

ORACLE®

PEOPLESOFT

PeopleSoft PeopleTools 8.56 DPK Installation and PeopleSoft Database Setup (DB2 for z/OS)

June 2017

ORACLE®

PeopleSoft PeopleTools 8.56 DPK Installation and PeopleSoft Database Setup
(DB2 for z/OS)

Copyright © 2017, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited. The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices.

UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Contents

Preface

- About This Documentation 15**
- Understanding This Documentation 15
- Audience 15
- Typographical Conventions 16
- Products 17
- Related Information 18
- Comments and Suggestions 18

Part I 19

- Mandatory Installation 19

Chapter 1

- Preparing for Installation 21**
- Understanding the PeopleSoft Application Database Setup Using PeopleTools DPKs 21
- Reviewing Hardware Requirements 22
 - Reviewing Hardware Requirements for Microsoft Windows 22
 - Reviewing Hardware Requirements on Linux or UNIX 23
- Reviewing Software Requirements 23
 - Reviewing Software Requirements on Microsoft Windows 24
 - Reviewing Software Requirements on Linux or UNIX 24
 - Reviewing Software Requirements on AIX 24
 - Reviewing Requirements for the Puppet Software 25
- Planning Your Initial Configuration 26
 - Understanding Workstations 26
 - Understanding PeopleSoft Servers and Clients 27
 - Defining the PeopleTools Client 28
 - Defining the File Server 28
 - Defining the Database Server 29
 - Defining the Application Server 29
 - Defining the Process Scheduler (Batch) Server 29
 - Defining Installation Locations 30
 - Defining the Web Server 32
- Planning Database Creation 33

Understanding Database Creation	33
Using Multiple Databases	33
Determining Databases and Database Names	34
Using Standard Database Names	34
Choosing Owner ID Processing Option	35
Verifying Database Server Sizing	37
Defining DB2 for z/OS Subsystem Configuration	37
Understanding DB2 Configuration Requirements	38
Defining EDM Pool Considerations	38
Defining Decimal Arithmetic	38
Using DSMAX	39
Using CMTSTAT/IDTHTOIN	39
Using CCSID and DB2 z/OS Database Storage Encoding Schemes	39
Using DECIMAL	39
Installing Supporting Applications	40
Setting Up Database Connectivity	41
Using Connect ID	42
Understanding Connect ID	42
Using Connect ID	42
Setting Up z/OS User IDs	44
Understanding User ID Setup	44
Creating PeopleSoft User IDs	44
Performing Backups	47

Chapter 2

Installing the PeopleSoft Homes	49
Obtaining the PeopleSoft PeopleTools DPKs	49
Obtaining the PeopleSoft PeopleTools DPKs from My Oracle Support	49
Obtaining from Oracle Software Delivery Cloud	50
Reviewing the DPK Setup Script Options	50
Running the DPK Setup Script to Install PS_HOME Only	53
Understanding the PS_HOME Deployment	53
Installing PS_HOME Only on Microsoft Windows	54
Installing PS_HOME Only on Linux	57
Running the DPK Setup Script to Install All Software	60
Understanding the DPK Installation	61
Installing on Microsoft Windows	61
Installing on Linux or UNIX	64
Reviewing the Installed Software	68
Obtaining Operating System Packages Required by Puppet	69
Removing a Deployed PeopleSoft Environment	69

Understanding the Removal Process	70
Using the DPK Setup Script to Remove the PeopleSoft Environment on Microsoft Windows	70
Using the DPK Setup Script to Remove the PeopleSoft Environment on Linux	70
Using Puppet to Remove the PeopleSoft Environment on Microsoft Windows	71
Using Puppet to Remove the PeopleSoft Environment on Linux	71
Troubleshooting the Removal Process on Microsoft Windows	72
Troubleshooting the Removal Process on Linux	73

Chapter 3

Completing the DPK Initialization with Customizations	75
Understanding PeopleSoft Environment Customizations	75
Preparing the Customization File for PeopleSoft Domain Definitions	77
Preparing the psft_customizations.yaml file	78
Reviewing the Domain Definitions in psft_configuration.yaml	78
Reviewing the Customization File for a Single Application Server Domain	81
Reviewing the Customization File for an Application Server Domain with Custom PS_CFG_HOME	82
Reviewing the Customization File for Multiple Domains	83
Preparing the Customization File for Linux Users	87
Preparing the Customization File for Non-Default Linux Users	88
Preparing the Customization File for a Single Linux User	90
Preparing the Customization File for Component Software Locations	90
Preparing the Customization File for Unicode	91
Preparing the Customization File for the PeopleSoft Homes	92
Preparing the Customization File for the PS_HOME Location	92
Preparing the Customization File for the PS_APP_HOME Location	93
Preparing the Customization File for the PS_CFG_HOME Location	94
Preparing the Customization File for Mid-Tier Connection to a DB2 z/OS Database	94
Completing the Customized Deployment	97

Chapter 4

Installing PS_APP_HOME Using the PeopleSoft Installer	99
Preparing for the PS_APP_HOME Installation	99
Using the PeopleSoft Installer	99
Starting the PeopleSoft Installer	100
Using the PeopleSoft Installer in GUI Mode	101
Using the PeopleSoft Installer in Console Mode	103
Verifying Necessary Files for Installation on Windows	106

Chapter 5

Setting Up the Install Workstation 109
 Understanding the Install Workstation 109
 Prerequisites 109
 Starting Configuration Manager 110
 Setting Startup Options 110
 Editing the Default Profile 111
 Running Client Setup 113

Chapter 6

Setting Up the Batch Environment on z/OS 115
 Understanding COBOL and the Batch Environment 115
 Setting Up Your Batch Environment 116
 Completing the Preinstallation Worksheet 116
 Allocating z/OS Partitioned Datasets 123
 Using PeopleSoft Server Transfer 123
 Understanding PeopleSoft Server Transfer 124
 Running the PeopleSoft Server Transfer Program 124
 Transferring Files to Host Manually 127
 Mapping PeopleSoft Installation Directories to z/OS 127
 Setting up the USS Environment Variables and Granting Access to USS Files 129
 Installing SQR for z/OS 129
 Binding the SQR DB2 Plan 130
 Assembling PeopleTools Programs 130
 Compiling and Link-Editing DB2 COBOL 130
 Compiling and Link-Editing COBOL 131
 Changing the IBM Enterprise COBOL Compiler Version 131

Chapter 7

Creating a Database 133
 Understanding Database Creation 133
 Planning Your Installation 134
 Using %UpdateStats 134
 Using Temporary Tables 135
 Transferring DDL Scripts to z/OS 135
 Creating PS.PSDBOWNER Table 137
 Granting Privileges on PS.PSDBOWNER 137
 Granting Privileges to Owner ID 137

Creating DB2 Databases, Storage Groups, and Tablespaces	137
Understanding DB2 Databases, Storage Groups, and Tablespaces	138
Customizing the Database Name	138
Working with Tablespaces	140
Creating Tables	143
Configuring the DB2 Connect Gateway	144
Creating Data Mover Import Scripts	144
Understanding Data Mover Import Scripts	144
Working with Multilingual Databases	145
Running Database Setup to Create Data Mover Import Scripts	145
Running Data Mover Import Scripts	152
Understanding Data Mover Import Scripts	152
Populating Tables in the PeopleSoft Database	153
Cleaning Up Orphaned Language Data	153
Checking the Log Files and Troubleshooting	154
Checking the Log Files	154
Running Data Mover	154
Troubleshooting	155
Improving Performance	157
Improving Execution	157
Creating Indexes	157
Running the DB2 RUNSTATS Utility	158
Creating PeopleSoft Views	158
Understanding PeopleSoft Views	159
Creating Views in Data Mover	159
Creating Views in Application Designer	159
Building Temporary Tables	162
Understanding Temporary Tables	163
Running SQR SETSPACE.SQR	163
Correcting Invalid Database/Tablespace Combinations	164
Setting the Number of Temporary Tables	165
Using the Volatile Table Attribute	165
Building the Temporary Tables and Their Indexes	166
Creating PeopleSoft Triggers	169
Understanding PeopleSoft Triggers	169
Creating Triggers in Data Mover	169
Creating Triggers in Application Designer	169
Running Additional Data Mover Scripts	172
Running SQR Reports	173
Understanding Running SQR Reports	173
Binding the dbcalls.bnd	173
Running SQRs on the Client Workstation	174

Creating a Shortcut to Run SQRs 176

Updating PeopleSoft System Tables 177

 Understanding PeopleSoft System Tables 177

 Updating PeopleSoft System Tables 177

Binding DB2 Plans 177

Changing the Base Language 178

Checking the Database 178

Disabling %UpdateStats 179

Chapter 8

Deploying Mid-Tier Components 181

Understanding the Mid-Tier Deployment 181

Running the DPK Setup Script for Mid-Tier Deployment 181

 Prerequisites 181

 Running with the Mid-Tier Option on Microsoft Windows 183

 Running with the Mid-Tier Option on Linux and UNIX 188

Using the PeopleSoft Installation 194

 Reviewing the PeopleSoft Environment 194

 Reviewing the Deployment File System 194

 Reviewing the Deployed Users 196

 Managing PeopleTools Domains with PSADMIN 197

Completing Post-Installation Steps 197

 Using Fluid User Interface 198

 Setting Options for Multilingual Databases 200

 Updating PeopleTools Options 201

 Updating Time Zone Information 201

 Updating Database Information 202

Chapter 9

Deploying the PeopleTools Client DPK 203

Deploying the PeopleTools Client DPK 203

 Understanding the Standalone Mode Deployment 203

 Preparing for the PeopleTools Client DPK Deployment 204

 Deploying in Standalone Mode 204

Part II 209

Discretionary Installation 209

Chapter 10

Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode	211
Understanding PeopleSoft Pure Internet Architecture	211
Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation	213
Installing the PeopleSoft Pure Internet Architecture in Silent Mode	213
Understanding the Silent Installation and the Response File	214
Editing the Response File	214
Running the Silent Mode Installation	216
Configuring the SSL/TLS Port for JSL	217
Testing and Administering the PeopleSoft Pure Internet Architecture Installation	217
Verifying the PeopleSoft Pure Internet Architecture Installation	218
Starting and Stopping Oracle WebLogic	218
Starting and Stopping IBM WebSphere Application Servers	219
Using PSADMIN to Start and Stop Web Servers	222
Accessing the PeopleSoft Signon	223
Completing Post-Installation Steps	225
Using Fluid User Interface	225
Setting Options for Multilingual Databases	228
Updating PeopleTools Options	229
Updating Time Zone Information	229
Updating Database Information	230

