the name of this log file into Parameter 11, Application Designer Output Log File, of the Generate DDL tab of PSTAAT. In this example, the log file name is C:\temp\temp.log.

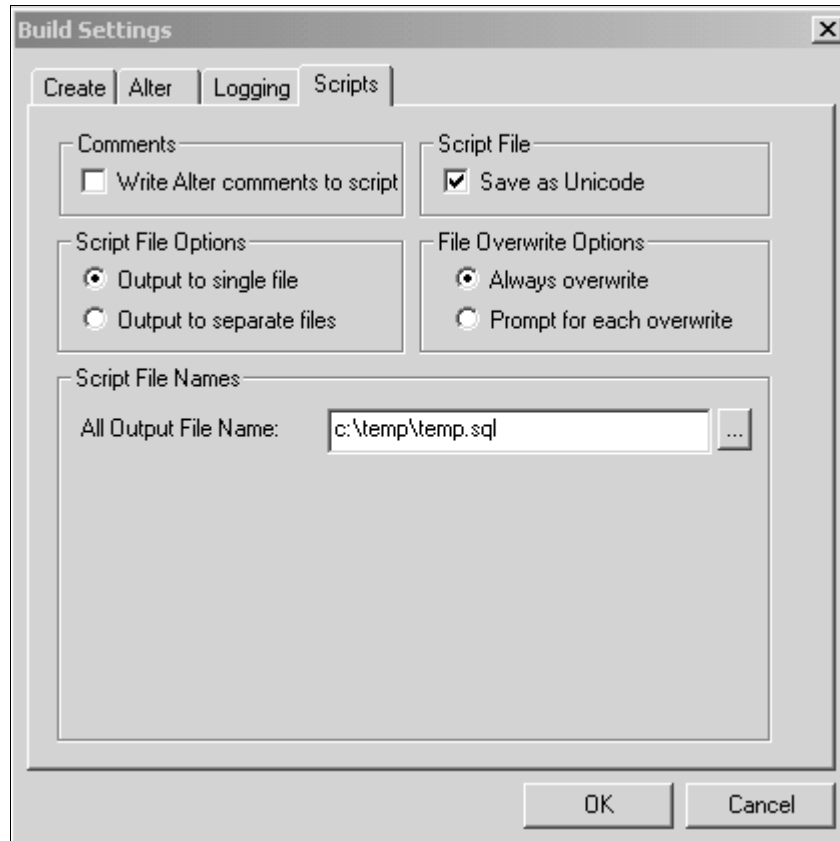


Build Settings dialog box: Logging tab

6. Select the Scripts tab of the Build Settings dialog box.

7. Select the Output to a single file radio button under Script File Options, and enter a script name for the DDL file to be created under Script File Names, which is c:\temp\temp.sql in this example. The temporary table DDL script will be written to this location.

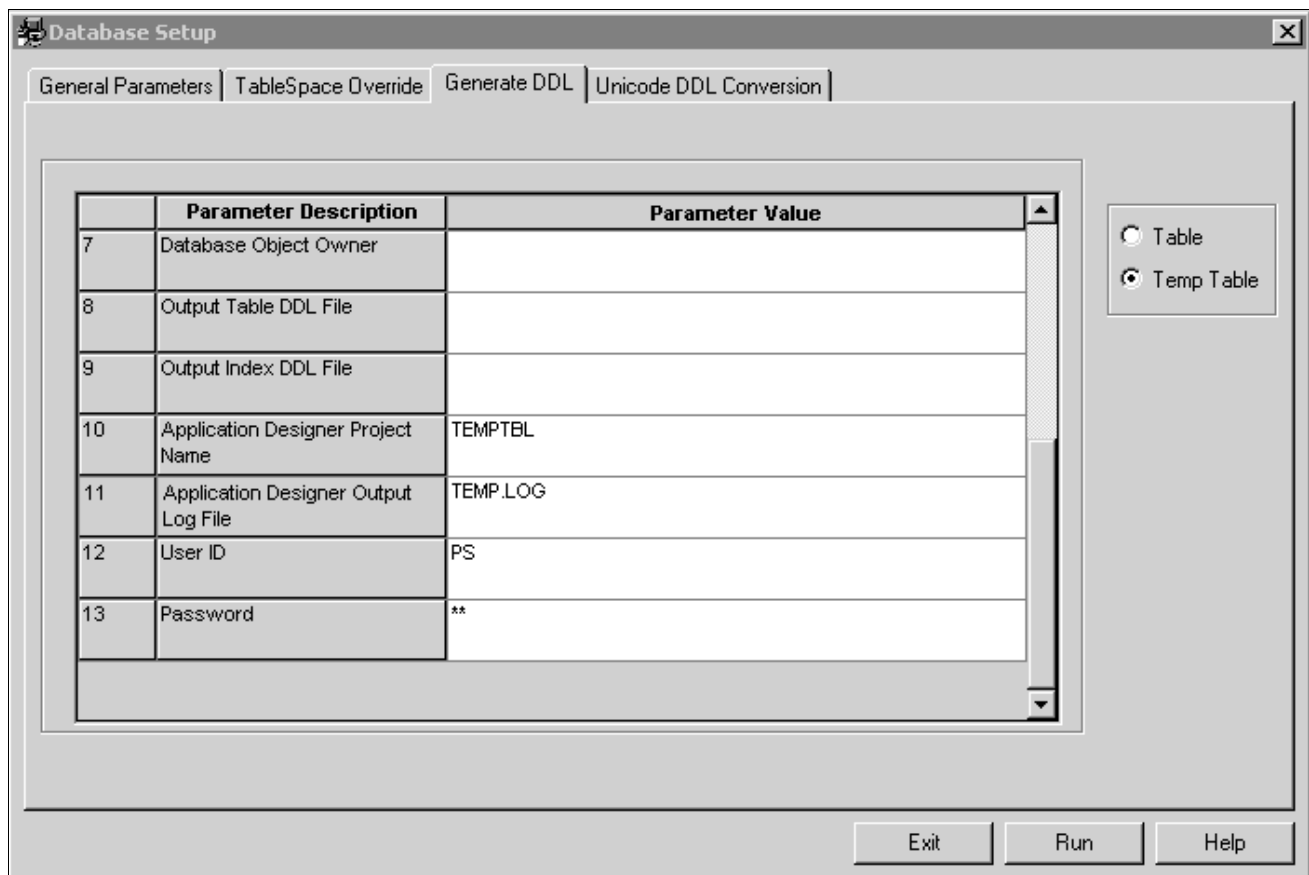
You may close Application Designer now.