Chapter 11

Installing PeopleSoft Change Assistant	231
Understanding PeopleSoft Change Assistant	231
Installing PeopleSoft Change Assistant in Silent Mode	232
Understanding Silent Mode for PeopleSoft Change Assistant	232
Using the Silent Mode Script	232
Configuring and Using PeopleSoft Change Assistant	233
Verifying the Path Variable	233
Specifying Options	233
Scanning the Workstation	234
Exporting Jobs to XML, HTML, or Microsoft Excel Format	234
Validating Change Assistant Settings	234

Chapter 12

Installing PeopleSoft Change Impact Analyzer	237
Prerequisites	237

Removing PeopleSoft Change Impact Analyzer Installations 237

Installing and Removing PeopleSoft Change Impact Analyzer in Silent Mode 240

 Understanding Silent Mode for PeopleSoft Change Impact Analyzer 240

 Installing PeopleSoft Change Impact Analyzer in Silent Mode 241

 Removing the PeopleSoft Change Impact Analyzer Installation in Silent Mode 242

 Removing and Installing PeopleSoft Change Impact Analyzer in Silent Mode 242

Chapter 13A

Installing and Compiling COBOL on Windows 243

Understanding COBOL 243

Prerequisites 244

Preparing COBOL for a PeopleTools-only Upgrade 244

Installing Micro Focus Net Express on Microsoft Windows 244

 Prerequisites 244

 Obtaining Installation Files for Micro Focus Net Express from Oracle Software Delivery Cloud 245

 Installing Micro Focus Net Express Wrap Pack 6 246

 Installing Micro Focus Net Express Wrap Pack 14 257

Managing Micro Focus Net Express Compiler Licenses 262

 Understanding Micro Focus Net Express Compiler Licenses 262

 Configuring a Full License with the License Server 263

 Configuring a Timed License with the License Server 273

 Revoking the License Using the License Management System 280

 Revoking the License by Removing the Installation 282

Using the Micro Focus COBOL Compiler on Microsoft Windows 284

 Understanding COBOL Compilation 285

 Compiling COBOL on Microsoft Windows with a PS_HOME Setup 285

 Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup 289

 Recompiling COBOL on Microsoft Windows 294

 Setting Up the Micro Focus Net Express Runtime 294

 Defining the GNT and INT Files 296

 Distributing COBOL Binaries 297

Chapter 13B

Installing and Compiling COBOL on UNIX 299

Understanding COBOL 299

Prerequisites 300

Preparing COBOL for a PeopleTools-only Upgrade 300

Installing Micro Focus Server Express for UNIX and Linux 300

 Understanding Micro Focus Server Express 300

 Prerequisites 301

Obtaining the Installation Files for Micro Focus Server Express from Oracle Software Delivery Cloud 302

Installing Micro Focus Server Express 302

Using the Micro Focus COBOL Compiler on UNIX 308

 Understanding COBOL Compilation 308

 Modifying the Liblist64 File (IBM AIX) 309

 Compiling COBOL on UNIX with a PS_HOME Setup 309

 Compiling COBOL on UNIX with a PS_CUST_HOME Setup 310

 Linking COBOL 311

 Recompiling COBOL on UNIX 312

Installing IBM COBOL on IBM AIX 312

 Understanding the IBM COBOL for AIX Installation 312

 Prerequisites 313

 Installing IBM COBOL for AIX v4.1.1.1 313

Using the IBM COBOL Compiler on IBM AIX 315

 Setting Environment Variables for IBM COBOL 315

 Compiling COBOL on AIX with a PS_HOME Setup 316

 Troubleshooting the IBM COBOL Compiler 317

 Setting Up the IBM COBOL Runtime 321

 Removing the IBM COBOL Installation 325

Chapter 14

Installing and Configuring DB2 Connect 329

Understanding DB2 Connect 329

Verifying Supported Versions 330

Defining DB2 Connect Architecture 330

 Understanding DB2 Connect Architecture 330

 Using DB2 Connect Enterprise Edition 331

 Using DB2 Connect Personal Edition 332

 Defining PeopleSoft Three-Tier Configuration with DB2 Connect 332

Setting Up DDF on the Mainframe 333

Configuring TCP/IP on the Client 334

Configuring the DB2 Connect Gateway on Windows 335

 Configuring Database Connectivity on Clients with DB2 Connect Version 9.x or Earlier 336

 Configuring Database Connectivity on Clients with DB2 Connect Version 10.x or Later 346

 Configuring an ODBC Data Source for Connectivity on Microsoft Windows (Optional) 347

Binding DB2 Connect Packages for an EBCDIC Installation 348

Binding DB2 Connect Packages for a Unicode Installation 352

Binding DB2 Connect Packages for DB2 Connect Version 10 or later 361

Setting DB2CodePage for a Unicode Database 361

Setting Up the DB2 Connect Gateway on UNIX 362

Confirming DB2 Connect/ODBC Settings 362

Setting CLI/ODBC Trace with the Client Configuration Assistant 364

Chapter 15

Installing PeopleSoft Online Help 367
 Understanding PeopleSoft Online Help (PeopleBooks) 367
 Using the PeopleSoft Online Help Web Site for Context-Sensitive Help 368
 Understanding the PeopleSoft Online Help Web Site 368
 Setting Up Context-Sensitive Help with the PeopleSoft Online Help Web Site 368
 Setting Up F1 Help with the PeopleSoft Online Help Web Site 371
 Configuring Context-Sensitive Help with Local Installations 371
 Enabling the Help Link from the Application Pages with Local Installations 371
 Enabling F1 Help with Local Installations 372
 Creating the Help Index for Multi-Product Installations 372

Chapter 16

Installing Software for PS/nVision Drilldowns 375
 Understanding PS/nVision DrillDown Add-ins 375
 Installing the DrillToPIA Add-In 376
 Understanding Drilldown with DrillToPIA Add-in 376
 Installing the DrillToPIA Add-in on the Microsoft Excel Environment 376
 Installing the nVisionDrill Add-In 377
 Understanding PS/nVision DrillDown Using Web Services 377
 Understanding Security for DrillDown Using nVisionDrill VSTO Add-in 377
 Installing the nVisionDrill Add-in for Microsoft Excel 377
 Installing the nVisionDrill Add-Ins for Multi-Language Installations 378
 Setting Up PeopleSoft Integration Broker for Using Web Service Capability with nVisionDrill Add-in 378

Chapter 17

Installing Web Application Deployment Tools 383
 Prerequisites 383
 Installing the Web Application Deployment Tool in Silent Mode 384
 Understanding the Web Application Deployment Tool Silent Mode Installation and the Response File 384
 Editing the Web Application Deployment Tool Response File to Deploy DES 384
 Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES 386
 Testing and Troubleshooting the Web Application Deployment 387

Chapter 18

Setting Up a Unicode Database 389

Prerequisites	389
Defining Conversion Pages for Unicode Conversion Services	389
Fulfilling Connectivity Requirements	390

Appendix A

Using the PeopleSoft Tablespace DDL Automation Assistance Tool	391
Understanding the PeopleSoft Tablespace DDL Automation Assistance Tool	391
Understanding PSTAAT Workstation Requirements	392
Understanding the PSTAAT Graphical User Interface	392
Understanding the Various PSTAAT Input and Output Files	403
Using PSTAAT to Create TBDDL and IXDDL	407
Using PSTAAT to Customize DDL	412
Understanding How PSTAAT Assigns an Object Naming Convention	412
Choosing a Primary Database Prefix and Maximum Number of Tables per Tablespace and Tablespace per Database	412
Using the New Name Parameter to Override Tablespace Name	413
Customizing DDL Scripts	414
Recalculating Primary and Secondary Space Allocations and Setting a Minimum Secondary Space Allocation With PSTAAT	415
Using PSTAAT to Override the Default Bufferpool Assignment	417
Using PSTAAT to Override the Default Segment Size	418
Validating Input	419
Using PSTAAT to Reassign Temporary Tables to Additional Tablespaces	421
Using PSTAAT to Isolate Other Tables to Individual Tablespaces	425
Using PSTAAT to Convert EBCDIC DDL to Unicode DDL	426
Understanding the EBCDIC DDL to Unicode DDL Conversion	426
Creating Database, Tablespace, and Table Shell DDL for an EBCDIC to Unicode Database Conversion ...	427
Using PSTAAT to Install PeopleSoft Databases	431

Appendix B

Describing Debugger Requirements	433
Describing Debugger Requirements for the AIX Operating System	433
Describing Debugger Requirements for the HP-UX Operating System	433
Describing Debugger Requirements for the Linux Operating System	433
Describing Debugger Requirements for the Oracle Solaris Operating System	434
Describing Debugger Requirements for the z/OS Operating System	434

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.

Required updates to this installation documentation are provided in the form of "Required for Install" incidents, which are available on My Oracle Support. In addition, 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 Hosted Documentation site. You can also find documentation by searching for the product name on My Oracle Support.

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

To locate documentation on My Oracle Support, search for the title and select PeopleSoft Enterprise to refine the search results.

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

- *PeopleTools: Getting Started with PeopleTools* for your release. This documentation provides a high-level introduction to PeopleTools technology and usage.

See Oracle PeopleSoft Online Help, <http://www.peoplesoftonlinehelp.com>.

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

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 Also

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 Application Database Setup Using PeopleTools DPKs
- Reviewing Hardware Requirements
- Reviewing Software Requirements
- Planning Your Initial Configuration
- Planning Database Creation
- 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 Application Database Setup Using PeopleTools DPKs

It is possible to use the PeopleTools 8.56 DPKs in combination with PeopleSoft application software delivered in the traditional, non-DPK format (often referred to as VCD format) to install a PeopleSoft environment. This assumes that the PeopleSoft application was built on a PeopleTools release prior to PeopleTools 8.56, and therefore was not delivered in the DPK format.

This process includes the following high-level steps:

1. Download the PeopleSoft PeopleTools 8.56 DPKs.
2. Use the DPK setup script from the PeopleSoft PeopleTools 8.56 DPKs to carry out one of these steps:
 - Install the PeopleSoft PeopleTools 8.56 *PS_HOME*, which includes the PeopleTools setup and development utilities.
 - Install the PeopleSoft PeopleTools 8.56 *PS_HOME*, Oracle Tuxedo, and Oracle WebLogic.

Note. If you want to use the Database Configuration Wizard to create your PeopleSoft application database in the next step, you need to install Oracle Tuxedo first.

3. Install *PS_APP_HOME* using the PeopleSoft installer to obtain the PeopleSoft application-specific database and other files.
4. Create a PeopleSoft application database using scripts and tools from the PeopleSoft PeopleTools 8.56

PS_HOME.

5. Update the database to PeopleSoft PeopleTools 8.56.
6. Use the DPK setup script to install the application server, Process Scheduler, and web server software (mid-tier components) and set up the domains.

Task 1-1: Reviewing Hardware Requirements

This section discusses:

- Reviewing Hardware Requirements for Microsoft Windows
- Reviewing Hardware Requirements on Linux or UNIX

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

You can install the PeopleSoft Deployment Packages directly on a system running a Microsoft Windows operating system (sometimes called "bare-metal" installation). The PeopleSoft DPKs are certified to run on those Microsoft Windows operating systems that are certified for PeopleSoft PeopleTools 8.56. The Microsoft Windows system can be a physical computer 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 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 must be 64-bit platform 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.

See Tech Update - Mainstream Support for Windows Server 2008, 2008 R2 Winds Down, My Oracle Support, Doc ID 1924632.1.

- *RAM (Memory):* Approximately 8 GB RAM is required to run a mid-tier PeopleSoft environment.
See "Preparing to Deploy," Understanding PeopleSoft Components.
- *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.
- 75 GB free disk space is required to deploy and set up a db-tier PeopleSoft environment.
- 25 GB free disk space is required to deploy and set up a mid-tier PeopleSoft environment.

Task 1-1-2: Reviewing Hardware Requirements on Linux or UNIX

You can install the PeopleSoft Deployment Packages directly on a system running an Oracle Linux operating system (sometimes called "bare-metal" installation). The PeopleSoft DPKs are certified to run on those Oracle Linux operating systems that are certified for PeopleSoft PeopleTools 8.56. The Linux system can be a physical computer or a virtual machine.

- *Host computer*: The PeopleSoft DPKs can be deployed on any supported Linux host, bare-metal or virtual. 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 64-bit platform certified by Oracle for PeopleSoft systems.
See My Oracle Support, Certifications.
See PeopleSoft PeopleTools Certifications, My Oracle Support, Doc ID 747587.1, for help searching PeopleSoft Certifications.
- *RAM (Memory)*: Approximately 8 GB RAM is required to run a mid-tier PeopleSoft environment.
See "Preparing to Deploy," Understanding PeopleSoft Components.
- *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.
 - 75 GB free disk space is required to deploy and set up a db-tier PeopleSoft environment.
 - 25 GB free disk space is required to deploy and set up a mid-tier PeopleSoft environment.

See My Oracle Support, Certifications.

Task 1-2: Reviewing Software Requirements

This section discusses:

- Reviewing Software Requirements on Microsoft Windows
- Reviewing Software Requirements on Linux or UNIX
- Reviewing Software Requirements on AIX
- Reviewing Requirements for the Puppet Software

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
- Web Browser

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

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

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

- You must have root access to install the PeopleSoft DPKs.
- If you are installing the PeopleSoft DPKs on Oracle Linux 6 or 7 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:

- For AIX, gunzip or unzip
- For Linux, tar or unzip
- For Solaris, tar or unzip

- OpenSSL

For deployments on AIX and Solaris, obtain the latest version of OpenSSL for your operating system and install it on the host.

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

If you are installing the AIX version of the PeopleSoft DPKs, you must manually install JDK 8.0 from the IBM web site. This requirement is in addition to the requirements for Linux and UNIX.

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.

To perform the 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 Component Software Locations.

Task 1-2-4: Reviewing Requirements for the Puppet Software

The PeopleSoft DPKs are delivered with the PeopleSoft Puppet modules, which are initialization and management scripts based upon open-source Puppet software. In most cases, the Puppet software will be installed by the DPK deployment. In some scenarios you may be required to install either Puppet or its dependencies.

- Installation requirements

In most cases, the Puppet software will be installed by the DPKs. In some scenarios it may be necessary for you to install it directly. If so, use these guidelines:

- The DPK deployment requires open-source Puppet software.
See the Puppet Labs Web site at www.puppetlabs.com to download the software.
- Customer installation of Puppet is supported only for Linux and Microsoft Windows operating systems.
If you are installing the PeopleSoft DPKs for IBM AIX or Oracle Solaris for SPARC, you must use the Puppet software that is delivered with the DPKs.

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

- Puppet Agent 1.5.2
- Puppet 4.5.2
- Hieria 3.2.0
- Facter 3.2.0
- Ruby 2.1.9

- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on AIX, and Oracle Solaris for SPARC operating systems:

- Puppet 4.5.2
- Hieria 3.2.0
- Facter 3.2.0
- Ruby 2.1.9

- Operating system packages required for Puppet

The Puppet software used for the DPK deployment is dependent on certain OS-level packages, which may not be present in the delivered DPKs. In this case, you can use the information in the DPK setup log file to determine which packages are needed. It is the responsibility of the user to obtain and install the required packages.

See "Deploying the PeopleSoft PeopleTools Deployment Packages," Obtaining Operating System Packages Required for Puppet.

- Installation location

Puppet software is installed in a standard location by the DPKs. The DPK deployment checks for existing Puppet installations only in that standard location. If Puppet software was installed in a different location, for

example for other business or development requirements, the DPK will not recognize or try to remove that existing Puppet installation. It will install to the standard location dictated by the DPK requirement, and the other Puppet installation may subsequently cause problems.

Task 1-3: 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, 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 1-3-1: 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 1-3-2: 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 1-3-3: 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 1-3-4: 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 1-3-5: 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 1-3-6: 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_home8.56.12*.
- *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/jdk<version>*, where *<version>* is the supported JDK version; for example, *jdk1.8.0_74*.
- 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:

Operating System	PS_CFG_HOME Default Location
UNIX	/home/psadm2/psft/pt/<peopletools_version>
Microsoft Windows	%USERPROFILE%\psft\pt\<peopletools_version>

For example, if `USERPROFILE` is `C:\Users\psftuser` and the PeopleTools version is 8.56, by default `PS_CFG_HOME` would be `C:\Users\psftuser\psft\pt\8.56`. The configuration and log files for the application server, process scheduler server, and search server are installed below this directory.

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 1-3-7: 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 either of the following two J2EE web application servers (also commonly referred to as web servers):

- Oracle WebLogic Server
- IBM WebSphere Server

The PeopleSoft DPKs install Oracle WebLogic. If you want to use IBM WebSphere for your environment, you must install it manually and set up the application server and Process Scheduler domains using the traditional method with PSADMIN.

Refer to the Certifications page on My Oracle Support for supported web server combinations.

To find support information for the HTTP servers that can be used as reverse proxy servers (RPS), see the following:

- For Oracle WebLogic, see the Oracle WebLogic documentation, included with Oracle Fusion Middleware.
- For IBM WebSphere, see the information for PeopleSoft PeopleTools on My Oracle Support, Certifications.

Oracle WebLogic, IBM WebSphere, and the supported reverse proxy servers will provide out-of-the-box SSL support across all supported operating systems. Oracle WebLogic and IBM WebSphere provide 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).

Task 1-4: Planning Database Creation

This section discusses:

- Understanding Database Creation
- Using Multiple Databases
- Determining Databases and Database Names
- 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.

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 1-4-1: Using Multiple Databases

To facilitate optimal performance and minimal use of shared mainframe resources, Oracle employs a multiple-database strategy on DB2 z/OS. Oracle uses multiple DB2 databases for installing both Demo and System PeopleSoft databases.

This multiple-database strategy provides the following benefits:

- Reducing database descriptor (DBD) size improves performance by easing virtual storage constraints.
- Avoids exceeding the DB2 restriction limiting DBD size to no more than 25 percent of environmental descriptor manager (EDM) pool size.
- Improves DDL concurrency in certain PeopleSoft operations.

For instance, when Process Scheduler is invoked, it holds share locks on the DBD of the database where the

Process Scheduler tables are located. Isolating these tables to their own database avoids potential lockouts of other processes running concurrently with Process Scheduler.

The installation process creates all of the DB2 objects with the same DB2 owner ID. The PeopleSoft reference to this owner ID equates to the CREATOR field found in the SYSIBM SYSTABLES Catalog table. A PeopleSoft database is a logical concept that includes all of the PeopleSoft objects and application data belonging to a single PeopleSoft product line sharing the same owner ID, distributed across multiple physical DB2 databases. The owner ID common to all of these objects is stored in the PeopleSoft PeopleTools tables PS.PSDBOWNER and PSSTATUS. The DB2 owner ID and its use in the PeopleSoft system is discussed in the section Choosing Owner ID Processing Options.

Oracle defines a standard set of DB2 databases for each product line in a DDL script that you will be instructed to edit and run in the "Creating a Database" chapter.

Task 1-4-2: Determining Databases and Database Names

Before you begin the installation process, you should determine how many PeopleSoft databases (System or Demo) of which type you need and how you intend to use them. You should also determine the names of the databases at this point, using database names that:

- Are UPPERCASE.
- Capture information about the PeopleSoft product line and the type of database.

For example, you may want to create two databases with the names PSHRDMO and PSHRSYS, using the two characters HR (for Human Resources) to indicate the product line.

The PeopleSoft System and Demo databases are delivered with a seven-character database name that serves two functions. It serves as:

- The name of the PeopleSoft logical database (which, for the System and Demo databases is actually composed of multiple DB2 databases).
- The seven-character name of the "root" physical DB2 database, from which the names of the additional physical DB2 databases that comprise the single PeopleSoft logical database are derived.

The DB2 database naming convention is explained in more detail in the following section, Using Standard Database Names.

Task 1-4-3: 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 in this guide, you will run a Data Mover Import script that requires you to select a database name to identify this PeopleSoft database. This database name is actually nothing more than a label that serves two purposes. It enables the DB2 Connect connectivity software to identify the appropriate configuration to connect to your DB2 subsystem, and it is the high-level key on the table PS.PSDBOWNER from which the owner ID of the objects in the PeopleSoft database is derived during the sign-on process. When users sign on to a PeopleSoft database from a client workstation, they enter this database name in the PeopleSoft sign-on panel. The database name must be catalogued in the IBM DB2 Connect connectivity software in order to complete the database connection.

See "Creating a Database."

Task 1-4-4: 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.

Note. Refer to the DB2 z/OS database platform documentation for information about access ID and password length requirements. The PeopleSoft system accepts access ID passwords between 8 and 30 characters in length to accommodate different database and operating system platforms.

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

Roles and Authorities	Primary Authorization ID	Secondary Authorization ID
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.

The PeopleSoft installation is delivered with secondary authorization groups that are equal to the owner of the tables. The access ID is added to this secondary authorization group, and thus the access ID can issue a SET CURRENT SQLID statement only to the owner of the tables (remember owner = RACF group). 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.

See E-DB2: Mainframe Security and PeopleSoft, My Oracle Support, Doc ID 1060956.1.