Build Settings dialog box: Scripts tab

8. Enter the name of the project (TEMPTBL) into Parameter 10, Application Designer Project Name, of the Generate DDL tab of PSTAAT
9. Enter a valid PeopleSoft user ID and password combination (for example, VP1/VP1 or PS/PS) into input Parameters 12 and 13.

10. Select the Temp Table radio button on the Generate DDL tab of PSTAAT, as shown in this example:



Selecting Temp Table option on the Generate DDL tab

11. Click the Run button.

PSTAAT will invoke Application Designer via command line to build the project, and create the default temporary table DDL. If you closed Application Designer after creating the TEMPTBL project, you will briefly see the PeopleSoft PeopleTools splash screen as PSTAAT invokes Application Designer to build the TEMPTBL project and generate the default temporary table DDL script. This will be the only visual cue that Application Designer has been invoked. Note that you will not see the splash screen if you left Application Designer running after creating the TEMPTBL project.

12. Look for the temporary table DDL script in the folder specified on the Scripts tab of the Build Settings dialog box (see step 7 above).

13. Select the General Parameters Tab of PSTAAT to reassign the temporary tables to additional tablespaces and databases.

14. Copy the default temporary table DDL script just created (TEMP.SQL in the example shown) to the location specified in Parameter 1, Input Directory for DDL scripts on the General Parameters tab.

15. Enter the name of the temporary table DDL script (TEMP.SQL) for Parameter 5, Input Temp DDL File of the General Parameters tab.

16. Fill in all of the remaining General Parameters tab inputs.

Review these sections for more details on the General Parameters tab and its input parameters: Understanding the PSTAAT Graphical User Interface, Understanding the Various PSTAAT Input and Output Files, and Using PSTAAT to Customize DDL.

17. Select the TableSpace Override tab, and then click the Run button.

PSTAAT will write the following files to the Output Directory for Generated DDL Scripts:

```
tXXDDL.SQL
nTEMP.SQL
nXXDDL.SQL
nTBDDL.SQL
nIXDDL.SQL
Ptlog.txt
```

See the Output Files section of Understanding the Various PSTAAT Input and Output Files.

nTEMP.SQL is the "new" temporary table DDL script. tXXDDL.SQL contains database and tablespace DDL for the temporary tables found in nTEMP.SQL.

Tables will be re-mapped as follows:

- The DBD (database) mapping is based on the input parameters supplied to the General Parameters tab.
- Tablespace names within the tXXDDL.SQL script are hard-coded with the following naming convention, where *nnnn* is an ascending sequence number.

```
TMPnnnn
```

- PRI and SEC quantities are hard-coded (720 and 1400 respectively). You are free to customize them for your environment prior to executing the DDL.
- Bufferpool assignment, CLOSE rule, and SEGSIZE are determined by the input specified on the General Parameters tab.

Sample tablespace DDL:

```
CREATE TABLESPACE    TMP0001 IN Q848107G
      USING STOGROUP PSRTD1SG PRIQTY 720 SECQTY 1400
      FREEPAGE    10 PCTFREE 0
      SEGSIZE    4 BUFFERPOOL BP1 LOCKSIZE ANY CLOSE YES ;
```

Task A-4: Using PSTAAT to Isolate Other Tables to Individual Tablespaces

PSTAAT is also capable of isolating certain non-temporary PeopleSoft PeopleTools and Application tables, for which the %UpdateStats metaSQL function is called, to individual tablespaces. Beginning with PeopleSoft Enterprise 9.0 Applications, PSTAAT will replace the previously delivered "enhanced" installation scripts.