Task 1-5: 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 1-6: 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 1-6-1: 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 tradeoff 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 and results in less competition for EDM space. It also allows for a larger Dynamic SQL Cache (up to 2 GB).

Task 1-6-2: 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 1-6-3: 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, (search for the article title).

Task 1-6-4: 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 1-6-5: 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. PeopleTools Unicode installations will override the SCCSID value by explicitly specifying Unicode as the CCSID when creating the individual databases that will compose a Unicode installation. 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. In house, PeopleSoft has tested 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 1-6-6: 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 1-7: 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).

- 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 Server Express or IBM Compiler for IBM AIX.
- For Microsoft Windows servers, install the appropriate version of Micro Focus Net Express.
- 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 or Linux, 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.

- The PeopleSoft Installer installs COBOL source code from the installation directory to your Microsoft Windows file server and to all UNIX servers, but not to the rest of your Microsoft Windows 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 8.56 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 1-8: 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 1-9: 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 (for example, RACF, ACF2, TopSecret), 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.PRDEFN.

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 1-9-1: 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/PSUSER1
- Connect ID/Pswd: PSCONCT/PSCONCT
- Access ID/Pswd: PSACCES1/PSACCESS1
- Object Owner ID: PSDBOWNR

Activity	Parameter Value and/or Underlying Statements
User initiates logon by entering the database name, user ID and password.	PT84/PSUSER1/PSUSER1
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 PSCONCT
Get PeopleSoft Database owner ID.	SELECT OWNERID FROM PS.PSDBOWNER→ WHERE DBNAME = :1 :1 = PT84, value returned for OWNERID = PSDBOWNR
Check PSSTATUS.	SELECT OWNERID, TOOLSREL, → LASTREFRESHDTM, LASTCHANGEDTTM→ FROM PSDBOWNR.PSSTATUS
Validate the user ID and password.	SELECT VERSION, OPERPSWD, → ENCRYPTED, SYMBOLICID, ACCTLOCK→ FROM PSDBOWNR.PSOPRDEFN WHERE→ OPRID = :1 :1 = PSUSER1. The OPERPSWD retrieved is validated against the value entered when the user initiated the log on.
Get the access ID and password.	SELECT ACCESSID, ACCESSPSWD, → ENCRYPTED FROM PSDBOWNR.PSACCESSPRO→ FILE WHERE SYMBOLICID = :1 The ACCESSID and ACCESSPSWD retrieved into the buffer are PSACCES1/PSACCESS1
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 PSACCES1

Activity	Parameter Value and/or Underlying Statements
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).	Set CURRENT SQLID = :1 :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 1-10: 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 1-10-1: 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 must be 30 characters or less. Connect ID password should not contain any forward-slash characters (/) (Windows) or percent characters (%) (UNIX).

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.

Note. The access ID password must be 30 characters or less.

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.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 1-11: 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 PeopleTools DPKs
- Reviewing the DPK Setup Script Options
- Running the DPK Setup Script to Install PS_HOME Only
- Running the DPK Setup Script to Install All Software
- Obtaining Operating System Packages Required by Puppet
- Removing a Deployed PeopleSoft Environment

Task 2-1: Obtaining the PeopleSoft PeopleTools DPKs

This section discusses:

- Obtaining the PeopleSoft PeopleTools DPKs from My Oracle Support
- Obtaining from Oracle Software Delivery Cloud

Task 2-1-1: Obtaining the PeopleSoft PeopleTools DPKs from My Oracle Support

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

To locate and download the DPKs:

1. Go to the PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2, to find the information on locating and downloading the latest PeopleSoft PeopleTools patch.

This page includes documentation and links to the most recent patches. To find earlier PeopleSoft PeopleTools patches:

- a. Sign in to My Oracle Support.
 - b. Select the Patches & Updates tab.
 - c. Select Product or Family (Advanced), and search for PeopleSoft PeopleTools.
2. Download the DPK zip files into a single directory, referred to in this documentation as *DPK_INSTALL*. Be sure that the *DPK_INSTALL* directory has adequate available space for all the zip files. When you download, there will probably be multiple zip files. The multiple files are needed due to size limitations.

The zip files have the following format:

PEOPLETOOLS-<Operating_System>-<Release>-#ofn.zip

For example:

PEOPLETOOLS-LNX-8.56.02-1of4.zip

PEOPLETOOLS-LNX-8.56.02-2of4.zip

PEOPLETOOLS-LNX-8.56.02-3of4.zip

PEOPLETOOLS-LNX-8.56.02-4of4.zip

The files names are comprised of the following parts:

- *<Operating_System>* is AIX for IBM AIX, LNX for Oracle Linux, SOL for Oracle Solaris for SPARC, or WIN for Microsoft Windows.
- *<Release>* is the release and patch number for the product, such as 8.56.02.
- *n* represents the total number of zip files.

Task 2-1-2: Obtaining from Oracle Software Delivery Cloud

At the general availability date for PeopleSoft PeopleTools 8.56, you can obtain the PeopleSoft PeopleTools DPKs from Oracle Software Delivery Cloud. This version includes the 8.56.01 patch and the full codeline. Later patches are available only on My Oracle Support. To obtain the PeopleSoft PeopleTools DPKs from Oracle Software Delivery Cloud:

1. Sign in to Oracle Software Delivery Cloud.
See Oracle Software Delivery Cloud, <https://edelivery.oracle.com>.
2. Search for PeopleSoft PeopleTools release.
3. Select your operating system from the Platform list, and click Search.
4. Click Continue twice.
5. Review and accept the terms and conditions.
6. Download the DPK zip files, for example V123456-0#.zip, into a single directory, referred to in this documentation as *DPK_INSTALL*.

Be sure that the *DPK_INSTALL* directory has adequate available space for all the zip files. When you download, there will probably be multiple zip files. The multiple files are needed due to size limitations.

Task 2-2: Reviewing the DPK Setup Script Options

The PeopleSoft PeopleTools DPK setup script alleviates the installation process by automating most of the manual tasks in using DPKs to set up PeopleSoft mid-tier components 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 two scripts, a Microsoft Windows script (*psft-dpk-setup.bat*) and a Linux or UNIX shell script (*psft-dpk-setup.sh*). To set up a PeopleSoft environment, run the script pertinent to the host operating system (OS) platform on which the DPK setup script is invoked. The DPK setup script offers a variety of options for setting up mid-tier components, *PS_HOME* folder, 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 mid-tier environment connecting to an existing PeopleSoft database.

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 and `psft-dpk-setup.sh` for Linux or UNIX. The suffix `<ext>` in the table refers to the operating system specific extension.

Note that the command options require two dashes when running on Microsoft Windows, Linux or UNIX.

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

Deployment	DPK Setup Script Command
Perform the following: <ul style="list-style-type: none"> • 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). • Install the <code>PS_HOME</code> directory. 	<pre>psft-dpk-setup.<ext> --env_type midtier</pre>
Perform the following: <ul style="list-style-type: none"> • 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.<ext> --env_type midtier --deploy_only or psft-dpk-setup.<ext> --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.<ext> --env_type midtier --deploy_only --deploy_type tools_home</pre>
Deploy and set up the domain for the Application Server only.	<pre>./psft-dpk-setup.<ext> --env_type midtier --domain_type appserver</pre>
Deploy and set up the domain for the Process Scheduler only.	<pre>psft-dpk-setup.<ext> --env_type midtier --domain_type prcs</pre>
Deploy and set up the domain for PIA only.	<pre>psft-dpk-setup.<ext> --env_type midtier --domain_type pia</pre>
Deploy and set up the domains for the Application Server and the Process Scheduler.	<pre>psft-dpk-setup.<ext> --env_type midtier --domain_type appbatch</pre>

Deployment	DPK Setup Script Command
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.	<code>psft-dpk-setup.<ext> --env_type midtier --dpk_src_dir <full_DPK_path></code>
Remove a deployed environment. See "Using and Maintaining the PeopleSoft Environment," Removing a Deployed PeopleSoft Environment.	<code>psft-dpk-setup.<ext> --cleanup</code>

The following options are also available for PeopleSoft application DPKs. These options require the presence of PeopleSoft application DPKs in the deployment folder. If *DPK_INSTALL* includes only the PeopleTools DPKs files, you cannot use these options.

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

Deployment	DPK Setup Script Command
Deploy the <i>PS_APP_HOME</i> directory only. This option does not set up any domains.	<code>psft-dpk-setup.<ext> --env_type midtier --deploy_only --deploy_type app_home</code>
Deploy the <i>PS_HOME</i> and <i>PS_APP_HOME</i> directories only. This option does not set up any domains.	<code>psft-dpk-setup.<ext> --env_type midtier --deploy_only --deploy_type app_and_tools_home</code>

Include the following decisions in preparing for the installation process:

- FRESH or PUM installation type

For this documentation, select a FRESH, or 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 other options.

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

- Default or manual configuration

After extracting the DPKs, you are given the option to exit the process and complete the configuration manually using Puppet files. 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 Component Software Locations.

- 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 root access, user ID, PeopleSoft Connect ID, Application Server Domain Connection, and so on.

- Multi-language support

You are given the option to have the DPK setup script install translated files for a multi-language installation.

- Unicode or non-Unicode

You are given the option to have the DPK setup script install a Unicode or non-Unicode environment.

Task 2-3: Running the DPK Setup Script to Install PS_HOME Only

This section discusses:

- Understanding the PS_HOME Deployment
- Installing PS_HOME Only on Microsoft Windows
- Installing PS_HOME Only on Linux

Understanding the PS_HOME Deployment

Use these instructions to install the *PS_HOME* installation folder, which includes the PeopleSoft PeopleTools server utilities. Use this deployment, for example, to get the tools needed to carry out database creation. The *PS_HOME* deployment includes the following:

- *PS_HOME* installed to *BASE_DIR/pt/ps_home8.56.xx* by default.
- PeopleTools utilities and scripts including:
 - *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*
 - Other PeopleTools utilities
- Setup utilities including:
 - *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)

Task 2-3-1: Installing PS_HOME Only on Microsoft Windows

This procedure assumes you have obtained the four PeopleSoft PeopleTools DPK zip files and saved them in *DPK_INSTALL*. To use the DPK setup script to install *PS_HOME* only:

1. Extract the first zip file (*FILENAME_1of4.zip*) in the same directory, *DPK_INSTALL*.

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

See Obtaining the PeopleSoft PeopleTools DPK for the DPK file name syntax.