A list of such tables is contained in the XXENHANCED.txt text file, where *XX* is the standard PeopleSoft application two-character prefix (the prefixes are listed in the section Transferring DDL Scripts to z/OS). The *XX* ENHANCED.txt file is located in the *PS_HOME*\scripts directory of the installation files.

See "Creating a Database," Transferring DDL Scripts to z/OS.

Note. There may not be an XXENHANCED.txt file for all PeopleSoft applications (such as PeopleSoft Portal Solutions).

To remap these tables to individual tablespaces, use the PSTAAT General Parameters tab as follows:

1. Enter the name of the XXENHANCED.txt file as the input for parameter 6, Input Individual Table File, on the General Parameters tab
2. Copy the XXENHANCED.txt file from *PS_HOME*\scripts to the location specified in Parameter 1, Input Directory for DDL scripts on the General Parameters tab.

3. Enter the remaining input parameters required by the General Parameters tab.

See Understanding the PSTAAT Graphical User Interface.

See Understanding the Various PSTAAT Input and Output Files.

See Using PSTAAT to Customize DDL.

4. Click the Tablespace Override tab and click the Run button.

PSTAAT will write the following files to the Output Directory for Generated DDL:

Scripts: nTEMP.SQL, nXXDDL.SQL, nTBDDL.SQL, nIXDDL.SQL, Ptlog.txt

See the output files section of Understanding the Various PSTAAT Input and Output Files for an explanation of each file.

These tables will be remapped in the nXXDDL.SQL, nTBDDL.SQL and nIXDDL.SQL files based on the input parameters supplied to the General Parameters tab. PSTAAT will derive tablespace names by using the first three to five characters of the original tablespace name, followed by an ascending sequence number.

Task A-5: Using PSTAAT to Convert EBCDIC DDL to Unicode DDL

This section discusses:

- Understanding the EBCDIC DDL to Unicode DDL Conversion
- Creating Database, Tablespace, and Table Shell DDL for an EBCDIC to Unicode Database Conversion

Understanding the EBCDIC DDL to Unicode DDL Conversion

This section can be ignored entirely if you do not intend to store data using the Unicode encoding scheme in your PeopleSoft database. Likewise, if you intend to install and import a Unicode database from scratch, ignore this section and instead follow the standard instructions for installing a Unicode database previously documented in this PeopleTools installation documentation for DB2 for z/OS.

However, if you have an EBCDIC database that *already exists* and you wish to convert that database to the Unicode encoding scheme, continue with this section.

Converting an existing EBCDIC PeopleSoft database to a Unicode database requires a multi-phase process that is documented in the white paper titled "Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS." See this white paper for complete details on completing an EBCDIC to Unicode encoding scheme conversion. One such step of this process with which PSTAAT is able to assist, is the "conversion" of the EBCDIC data types to Unicode data types within PeopleSoft PeopleTools and PeopleSoft application DDL. Specifically, DDL produced from the Unicode DDL Conversion tab of PSTAAT offers an additional option in creating the DDL scripts required to create the Unicode shell as described in Phase One, Creating the Unicode Database Shell, of the EBCDIC to Unicode conversion white paper. See the following sections of the "Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS" white paper for instructions on running the scripts that can be created either by the method described here with PSTAAT, or the method described in the conversion white paper:

- Phase One – Unicode Database Shell
- Creating Create Table and Create Index DDL for the Target Unicode Database
- Creating A DDL Script to Build the Target Unicode Physical Databases
- Creating A DDL Script to Build the Target Unicode Tablespaces
- Creating The Unicode Logical Database Shell

See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).

Task A-5-1: Creating Database, Tablespace, and Table Shell DDL for an EBCDIC to Unicode Database Conversion

When supplied with EBCDIC Database/Tablespace (*XXDDL.SQL*) and table DDL scripts (*TBDDL.SQL*) as input, PSTAAT is capable of parsing and recreating them with the necessary data types for creating the Unicode shell database. For the table DDL script, PSTAAT converts all character and long character fields to *varchar* and long *varchar* respectively; while date, integer, small integer, decimal, timestamp, and long *varchar* for bit data types remain unchanged. All 'Create Database' DDL within the Database/Tablespace script will be appended with 'CCSID Unicode'.

Note. The following instructions are divided into two procedures.

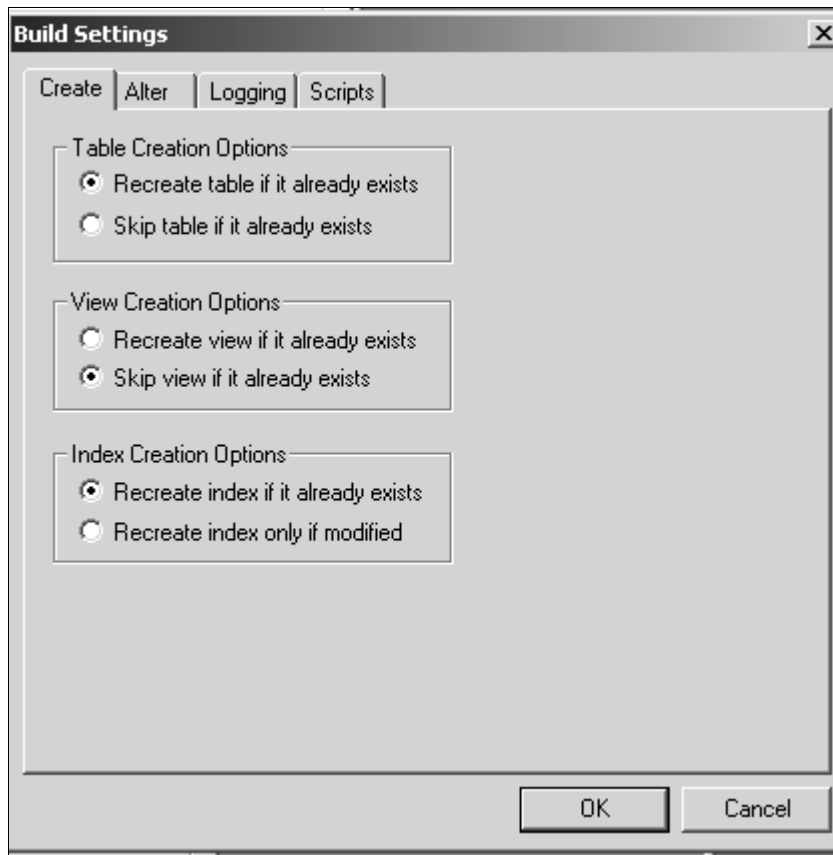
To use PSTAAT to convert EBCDIC DDL to Unicode DDL, begin by inserting *all* of the record definitions contained in the EBCDIC database into an Application Designer project, and then create the EBCDIC DDL for all tables and indexes in the database:

1. Open Application Designer.
2. Choose File, New.
In the New dialog box, select Project, and then click OK.
3. Choose Insert, Definitions into Project.
4. Set Definition Type to Records, and Type to All Records.

Note. Selecting All Records will insert views, sub-records, dynamic views and derived records in addition to table and temporary table definition types into the project. This is necessary to capture both the table and temporary table definition types in a single DDL file for PSTAAT. These are the two table types that will require the data type conversion from *char* to *varchar* and so on. Although these other definition types exist in the project, Application Designer will write table and index DDL for the table and temporary table definition types *only* based on the Build options that will be selected in a subsequent step.

5. Press ENTER, or click Insert and then click the Select All button.
This selects all of the records.
6. Click Insert to insert all records into the new project.
7. Click Close to close the Insert into Project dialog box.
8. Before building the project, save it.
Choose File, Save Project As and enter a project name.
9. Choose Build, Project.
The Build dialog box appears.
10. In the Build Options group, select the Create Tables check box.
The Create Index check box is checked by default.
11. Select Build script file to direct the DDL to a file.
12. Click the Settings button.
The Build Settings dialog box appears.