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

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

```
Starting the PeopleSoft Environment Setup Process:
```

```
Extracting the Zip File FILENAME_1of4.zip: [ OK ]
Extracting the Zip File FILENAME_2of4.zip: [ OK ]
Extracting the Zip File FILENAME_3of4.zip: [ OK ]
Extracting the Zip File FILENAME_4of4.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.

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

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

Preparing the Windows 2012 Server VM for PeopleSoft Environment:

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.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components.

Note. When entering the path for the base directory, use forward slashes (/). For example, C:/psft.

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.
- *BASE_DIR*\pt
The script uses this directory to deploy PeopleSoft PeopleTools.
- *BASE_DIR*\db
This directory is not used for this deployment.

8. Review the status messages as the script validates the files found in the base folder.

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

Validating the PeopleSoft DPKs in the Folder:

Validating the PeopleSoft PeopleTools Server DPK: [→
OK]

Validating the Oracle Server Database DPK: [→
OK]

Validating the PeopleSoft PeopleTools Application Database DPK: [→
OK]

Validating the PeopleSoft PeopleTools Client DPK: [→
OK]

Validating the Manifest Information in Peoplesoft DPKs: [→
OK]

9. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the Peoplesoft DPK Archives in Windows VM:
Extracting the Oracle Database Server DPK Archive:
Extracting the PeopleSoft PeopleTools Application Database DPK Archive:⇒
    [ OK ]
Extracting the PeopleSoft PeopleTools Server DPK:                ⇒
    [ OK ]
```

10. 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 ]
```

11. Specify the information for your database platform.

- a. For the database platform, enter ORACLE, MSSQL (Microsoft SQL Server), DB2UNIX (DB2 for Linux, UNIX, and Windows), or DB2ODBC (DB2 for z/OS).

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

- b. Enter y (yes) to indicate that the database you will connect to is a Unicode database.

Note. All PeopleSoft Update Image databases are required to be Unicode.

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

12. Enter y to continue with the script.

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

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 step to set up the PeopleSoft OS Users environment failed:

Starting the Default Initialization of PeopleSoft Environment:

```
Deploying PeopleTools 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 environemnt.
```

1. cd C:\psft\dpk\puppet\production\manifests
2. puppet apply --confdir=C:\psft\dpk\puppet site.pp --debug --trace

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 Default Initialization of PeopleSoft Environment:

```
Deploying PeopleTools Components: [ OK ]
Setting up PeopleSoft OS Users Environment: [ 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 2-3-2: Installing PS_HOME Only on Linux

This procedure assumes you have obtained the four PeopleSoft PeopleTools DPK zip files and saved them in `DPK_INSTALL`. To use the DPK setup script to install `PS_HOME` only:

1. Extract the first zip file (`FILENAME_1of4.zip`) in the same directory, `DPK_INSTALL`.

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

See Obtaining the PeopleSoft PeopleTools DPKs for the DPK file name syntax.

2. Open a terminal window and change directory to `DPK_INSTALL/setup`.
3. As a user with root access, run the script with the options for mid-tier and deployment only.

```
psft-dpk-setup.sh --env_type midtier --deploy_only --deploy_type tools_⇒
home
```

4. 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].

Starting the PeopleSoft Environment Setup Process:

```
Extracting the Zip File FILENAME_1of4.zip: [ OK ]
Extracting the Zip File FILENAME_2of4.zip: [ OK ]
Extracting the Zip File FILENAME_3of4.zip: [ OK ]
Extracting the Zip File FILENAME_4of4.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.

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

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

```
Preparing the Linux VM for PeopleSoft Environment:
```

```
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 directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components.

Note. When entering the path for the base directory, use forward slashes (/). For example, */cs1/psft*.

The base folder is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft Components. This folder should be accessible on the host, has write permission, and has enough free space. 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 Linux VM, must have write permissions and should have enough free space.

```
.
Enter the PeopleSoft Base Folder [/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.

```
Checking if the Base Filesystem 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.
- *BASE_DIR/pt*
The script uses this directory to deploy PeopleSoft PeopleTools.
- *BASE_DIR/db*

This directory is not used for this deployment.

7. Review the status messages as the script validates the files found in the base folder.

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

```
Validating the PeopleSoft DPKs in the Folder:
Validating the PeopleSoft Application DPK:           [ OK ]
Validating the PeopleSoft PeopleTools DPK:          [ OK ]
Validating the PeopleSoft PeopleTools Client DPK:   [ OK ]
Validating the Manifest Information in DPKs:         [ OK ]
```

8. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the DPK Archives in the VM:
Extracting the PeopleSoft PeopleTools Server DPK Archive:           =>
    [ OK ]
Extracting the Oracle Database Server DPK Archive:
Extracting the PeopleSoft PeopleTools Application Database DPK Archive: =>
    [ OK ]
```

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 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 ]
```

10. Specify the information for your database platform.

- a. For the database platform, enter ORACLE, MSSQL (Microsoft SQL Server), DB2UNIX (DB2 for Linux, UNIX, and Windows), or DB2ODBC (DB2 for z/OS).

Enter the PeopleSoft database platform [ORACLE]:

- b. Enter y (yes) to indicate that the database you are connecting to is a Unicode database.

Note. All PeopleSoft Update Image databases are required to be Unicode.

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

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.

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 Default Initialization of PeopleSoft Environment:
```

```
Deploying PeopleTools Components: [FAILED]
The initialization of PeopleSoft environment setup failed. Check the
log file [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 environemnt.
```

```
1. cd /opt/oracle/psft/dpk/puppet/production/manifests
2. puppet apply --confdir=/opt/oracle/psft/dpk/puppet site.pp --debug -->
trace
```

```
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 Default Initialization of PeopleSoft Environment:
```

```
Deploying PeopleTools Components: [ OK ]
Setting up PeopleSoft OS Users Environment: [ 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 2-4: Running the DPK Setup Script to Install All Software

This section discusses:

- Understanding the DPK Installation
- Installing on Microsoft Windows
- Installing on Linux or UNIX
- Reviewing the Installed Software

Understanding the DPK Installation

Use these instructions to install all software required to continue with the PeopleSoft installation. This deployment uses the DPK setup script options `--env_type midtier --deploy_only --deploy_type all` to install the PeopleSoft PeopleTools software in *PS_HOME*, and the software required for the mid-tier components. This deployment does not set up the PeopleSoft domains; you will do that in a later chapter. If you plan to use the Database Configuration Wizard to create your PeopleSoft database on Linux or UNIX platforms Oracle Tuxedo is a prerequisite. Using the DPK setup script options in this section installs Oracle Tuxedo along with other software.

This procedure assumes that you have downloaded all of the required PeopleSoft PeopleTools DPKs, and saved them in a location referred to here as *DPK_INSTALL*.

Task 2-4-1: Installing on Microsoft Windows

To use the DPK setup script to deploy the software required to set up a PeopleSoft environment:

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 mid-tier and 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 all
```

- 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 all
```

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 PeopleSoft application DPKs.

Starting the PeopleSoft Environment Setup Process:

```

Extracting the Zip File FILENAME_1of4.zip: [ OK ]
Extracting the Zip File FILENAME_2of4.zip: [ OK ]
...
Extracting the Zip File FILENAME_4of4.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.

```

Validating User Arguments: [ OK ]
Validating PeopleSoft Supported Platform: [ OK ]
Verifying if Puppet Software is Installed on the Windows Host:

```

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 the download directory, *DPK_INSTALL*, and aborts with the message [FAILED] if they are not.

Preparing the Windows 2012 Server VM for PeopleSoft Environment:

```

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.

The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. Use forward slashes (/) to specify the base directory location; for example, *C:/psft*.

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 base folder.

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

```
Validating the PeopleSoft DPKs in the Folder:
Validating the PeopleSoft PeopleTools Application DPK:      [ OK ]
Validating the PeopleSoft PeopleTools Server DPK:          [ OK ]
Validating the PeopleSoft PeopleTools Client DPK:          [ OK ]
Validating the Manifest Information in Peoplesoft DPKs:     [ OK ]
```

9. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the Peoplesoft DPK Archives in Windows VM:
Extracting the PeopleSoft PeopleTools Application DPK Archive: [ OK ]
Extracting the PeopleSoft PeopleTools Server DPK:             [ OK ]
```

10. 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 ]
```

11. Specify whether this is a fresh (new) installation or an installation for PeopleSoft Update Manager (PUM):

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

12. 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.

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

13. Enter y if you want the DPK setup script to install files required for a multi-lingual installation.

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

14. Enter y to continue with the script.

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

15. If you want to continue running the initialization script interactively, answer y (yes) to the following prompt, and continue with the next step.

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]:
```

16. 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 [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.

1. cd C:\psft\dpk\puppet\production\manifests
2. puppet apply --confdir=C:\psft\dpk\puppet site.pp --debug --trace

```
Exiting the PeopleSoft environment setup process.
```

See "Customizing a PeopleSoft Environment."

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.

See Obtaining Operating System Packages Required by Puppet if you see messages about missing packages in the log.

Task 2-4-2: Installing on Linux or UNIX

To use the DPK setup script to deploy the software required to set up a PeopleSoft environment:

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 script with the options for mid-tier and 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 all
```

- 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 all
```

4. 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].

See "Preparing for Installation," Understanding the PeopleSoft Installation Using Deployment Packages, for the filename syntax of the PeopleSoft application DPKs.

Starting the PeopleSoft Environment Setup Process:

```
Extracting the Zip File FILENAME_1of4.zip:      [ OK ]
Extracting the Zip File FILENAME_2of4.zip:      [ OK ]
...
Extracting the Zip File FILENAME_4of4.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.

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

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.

Preparing the Linux VM for PeopleSoft Environment:

```
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.

Use forward slashes (/) to specify the directory; for example, `/opt/oracle/psft`. The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components.

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 Linux VM, must have write permissions and should have enough free space.

```
Enter the PeopleSoft Base Folder: /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.

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

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

7. If the default home directory is not writable, enter a new location at the following prompt.

The DPK setup creates local users on the host. These users deploy the PeopleSoft components and own the PeopleSoft runtime domains. The script checks whether the default home directory for the PeopleSoft users (/home) is writable. If not, it will prompt the user to enter a new location to be used for creating the home directories for these local users.

```
Checking if Default User Home Directory /home is Writable:  [WARNING]
```

The PeopleSoft environment setup creates local users on the VM. The default Home directory for these users is /home. Please ensure this directory is writable or provide a new directory on the VM that is writable.

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

If the /home directory is writable, no response is required.

```
Checking if Default User Home Directory /home is Writable:  [ OK ]
```

8. Review the status messages as the script validates the files found in the download directory, *DPK_INSTALL*.

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

```
Validating the PeopleSoft DPKs in the Folder:
Validating the PeopleSoft Application DPK:                [ OK ]
Validating the PeopleSoft PeopleTools Server DPK:         [ OK ]
Validating the PeopleSoft PeopleTools Client DPK:         [ OK ]
Validating the Manifest Information in Peoplesoft DPKs:    [ OK ]
```

9. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the Peoplesoft DPK Archives in the host:
Extracting the PeopleSoft PeopleTools Server DPK:         [ OK ]
Extracting the PeopleSoft Application DPK Archive:         [ OK ]
```

10. 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 host:
Generating eYAML Hiera Backend Encryption Keys:           [ OK ]
```

```
Updating the Puppet Hiera YAML Files in the Linux host:      [ OK ]
Updating the Role in Puppet Site File for the Linux host:   [ OK ]
```

11. Specify whether this is a fresh (new) installation or an installation for PeopleSoft Update Manager (PUM):

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

12. 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.

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

13. Enter y if you want the DPK setup script to install files required for a multi-lingual installation.

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

14. 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 ]
```

15. If you want to continue running the initialization script interactively, answer y (yes) to the following prompt, and continue with the next step.

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

See "Customizing a PeopleSoft Environment"

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]:
```

16. 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 [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.

1. `cd /opt/oracle/psft/dpk/puppet/production/manifests`
2. `puppet apply --confdir=/opt/oracle/psft/dpk/puppet site.pp --debug --> trace`

Exiting the PeopleSoft environment setup process.

See "Customizing a PeopleSoft Environment."

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.

See Obtaining Operating System Packages Required by Puppet if you see messages about missing packages in the log.

Task 2-4-3: Reviewing the Installed Software

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_home8.56.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)
- Oracle Tuxedo software in the standard location, *<BASE_DIR>*/pt/bea/tuxedo
- Oracle Tuxedo services on Microsoft Windows:

ORACLE ProcMGR VS12.2.2.0.0_VS2015 and Tlisten VS12.2.2.0.0_VS2015

- Oracle WebLogic software in the standard location, *BASE_DIR*/pt/bea/wlserver
- Oracle database client software in the standard location, *BASE_DIR*/pt/oracle-client
- Java software in the standard location, *BASE_DIR*/pt/jdk_1.8.0_xx.
- *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 2-5: Obtaining Operating System Packages Required by Puppet

The Puppet software used for the DPK deployment is dependent on certain OS-level packages, which may not be present in the delivered DPKs. In this case, you can use the information in the log file that is generated when you run the DPK setup script to determine which packages are needed. It is the responsibility of the user to obtain and install the required packages.

This is a one-time requirement, for a specific Puppet version, the first time the host is set up. If you are using a virtual Microsoft Windows or Linux OS, depending upon your organization's standards, you can add the missing packages to the standard OS from which you instantiate VMs, or create a custom OS image and re-use it later.

1. If you are using a virtual OS platform, create a new VM instance.
2. Use the DPK setup script, `psft-dpk-setup.bat` (Microsoft Windows), or `psft-dpk-setup.sh` (Linux) to deploy on the host.
3. Review the deployment log file in *DPK_INSTALL*\setup.

The log file will list any missing OS packages.

4. Remove the PeopleSoft environment created by the DPK deployment, using `psft-dpk-setup.bat --cleanup` (Microsoft Windows) or `psft-dpk-setup.sh --cleanup` (Linux).
5. If you are using a virtual OS platform, recreate the VM instance.
6. Obtain and load the missing OS packages on the new OS instance.
7. Rerun the DPK setup script.

The log file should not list any missing packages.

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 DPK Setup Script to Remove the PeopleSoft Environment on Linux

- Using Puppet to Remove the PeopleSoft Environment on Microsoft Windows
- Using Puppet to Remove the PeopleSoft Environment on Linux
- Troubleshooting the Removal Process on Microsoft Windows
- Troubleshooting the Removal Process on Linux

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 process described here 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. The PeopleSoft environment can be cleaned up either using the PeopleSoft DPK setup script or using a puppet command. 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.

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 the following command:

```
psft-dpk-setup.bat --cleanup
```
3. Specify the base directory (`BASE_DIR`) that you want to remove.
You see this prompt if the script detects more than one deployment.
Enter the PeopleSoft Base Folder specified during setup:
4. Review the cleanup log file in `DPK_INSTALL\setup`.

Task 2-6-2: Using the DPK Setup Script to Remove the PeopleSoft Environment on Linux

Use these steps to remove a deployed PeopleSoft environment using the PeopleSoft DPK setup script on Linux or UNIX:

1. Open a terminal window as a user with root permission.
2. Go to `DPK_INSTALL\setup` and run the following command:

```
sh psft-dpk-setup.sh --cleanup
```
3. Specify the base directory (`BASE_DIR`) that you want to remove.
You see this prompt if the script detects more than one deployment.

Enter the PeopleSoft Base Folder specified during setup:

4. Review the cleanup log file in `DPK_INSTALL\setup`.

The DPK setup script displays [OK] for each step of the process, and [FAILED] if any of the steps are not successful. After completing these steps, verify that the DPK installation directories (`BASE_DIR/pt` and `BASE_DIR/db`) have been cleared. On Microsoft Windows, verify that any services have been removed. If anything remains, 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 Troubleshooting the Removal Process.

Task 2-6-3: Using Puppet to Remove the PeopleSoft Environment on Microsoft Windows

Use the `puppet apply` command to remove the PeopleSoft environment manually. When you run the `puppet apply --confdir=BASE_DIR/dpk/puppet site.pp --debug --trace` command, the debug and trace messages appear in the command prompt. If you want to save them as a file, see the Puppet Labs documentation for the correct options.

See Puppet Labs Documentation, <http://docs.puppetlabs.com>.

To remove the environment manually on Microsoft Windows:

1. Open the file `BASE_DIR/dpk/production/data/defaults.yaml` in a text editor, such as Notepad.

See "Using the Puppet Hiera YAML Files for Customization."

2. Change the value of the `ensure` attribute from `present` to `absent`.
3. Open a command prompt.
4. If the Puppet environment is not set, run the following command (optional):

```
C:\>"Program Files\Puppet Labs\Puppet\bin\puppet_shell.bat"
```

5. Change directory to the `BASE_DIR/dpk/production/manifests` folder.

6. Run the following command:

```
puppet apply --confdir=BASE_DIR/dpk/puppet site.pp --debug --trace
```

Note. The options require double dashes.

Task 2-6-4: Using Puppet to Remove the PeopleSoft Environment on Linux

To remove the environment manually on Linux:

1. Open the file `BASE_DIR/dpk/production/data/defaults.yaml` in a text editor, such as vi.

See "Using the Puppet Hiera YAML Files for Customization."

2. Change the value of the `ensure` attribute from `present` to `absent`.
3. Open a command prompt.
4. Change directory to the `BASE_DIR/dpk/production/manifests` directory.

5. Run the following command:

```
puppet apply --confdir=BASE_DIR/dpk/puppet site.pp --debug --trace
```

Note. The options require double dashes.

Task 2-6-5: Troubleshooting the Removal Process on Microsoft Windows

This section includes advanced steps to be used only if the previous procedures in this section failed. 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 Services.
2. Stop the services OracleService CBD<Database Name> and OracleOraDB12cHomeTNSListener by highlighting the names, right-clicking and selecting Stop.

Note. When you stop the service for the CBD (Oracle container database), you may see a message informing you that it will also stop the services for the PeopleSoft application server and Process Scheduler domains that were deployed for that database.

3. Stop the service for the PeopleSoft PIA domain.
4. Open a command prompt, running as administrator, and remove the two database services and the PeopleSoft domains services with the commands:

```
sc delete OracleService CDB<Database Name>
sc delete OracleOraDB12cHomeTNSListener
sc delete PsftAppServerDomain<app_domain_name>Service
sc delete PsftPrsDomain<ProcSched_domain_name>Service
sc delete PsftPIADomain<PIA_domain_name>Service
```

5. In the Services window, stop ORACLE ProcMGR V12.2.2.0.0_VS205 and TListen 12.2.2.0.0_VS2015(Port3050) by highlighting the names, right-clicking and selecting Stop.
6. In the Services window, right-click each of the services in step 4, select Properties, and copy the correct service name (rather than the alias).
7. Open a command prompt and remove the two preceding services with the command:
8. Open the Microsoft Windows registry; for example, select Start, Run, and enter regedit.
9. 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_OraDB12cHome (C:\psft\db by default)

- KEY_OraTux1222Home (C:\psft\pt\bea\tuxedo by default)
 - KEY_OraWL1213Home (C:\psft\pt\bea by default)
10. In the Registry Editor, locate the HKLM\SOFTWARE\ORACLE\TUXEDO folder.
Select the 12.2.2.0.0_VS2015 key and verify that it contains references to the DPK installation locations in *BASE_DIR* (C:\psft\pt\bea\tuxedo by default).
 11. In the Registry Editor, only for the keys from step 8 and 9 that reference the DPK installation locations, right-click and select Delete.
 12. Close the Registry Editor window.
 13. Open the file C:\Program Files\Oracle\Inventory\ContentsXML\inventory.xml in a text editor.
 14. Locate the three lines that reference the DPK deployment:


```
<HOME NAME="OraWL1213Home" LOC="C:/psft/pt/bea" TYPE="O" IDX="16"/>
<HOME NAME="OraTux1213Home" LOC="C:\psft\pt\bea\tuxedo" TYPE="O" IDX=>
"17"/>
<HOME NAME="OraDB12cHome" LOC="C:\psft\db\oracle-server\12.1.0.2" TYPE=>
"O"
  IDX="18"/>
```
 15. Delete only the lines referencing the DPK deployment, and save the file.
 16. Remove everything under the *BASE_DIR* folder (C:/psft/db, C:/psft/dpk, and C:/psft/pt).
-
- Note.** You may get a message that some of the file names are too big for the recycle bin. Click OK to accept.
-
17. Remove C:/User/<username>/psft/pt/8.56 (PS_CFG_HOME).

Task 2-6-6: Troubleshooting the Removal Process on Linux

This section includes advanced steps to be used only if the previous procedures in this section failed. If the cleanup process on Linux 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.sh --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, try the following troubleshooting steps.

Here are a few things to check for the advanced manual cleanup on Linux. Depending upon where the cleanup process failed, some of the items mentioned may have already been removed.

- Kill any left-over processes.
 1. For example, use this command, and look for PeopleSoft processes:


```
ps -aux|more
```
 2. To stop the processes, for example, use this command with the process ID:


```
kill -STOP <PID>
```
- Check for left-over PeopleSoft users.

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.

1. Check for the four PeopleSoft user IDs using this command:

```
id psadm1
id psadm2
id psadm3
id oracle2
```

If the commands give an output, it means the user exists.