13. On the Create tab, shown in this example, select the following options:



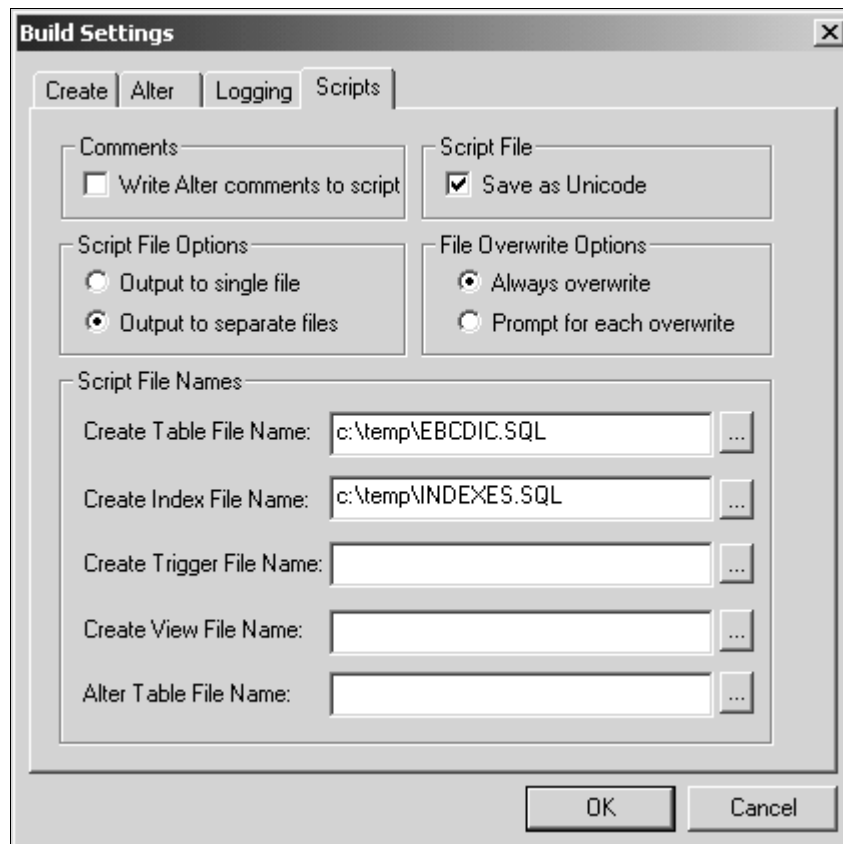
Build Settings dialog box: Create tab

- Recreate table if it already exists under Table Creation Options
- Skip view if it already exists under View Creation Options
- Recreate index if it already exists under Index Creation Options

14. Select the Scripts tab, and select Output to Separate Files under Script File Options.

15. Under Script File Names, specify the path and filename for the output files that will contain the table and index DDL.

In this example, the Table file name is c:\temp\EBCDIC.SQL, and the Index file name is c:\temp\INDEXES.SQL.



Build Settings dialog box: Scripts tab

16. Click OK to accept the build settings.
17. Click Build to create the table and index DDL script.
Disregard the subsequent warning message about "potentially destructive settings." The output is directed to a script only. Database objects will not be dropped.
18. After the script generation process has finished, click Close in the Build Progress dialog box to return to Application Designer.

After completing the previous steps:

1. Start PSTAAT by double clicking on the PSTAAT.exe found in *PS_HOME\bin\client\winx86*.
Select the Unicode DDL Conversion tab.
2. Enter the EBCDIC Database/Tablespace DDL script (XXDDL.SQL) name into input parameter 1, Input EBCDIC Database/Tablespace DDL File, of the Unicode DDL Conversion tab.
3. Enter the name of the EBCDIC table DDL script that was just created by Application Designer in input parameter 2, Input EBCDIC Table DDL File, of the Unicode DDL Conversion tab (EBCDIC.SQL in the example shown above).

4. Enter Output file names for input parameters three (3) and four (4) of the Unicode DDL Conversion tab.

These will become the names of the new DDL scripts. In this example, the value for input parameter 3 (Output Unicode Database/Tablespace DDL File), is UNICODE_EPDDL.SQL. The value for input parameter 4 (Output Unicode Table DDL File), is TBDDL.U.

	Parameter Description	Parameter Value
1	Input EBCDIC Database/Tablespace DDL File	EPDDL.SQL
2	Input EBCDIC Table DDL File	PSTABLES.SQL
3	Output Unicode Database/Tablespace DDL File	UNICODE_EPDDL.SQL
4	Output Unicode Table DDL File	TBDDL.U
5	Remove 'DROP TABLE' DDL?	YES

Specifying output files on Unicode DDL conversion tab

5. Select YES from the drop-down list box in input parameter five (5), Remove 'Drop Table' DDL.

The Recreate table if it already exists option was set earlier in the Build Settings dialog box when the project was built so that Application Designer would create DDL for all record definitions for which a table exists in the database. Application Designer thus generates 'Drop Table' DDL prior to each 'Create table' DDL statement in the script. Choosing YES from this list box instructs PSTAAT to put comment marks prior to each Drop Table statement in the new Unicode table DDL script. This will prevent the EBCDIC tables from being dropped when the new Unicode DDL scripts are executed. Again, refer to the EBCDIC to Unicode conversion white paper before executing these scripts.

See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).

6. Select the General Parameters tab and enter the directory location of the EBCDIC Database/Tablespace script and the EBCDIC table DDL script (to be converted) into parameter 1 (Input Directory for DDL scripts).

Enter the Output Directory for the new Unicode shell database scripts into parameter 7 (Output Directory for Generated DDL Scripts). In this example, the Output Directory is C:\PT848106R2\SCRIPTS\PSTAAT.

	Parameter Description	Parameter Value
1	Input Directory for DDL Scripts	C:\PT848106R2\SCRIPTS\PSTAAT
2	Input Database/Tablespace DDL File	
3	Input Table DDL File	
4	Input Index DDL File	
5	Input Temp Table DDL File	
6	Input Individual Table File	
7	Output Directory for Generated DDL Scripts	C:\PT848106R2\SCRIPTS\PSTAAT

Specifying input and output directories on General Parameters tab

7. Click the Run button on the Unicode Conversion Tab.

The new scripts will be written to the path specified in the Output Directory for Generated DDL Scripts on the General Parameters tab.

Note. All tablespaces in the converted tablespace DDL (nXXDDL.SQL) will be allocated to BP8K1 by default. The General Parameters tab can be used to further optimize the DDL and assign additional 8 KB bufferpools.

8. Continue with the rest of the process documented in the EBCDIC to Unicode conversion white paper.

See Converting a PeopleSoft Enterprise Database from EBCDIC to Unicode Encoding Scheme on DB2 for z/OS, My Oracle Support, (search for the article title).

Task A-6: Using PSTAAT to Install PeopleSoft Databases

Previous sections of this appendix describe the individual tabs of the PSTAAT graphical user interface and their various functions to either generate default DDL, or optimize default DDL. This section describes several important points to consider when using PSTAAT.

We recommend that you use PSTAAT to create environments that are more production-capable after you first become thoroughly familiar with the default installation process.

PSTAAT operates independently of the PeopleSoft PeopleTools metadata, has no direct knowledge of the data model of the individual PeopleSoft applications, and no mechanism itself to communicate directly with a DB2 for z/OS database server. Its primary capability is that of parsing DDL input files, and subsequently rewriting modified versions of those files for output. Because Application Designer is required to create temporary table DDL from a project containing record definitions, you must obviously complete enough of the installation steps to successfully connect Application Designer to the database. Additionally, because most customer installations will include multiple database environments, including one Demo copy of each PeopleSoft application, you may find it most convenient to use PSTAAT to create more production-worthy environments than the default installation process is capable of producing. PSTAAT can be used effectively to create such an environment as follows:

See "Creating a Database," Building Temporary Tables.

1. First, create and import a complete Demo environment without optimizing the DDL.

Obtain the default TBDDL.SQL and IXDDL.SQL scripts from the installation files, or use the Generate DDL tab of PSTAAT to create them.

2. Obtain a DDL script for temporary tables by building (script only) an Application Designer project (DDL script only) from the Demo environment created in step one (above) as directed in the task Building the Temporary Tables and their Indexes in this documentation.

See "Creating a Database," Building Temporary Tables.

3. Collect the following files for input to PSTAAT:

xxENHANCED.txt file for your application
xxDDL
TBDDL.SQL
IXDDL.SQL
Temporary table DDL script

See Using PSTAAT To Reassign Temporary Tables To Additional Tablespaces.

See Using PSTAAT to Isolate Other Tables to Individual Tablespaces.

4. Fill in *all* 24 text boxes of the General Parameters tab, and use the Tablespace Override tab to optimize the DDL as described in the previous sections of this appendix.
5. FTP the DDL generated from PSTAAT to the mainframe (HLQ.PPVVV.DDLIB) and make any other desired modifications.
6. Execute the DDL using DSNTEP2, or some other batch SQL processor.
7. Save a copy of the DDL scripts generated from PSTAAT in *PS_HOME*\scripts on the file server.
8. Continue with the rest of the process as documented in this installation guide.

Other important considerations when using PSTAAT:

- Be sure to run the SETSPACE and SETTMPIN SQRs as directed after successfully executing all DDL as documented in this installation guide.
- PeopleSoft upgrade processes may attempt to create new tables in the default tablespaces. These scripts will fail if the default tablespace does not exist. To prevent failures during an upgrade, execute the default XX DDL.SQL script so the vanilla tablespaces exist in each of your environments. You may reduce the primary space allocations on these tablespaces to avoid excessive waste of disk space.
- As indicated previously, always store a copy of all PSTAAT modified DDL in the *PS_HOME*\scripts folder of the PeopleSoft PeopleTools file server.

Appendix B

Describing Debugger Requirements

This appendix discusses:

- Describing Debugger Requirements for the AIX Operating System
- Describing Debugger Requirements for the HP-UX Operating System
- Describing Debugger Requirements for the Linux Operating System
- Describing Debugger Requirements for the Oracle Solaris Operating System
- Describing Debugger Requirements for the z/OS Operating System

Describing Debugger Requirements for the AIX Operating System

If you are installing on an AIX platform, download and install the latest gdb RPM from IBM's website, and install it.

Describing Debugger Requirements for the HP-UX Operating System

If you are installing on an HP-UX platform, download and install the latest wdb from <http://www.hp.com/go/wdb>.

Describing Debugger Requirements for the Linux Operating System

If you are installing on a Linux platform, install the "glibc-debuginfo" RPM package.

There should be one "glibc-debuginfo" package for each installed "glibc" package and the version numbers must match exactly. Use the following commands to determine the packages installed:

- To see the installed "glibc" versions, run:

```
rpm -q --queryformat "%{NAME}-%{VERSION}-%{RELEASE}-%{ARCH}\n" glibc
```

For example, running this command on an Intel-based Linux system should produce output similar to this:

```
glibc-2.5-24-i686  
glibc-2.5-24-x86_64
```

Running this command on a zSeries Linux system should produce output similar to this:

```
glibc-2.4-31.2-s390x
```

- To see the installed "glibc-debuginfo" packages, run:

```
rpm -q --queryformat "%{NAME}-%{VERSION}-%{RELEASE}-%{ARCH}\n" glibc-  
debuginfo
```

Make sure that the "glibc-debuginfo" RPM version is exactly the same as the "glibc" version.