2. Check for running processes associated with the users with this command:

```
ps -ef|grep <user_id>
```

3. Stop any running processes associated with the users, if necessary.
4. Delete the users, with this command:

```
userdel -r <user_id>
```

Chapter 3

Completing the DPK Initialization with Customizations

This chapter discusses:

- Understanding PeopleSoft Environment Customizations
- Preparing the Customization File for PeopleSoft Domain Definitions
- Preparing the Customization File for Linux Users
- Preparing the Customization File for Component Software Locations
- Preparing the Customization File for Unicode
- Preparing the Customization File for the PeopleSoft Homes
- Preparing the Customization File for Mid-Tier Connection to a DB2 z/OS Database
- 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 a few examples of ways to use the YAML files for customization, but is not meant to be an exhaustive list of the possible customizations.

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.

Use these guidelines when customizing your environment:

- 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/default.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
- 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, the DPK setup script can still be used 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.

- Always use the customizations for these setups:
 - Installing on an AIX 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, copying the parameters that you want to modify into the `psft_customizations.yaml` file gives you the option to save the customization.

- Use a single `psft_customizations.yaml` file.

You can copy sections from more than one of the delivered YAML files and include them in a single `psft_customizations.yaml` file.

- 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, include the `remove: false` attribute at the end of the segment.
- If you remove the environment using the `puppet apply` command, 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 the entire section containing the parameter to be modified.

The hierarchy and alignment of the YAML files are very important to the correct operation. 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.

In addition, 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.

- Replace the entire attribute string.

The parameters in the delivered YAML files are written with Hiera 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 segment:

```
weblogic:
  location: "%{hiera('pt_location')}/bea"
```

When `pt_location` is set as `C:/psft`, Oracle WebLogic will be installed in `C:/psft/bea`. To change this, remove the entire string of text `"%{hiera('pt_location')}/bea"` and replace it 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
```

On Linux:

```
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 Updates 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.

- Open a command prompt, using Run as administrator.
- Set the Puppet environment if necessary.

The last step in the examples given here is to run the `puppet apply` command. If you receive a message saying that the term "puppet" is not recognized when running this command, it probably means that the Puppet software is not included in your system's path. To set the Puppet environment, run this command:

On Microsoft Windows:

```
"C:\Program Files\Puppet Labs\Puppet\bin\puppet_shell.bat"
```

On AIX or 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=${PUPPET_BIN}:%PATH`
- `export LIBPATH=${PUPPET_LIB}:%LIBPATH`
- See the Puppet Labs documentation if you want to save the log files.

When you run the `--confdir=BASE_DIR/dpk/puppet site.pp --debug --trace` command, the debug and trace messages appear in the command prompt. If you want to save them as a file, see the Puppet Labs documentation for the correct options.

See Puppet Labs Documentation, <http://docs.puppetlabs.com>.

See Also

PeopleSoft PeopleTools 8.56 Deployment Packages Installation, "Using the Puppet Hiera YAML Files for Customization"

Task 3-1: 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 an Application Server Domain with Custom PS_CFG_HOME
- Reviewing the Customization File for Multiple Domains

Task 3-1-1: 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.

1. Locate the psft_configuration.yaml file in *BASE_DIR*/dpk/production/puppet/data.
2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, 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 the file begins with three 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.

The following sections include sample psft_customizations.yaml files.

4. Save the file.

Task 3-1-2: 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.

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.

```
---
db_name:          FS85606C
db_user:          VP1
db_user_pwd:      <DB_USER_PWD>

db_connect_id:    people
db_connect_pwd:   <DB_CONN_PWD>

domain_user:      "%{hiera('psft_runtime_user_name')}}"
ps_config_home:   "C:/Users/%{::env_username}/psft/pt/8.56"
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
pia_gateway_user_pwd:  <GATEWAY_USER_PWD>
webserver_type:        weblogic
pia_webprofile_name:   PROD
pia_psserver_list:     "%{::fqdn}:%{hiera('jolt_port')}}"
report_repository_dir: "%{hiera('ps_config_home')}/psreports"

domain_conn_pwd:       <DOMAIN_CONN_PWD>

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: <WEBSERVER_ADMIN_PWD>
      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:        PTWEBSERVER
          profile_user_pwd:    <WEBPROFILE_USER_PWD>

          report_repository_dir: "%{hiera('report_repository_dir')}}"
#####
# End PIA section.                                               #
#####

ohs_domain:
  name:                    ohsdom

#####
# Remaining text removed for brevity.                             #
#####

```

Task 3-1-3: 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`. Note that the indentation in the original `psft_configuration.yaml` file must be maintained when creating a `psft_customizations.yaml` file.

```

---
appserver_domain_list:
  "APPDOM1":                                     ### Custom domain name=>
  ###
  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:           "%{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 3-1-4: Reviewing the Customization File for an Application Server Domain with Custom PS_CFG_HOME

If you want to create application server domains in a non-default PS_CFG_HOME location, you must also specify the value for ps_cfg_home in the application server section:

```

---
ps_config_home:      C:/user/psft_config/8.56          ### Custom PS_=>
CFG_HOME location ###

appserver_domain_list:
  "APPDOM2":                                     ### Custom=>

```

```

domain name ###
  os_user:           "%{hiera('domain_user')}}"
  template_type:    "%{hiera('appserver_template')}}"
  ps_cfg_home_dir:  C:/user/psft_config/8.56           ### Custom PS_⇒
CFG_HOME location ###

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"
  PSPMSRV:          "Yes"
  ANALYTICSRV:      "No"
  SERVER_EVENTS:    "Yes"
  DOMAIN_GW:        "No"

```

Task 3-1-5: 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 (marked by `###` characters) for the purposes of this explanation.

Follow these guidelines in creating a `psft_customizations.yaml` file for customized PeopleSoft domains. The letters correspond to those in the code sample above:

- (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.
- (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"
PSPMSRV:        "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"
    PSPMSRV:          "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: Tmt0wtd1
  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:         PTWEBSERVER
    profile_user_pwd:     PTWEBSERVER

    report_repository_dir: "%{hiera('report_repository_dir')}}"

"PIADOM222":                  ### (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: Tmt0wtd1
  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:     PTWEBSERVER

    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 3-2: Preparing the Customization File for Linux Users

This section discusses:

- Preparing the Customization File for Non-Default Linux Users
- Preparing the Customization File for a Single Linux User

Task 3-2-1: Preparing the Customization File for Non-Default Linux Users

This user customization applies to Linux platforms only. If you choose the default initialization, the Puppet framework creates four local users: psadm1, psadm2, psadm3, and oracle2. 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 an existing user (for example an LDAP user) or users, and Puppet will use them instead of the delivered users.

1. Locate the `psft_unix_system.yaml` file.

By default, the DPK setup script installs the YAML files in `BASE_DIR/dpk/puppet/production/data`.

The `psft_unix_system.yaml` file lists the default users. The `users` section includes interpolation functions that refer to the user names at the top. For example, `psadm1` is defined as the `psft_install_user_name`, and is also defined as the name of the `tools_install_user` with the interpolation function

```
"%{hiera('psft_install_user_name')}".
```

```
psft_install_user_name:    psadm1
psft_runtime_user_name:   psadm2
psft_app_install_user_name: psadm3
oracle_user_name:         oracle2
```

```
users:
  tools_install_user:
    name:      "%{hiera('psft_install_user_name')}}"
    gid:       "%{hiera('oracle_install_group_name')}}"
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_install_user_⇒
name')}}"
    password:  "%{hiera('psft_user_pwd')}}"
  psft_runtime_user:
    name:      "%{hiera('psft_runtime_user_name')}}"
    gid:       "%{hiera('oracle_install_group_name')}}"
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_runtime_user_⇒
name')}}"
    password:  "%{hiera('psft_user_pwd')}}"
  app_install_user:
    name:      "%{hiera('psft_app_install_user_name')}}"
    gid:       "%{hiera('psft_app_install_group_name')}}"
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_app_install_user_⇒
name')}}"
    password:  "%{hiera('psft_user_pwd')}}"
  oracle_user:
    name:      "%{hiera('oracle_user_name')}}"
    gid:       "%{hiera('oracle_install_group_name')}}"
    groups:    "%{hiera('oracle_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('oracle_user_name')}}"
```



```
password: "%{hiera('oracle_user_pwd')}}"
```

2. If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `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 the file begins with three dashes (---).

3. Copy the entire section above from the `psft_unix_system.yaml` file into the `psft_customizations.yaml` file and modify the values as needed.

Include the keys only for those users that you want to customize, and then include the `users` section with any necessary changes. For example, if you want to use non-default Linux or UNIX users for the install user and runtime user, include the `psft_install_user_name` and `psft_runtime_user_name` keys with the custom user name. Include the entire `users` section, and modify the names for the `tools_install_user` and `psft_runtime_user`.

For example:

```
---
psft_install_user_name:      cust_user1
psft_runtime_user_name:     cust_user2

users:
  tools_install_user:
    name:      cust_user1
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_install_user_⇒
name')}"
    password: "%{hiera('psft_user_pwd')}}"
  psft_runtime_user:
    name:      cust_user2
    gid:       "%{hiera('oracle_install_group_name')}}"
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_runtime_user_⇒
name')}"
    password: "%{hiera('psft_user_pwd')}}"
  app_install_user:
    name:      "%{hiera('psft_app_install_user_name')}}"
    gid:       "%{hiera('psft_app_install_group_name')}}"
    groups:    "%{hiera('psft_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('psft_app_install_user_⇒
name')}"
    password: "%{hiera('psft_user_pwd')}}"
  oracle_user:
    name:      "%{hiera('oracle_user_name')}}"
    gid:       "%{hiera('oracle_install_group_name')}}"
    groups:    "%{hiera('oracle_runtime_group_name')}}"
    expiry:    absent
    home_dir:  "%{hiera('user_home_dir')}/%{hiera('oracle_user_name')}"
    password: "%{hiera('oracle_user_pwd')}}"
```

4. Save the file.

Task 3-2-2: Preparing the Customization File for a Single Linux User

If your setup requires a single user for the whole PeopleSoft environment, use the `psft_user` key.

Note. The `psft_user` parameter is not included in the delivered `psft_unix_system.yaml` file.