Describing Debugger Requirements for the Oracle Solaris Operating System

If you are installing on an Oracle Solaris platform, install dbx. No compiler license of any kind is needed for this. Download the latest Sun Studio, and on the Select Components page of the installer, expand the Compilers and Tools component and deselect all of the subcomponents except dbx. Also deselect the Performance Library and Third-Party Tools components. The installer will install the dbx subcomponent and the Support files subcomponent. The Support files subcomponent includes packages on which dbx depends. After you complete the installation, add the full path to dbx to your PATH environment variable.

Describing Debugger Requirements for the z/OS Operating System

If you are installing on a z/OS platform, dbx comes with z/OS UNIX. Starting with z/OS v1r5, dbx requires the Common Debug Architecture (CDA) libraries to be present. They must be accessible by dbx in order for it to run. The libraries are as follows:

Library	Description
CDAEED	Amode31 ELF/DWARF library
CDAEQED	Amode64 ELF/DWARF library
CDAEDPI	Amode31 DDPI library
CDAEQDPI	Amode64 DDPI library

Note. CDAEDPI and CDAEQDPI are only present on a z/OS v1r7 and higher systems.

Depending on the size of the program you are debugging with dbx, plus how many others are also using dbx on your system, you may run out of SQA and/or CSA storage on your z/OS system, because this storage is global z/OS storage. Consult the z/OS initialization and tuning guide for information on how to modify the z/OS parameters.

When diagnosing crashes, be aware that a crash is more strictly defined on z/OS as a program check that is handled by z/OS UNIX as a fatal signal (for example, SIGSEGV for PIC4; 10, 11, or SIGILL for PIC1). A crash would also occur because of a fault in the JVM, or because of a fault in native (JNI) code that is being run inside the Java process.

When one of these fatal signals occurs, obtain the following documents to help you debug:

- a formatted LE dump (CEEDUMP)

The CEEDUMP shows the C-Stack (or native stack). The traceback from a CEEDUMP shows where a failure

occurred for a C/C++ program

- a JVM trace snap dump
- a formatted JVM dump (javacore)

The default action of the z/OS UNIX signal handler is to produce a transaction dump (through the BCP IEATDUMP service), CEEDUMP, JVM dump javacore.

Appendix C

Encrypting Passwords for Customizations on Linux, AIX, HP-UX, or Solaris

Task C-1: Encrypting Passwords for Customization Files on Linux, AIX, HP-UX, or Solaris

This section describes how to produce an encrypted version of a clear text password and include it in the `psft_customizations.yaml` file for a customized deployment for non-default users and groups on Linux, AIX, HP-UX, or Solaris. This section applies to installations with the Native OS for Linux, AIX, HP-UX, or Solaris DPKs.

Note. You can skip this section if you are creating `psft_customizations.yaml` files for silent mode installations. Use clear text passwords with silent mode installations.

In general, when you run the DPK setup script, you supply several user IDs and passwords, such as the Connect ID password and operator ID password. The script encrypts the passwords that you supply and includes them in the generated YAML files in `BASE_DIR/dpk/puppet/production/data`. When you create a `psft_customizations.yaml` file, you can copy these encrypted passwords from the generated YAML files and include them in the `psft_customizations.yaml` file. However, the passwords for the Linux, AIX, HP-UX, or Solaris users are not prompted for, and therefore the encrypted passwords are not available in any of the generated YAML files.

Note that the successful use of the encrypted password depends on the presence of the public and private keys in the `BASE_DIR/dpk/puppet` directory referred to in the `eyaml encrypt` command. You cannot save an encrypted password and use it with a deployment with an installation with a different `BASE_DIR`.

This procedure assumes that you have carried out the first portion of a customized deployment, and stopped at the question "Do you want to continue with the default initialization?"

See "Completing the DPK Initialization with Customizations," Preparing the Customization Files for Linux, AIX, HP-UX, or Solaris Users and Groups.

To encrypt a password:

1. Open the `BASE_DIR/dpk/puppet/hiera.yaml` file and note the full path to the public and private keys:

```
:pkcs7_private_key: BASE_DIR/dpk/puppet/secure/keys/private_⇒  
key.pkcs7.pem  
:pkcs7_public_key:  BASE_DIR/dpk/puppet/secure/keys/public_key.pkcs7.pem
```

2. Run the following command in a terminal window, supplying the paths from the previous step:

```
eyaml encrypt -s "<clear_password>" --pkcs7-private-key=<private_key_⇒  
location> --pkcs7-public-key=<public_key_location> --output=string
```

Note. The double-quotes around the password are required. Be sure to use the correct punctuation for the command. Note that the command uses different punctuation for the keys than the hiera.yaml file.

Note. If your password includes an exclamation mark (!) you must enclose the entire password in double quotes surrounded by single quotes. For example, '"passw!ord"'.

Example for Linux:

```
/opt/puppetlabs/puppet/bin/eyaml encrypt -s "password" --pkcs7-private-key=
key=/cs1/psft/dpk/puppet/secure/keys/private_key.pkcs7.pem --pkcs7-
public-key=/cs1/psft/dpk/puppet/secure/keys/public_key.pkcs7.pem -->
output=string
```

Example for AIX, HP-UX, or Solaris:

```
/opt/oracle/puppetlabs/bin/eyaml encrypt -s "password" --pkcs7-private-key=
key=/cs1/psft/dpk/puppet/secure/keys/private_key.pkcs7.pem --pkcs7-
public-key=/cs1/psft/dpk/puppet/secure/keys/public_key.pkcs7.pem -->
output=string
```

3. Copy the encrypted password from the output in the terminal window.

The encrypted text will be a long single line of letters and numbers. Be sure to copy the text in one unbroken line, with no spaces or line feeds. Here is a truncated representation of an encrypted password:

```
ENC[PKCS7,MIIBeQYJKoZIhvc.....]
```

4. Paste the encrypted password in the psft_customizations.yaml file, replacing the text password.

Again, the encrypted text must be a single line. Also, be sure to retain the indentation in the psft_customizations.yaml file. This is a sample psft_customizations.yaml for a new single user and existing single group:

```
---
psft_runtime_user_name: newusr3

users:
  psft_user:
    name: newusr3
    gid: 35000
    home_dir: /dpk_base/home/userhome
    password: ENC[PKCS7,MIIBeQYJKoZIhvc.....]
    remove: false
```

5. Use the psft_customizations.yaml file for deployment with the psft_puppet_apply script.

The DPK deployment will automatically decrypt the password from the psft_customizations.yaml and use it for deployment.

Appendix D

Installing IBM ILOG CPLEX

This appendix discusses:

- Understanding the ILOG CPLEX Installation
- Obtaining ILOG CPLEX
- Running the ILOG CPLEX Installation Script

Understanding the ILOG CPLEX Installation

PeopleSoft PeopleTools Optimization Framework uses IBM ILOG CPLEX to expose and provide optimization features for PeopleSoft Applications. For the current release, you must download the ILOG CPLEX zip file from My Oracle Support and install it using the script provided.

ILOG CPLEX is needed for certain PeopleSoft products, including PeopleSoft Financials and Supply Chain Management (FSCM) Enterprise Service Automation and Supply Chain Management. For information, see your application-specific documentation.

Task D-1: Obtaining ILOG CPLEX

This section discusses:

- Obtaining ILOG CPLEX from Oracle Software Delivery Cloud
- Obtaining ILOG CPLEX from My Oracle Support

Task D-1-1: Obtaining ILOG CPLEX from Oracle Software Delivery Cloud

To download ILOG CPLEX for PeopleSoft from Oracle Software Delivery Cloud:

1. Sign in to Oracle Software Delivery Cloud at <https://edelivery.oracle.com>.
2. Enter PeopleSoft PeopleTools in the Search By field, and locate the download package for the current release.
3. Click Add to Cart.
4. Click Selected Software.
5. Locate ILOG CPLEX 12.7.1 in the selected software list.
6. Select the operating system you are running on from the Platform/Languages drop-down list, and click Continue.
7. Read the license agreements, select the check box to acknowledge that you accept the agreement, and then click Continue.
8. Download the zip file, for example ILOG-CPLEX-12.7.1_00.zip, to a convenient location, referred to here as

ILOG_INSTALL.

Task D-1-2: Obtaining ILOG CPLEX from My Oracle Support

To download ILOG CPLEX for PeopleSoft from My Oracle Support:

1. Sign in to My Oracle Support at <https://support.oracle.com>.
Contact Oracle if you need a user ID and password for My Oracle Support.
2. Select the Patches & Updates tab.
3. Select Product or Family (Advanced), and search for PeopleSoft PeopleTools.
4. Select the current release from the Release drop-down list.
5. Click Search.
6. In the list of results, locate the ILOG CPLEX file for your operating system.
7. Download the zip file, for example ILOG-CPLEX-12.7.1_00.zip, to a convenient location, referred to here as *ILOG_INSTALL*.

Task D-2: Running the ILOG CPLEX Installation Script

This section assumes that you have installed PeopleSoft PeopleTools and have access to *PS_HOME*.

1. Change directory to the location where you downloaded the ILOG CPLEX zip file, *ILOG_INSTALL*.
2. Extract the zip file (for example ILOG-CPLEX-12.7.1_00.zip) in the same directory.
The contents extracted from the zip file include setup scripts and an InstData directory.
3. Run the following command, specifying the full path for *PS_HOME* as the *<ps_home_location>*:
Windows: `setup.bat <ps_home_location>`
UNIX: `./setup.sh <ps_home_location>`

The installer verifies the following:

- The file `peopletools.properties` is present in *PS_HOME*.
- The directories *PS_HOME*\bin\server and *PS_HOME*\python are present.

The installer copies the ILOG CPLEX .files from *INSTALL_DIR*\PsMPCplexInstall\InstData\archive*operating_sys_platform* to *PS_HOME*\bin\server. The source and destination are listed in the installer progress message.

The installation log file, *PIAInstall.log*, is located under the user's home directory.