```
---
users:
  psft_user:
    name:      psftuser1
    gid:       psftuser1
    expiry:    absent
    home_dir:  /home/psftuser1
    password:  ****
    remove:   false
```

Task 3-3: 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. As mentioned in the section *Reviewing Software Requirements for AIX*, you must use customizations to specify the installation location of the manually installed JDK 8.0 for the AIX DPK.

1. Locate the `psft_deployment.yaml` file in `BASE_DIR/dpk/production/puppet/data`.
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, 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 the file begins with three 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 user section will not be deleted when the deployed environment is removed.

- Copy the entire `jdk` section from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file and modify the location value; for example:

```
---
jdk_location:      C:/jdk
remove:            false
```

- If you are installing on AIX, use the following:

```
---
jdk_location:      ibm-java-ppc64-80
remove:            false
```

- Copy the entire `tuxedo` section from the `psft_deployment.yaml` file into the `psft_customizations.yaml`

file and modify the location value; for example:

```
---
tuxedo:
  location:      C:/psft/tuxedo
  remove:       false
```

- For Oracle WebLogic, copy both the `weblogic_location` parameter and the entire `weblogic` section from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file. Be sure to set the locations to the same value. Do not indent `weblogic_location` or `weblogic`, as shown in this example:

```
---
weblogic:
  location:      C:/psft/weblogic
  remove:       false
weblogic_location: C:/psft/weblogic
```

- 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
  remove:       false

tuxedo:
  location:      C:/psft/tuxedo
  remove:       false

weblogic:
  location:      C:/psft/weblogic
  remove:       false
weblogic_location: C:/psft/weblogic
```

4. Save the file.

Task 3-4: Preparing the Customization File for Unicode

Use these instructions if you want to change the Unicode designation for your database.

1. Locate the `psft_deployment.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, 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 the file begins with three dashes (`---`)

).

- 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')}}"
```

- Save the file.

Task 3-5: Preparing the Customization File 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

Task 3-5-1: 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 8.56.12. Use these steps to specify a different `PS_HOME` location.

- Locate the `psft_deployment.yaml` file in `BASE_DIR/dpk/production/puppet/data`.

The `PS_HOME` installation location is specified by the `ps_home_location` parameter.

```
ps_home_location: "%{hiera('pt_location')}/ps_home8.56.12"
"
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:  "%{hiera('unicode_db')}}"
  location:    "%{hiera('ps_home_location')}}"
```

- If necessary, create a `psft_customizations.yaml` using a standard editing tool, such as Notepad on Microsoft Windows or `vi` on Linux, 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 the file begins with three dashes (`---`).

- Copy the entire section from the `psft_deployment.yaml` file into the `psft_customizations.yaml` file and modify

the location value as needed.

For example, on Linux or UNIX:

```
---
ps_home_location: /home/psft8.56.12
"
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     /home/psft8.56.12
```

For example, on Microsoft Windows:

```
---
ps_home_location: C:/psft8.56.12
"
ps_home:
  db_type:      "%{hiera('db_platform')}}"
  unicode_db:   "%{hiera('unicode_db')}}"
  location:     C:/psft8.56.12
```

4. Save the file.

Task 3-5-2: 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/<application>_app_home*, where *<application>* is the abbreviation for the PeopleSoft application, such as *fscm* for PeopleSoft Financials and Supply Chain Management. Use these steps to specify the *PS_APP_HOME* location.

1. Locate the *psft_deployment.yaml* file in *BASE_DIR/dpk/production/puppet/data*.

The *PS_APP_HOME* installation location is specified by the *ps_apphome_location* parameter.

```
ps_apphome_location: "%{hiera('pt_location')}/fscm_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, 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 the file begins with three 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.

For example, on Linux or UNIX:

```
---
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.

Task 3-5-3: 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/8.56*, such as *C:/users/username/psft/pt/8.56* on Microsoft Windows, and */home/psadm2/psft/pt/8.56* on Linux or UNIX. 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.

1. Locate the *psft_configuration.yaml* file in *BASE_DIR/dpk/production/puppet/data*.

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/8.56"
```

2. If necessary, create a *psft_customizations.yaml* using a standard editing tool, such as Notepad on Microsoft Windows or *vi* on Linux, 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 the file begins with three 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.

For example, on Linux or UNIX:

```
---
ps_config_home: /home/pt856_config
```

For example, on Microsoft Windows:

```
---
ps_config_home: C:/pt856_config
```

4. Save the file.

Task 3-6: 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.

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.

1. Locate the `psft_configuration.yaml` and `psft_deployment.yaml` files in `BASE_DIR/dpk/production/puppet/data`.

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 or UNIX, 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 the file begins with three dashes (---).

3. Copy the `db_platform` section from `psft_deployment.yaml` to `psft_customizations.yaml`:

```
db_platform:      DB2ODBC
```

4. Copy the `db_name`, `db_user` and `db_user_password` sections from `psft_configuration.yaml` to `psft_customizations.yaml` and change for your environment:

```
db_name:          EP92DMO
db_user:          VP1
db_user_pwd:
```

5. Copy the `db2_server_list` section from `psft_configuration.yaml` to `psft_customizations.yaml`:

```
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 or UNIX).

8. Modify the `psft_customizations.yaml` for your environment.

For example, on Linux or UNIX:

```
---
db_platform:      DB2ODBC
db_name:          EP92DMO
db_user:          VP1
db_user_password: VP1

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:     psftuser
    remove:           false

```

Note. The `instance_user` attribute only applies to Linux and UNIX 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_password:    VP1

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:     psftuser
    remove:           false

```

Use these guidelines in completing the `psft_customizations.yaml`:

- EP92DMO is the logical PeopleSoft database name, and also the name of the ODBC system DSN.
- For `db_platform` and `db2_type` specify DB2ODBC to indicate the RDBMS, DB2 for z/OS.
- For `db_user` and `db_user_password`, specify the PeopleSoft User ID (operator ID) and password, such as VP1 or PS.
- For `db_name`, specify the database name you supplied to the DPK setup script, EP92DMO in this example. Use the same name as the first entry in the `db2_server_list` section. The DB2 z/OS system uses this as the database alias.
- For `db2_host`, specify the host name where the DB2 zOS subsystem resides, sysb21 in this example.
- For `db2_port`, specify the TCP port used by the DB2 zOS subsystem, 5126 in this example.
- For `db2_node`, specify the TCP/IP node, TCPDS3B in this example.
- For `db2_target_db`, specify the DB2 subsystem name, DB2DS3B in this example.
- For `db2_user_name` and `db2_user_password`, specify the access ID and password, psftuser in this

example.

9. The DPK will generate the following catalog statements as a result of using this `psft_customizations.yaml` file:

```
db2 catalog TCPIP node TCPDS3B remote sysb21 server 5126 ostype os390
db2 catalog db EP92DMO at node TCPDS3B authentication DCS
db2 catalog dcs db EP92DMO as DB2DS3B
```

10. Save the file.

Task 3-7: 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.
2. Answer *n* (no) to the following prompt:

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

The script stops.

3. Prepare the `psft_customizations.yaml` file as previously described and save it in `BASE_DIR/dpk/puppet/production/data`.
4. Open a command prompt, running as administrator, and change directory to the Puppet manifest directory, `BASE_DIR/dpk/puppet/production/manifests`.
5. Run the following command to set up the PeopleSoft environment using the modified YAML files.

Note. The `confdir`, `debug`, and `trace` options begin with two dashes.

On Microsoft Windows, Linux or UNIX:

```
puppet apply --confdir=BASE_DIR/dpk/puppet site.pp --debug --trace
```

On AIX and other operating systems it may be necessary to provide the full path to `site.pp`:

```
puppet apply --confdir=BASE_DIR/dpk/puppet BASE_DIR/dpk/puppet=>
/production/manifests/site.pp --debug --trace
```


Chapter 4

Installing PS_APP_HOME Using the PeopleSoft Installer

This chapter discusses:

- Preparing for the PS_APP_HOME Installation
- Using the PeopleSoft Installer
- Verifying Necessary Files for Installation on Windows

Preparing for the PS_APP_HOME Installation

To get the files necessary to create a PeopleSoft application demo or system database, you must install the PeopleSoft application installation files to the *PS_APP_HOME* location. The PeopleTools DPK setup requires a *PS_APP_HOME* location that is different from the *PS_HOME* location where PeopleSoft PeopleTools is installed.

The PeopleSoft installer is a Java-based tool used to install PeopleSoft PeopleTools and PeopleSoft application from releases prior to PeopleTools 8.56, which were not delivered in the DPK format. You can run the PeopleSoft installer in GUI or console mode. For details on the prerequisites and options for running the PeopleSoft installer, see the PeopleSoft PeopleTools installation guide for your database platform (DB2 for Linux, UNIX, and Windows, DB2 for z/OS, Microsoft SQL Server, or Oracle RDBMS). Select the PeopleSoft PeopleTools release that your PeopleSoft application was built on.

If you need to obtain the software for the PeopleSoft application that you want to install, and if it is no longer available on Oracle Software Delivery Cloud or My Oracle Support, open a service request with Oracle support.

See Also

PeopleSoft PeopleTools 8.55 Installation Home Page, My Oracle Support, Doc ID 2068525.1

PeopleSoft PeopleTools 8.54 Installation Home Page, My Oracle Support, Doc ID 1905010.1

Task 4-1: Using the PeopleSoft Installer

This section discusses:

- Starting the PeopleSoft Installer
- Using the PeopleSoft Installer in GUI Mode
- Using the PeopleSoft Installer in Console Mode

Task 4-1-1: Starting the PeopleSoft Installer

After you download and extract the PeopleSoft PeopleTools installation files you can find the installer in *PS_INSTALL/disk1*.

To start the PeopleSoft Installer on Microsoft Windows, type:

```
PS_INSTALL\disk1\setup.bat [command line options]
```

To start the PeopleSoft Installer on a supported UNIX or Linux operating system, type:

```
PS_INSTALL/disk1/setup.sh [command line options]
```

To run the PeopleSoft Installer for an installation on DB2 for z/OS, use *PS_INSTALL/disk1/setup.bat* to install on Microsoft Windows, and then use Server Transfer.

The following list includes options that you can use when running *setup.bat* and *setup.sh* on the command line, their allowed values, descriptions, and environment variables that must be set before using the options.

Note. Only the command line options listed in this documentation are supported for PeopleSoft installation. Note that the use of a response file for silent installation is not supported for the installer for PeopleSoft PeopleTools 8.55. For some of the installations described elsewhere in this documentation, such as PeopleSoft Pure Internet Architecture, the same options apply.

- Specify console or GUI mode with the `-i` option.

- To run in GUI mode:

```
setup.bat -i GUI
```

- To run in console mode:

```
setup.sh -i console
setup.bat -i console
```

- Specify the full absolute path to the Java (JRE or JDK) executable.

Use either of the options `-javahome` or `-LAX_VM` to specify the absolute path to the JRE or JDK executable, including the executable name. Use this option if your installation is different than the vendor-defined installation path. This is used by the installer as the runtime `javahome`.

On Microsoft Windows:

```
setup.bat -javahome D:\prod\java8\bin\java.exe
setup.bat -LAX_VM D:\prod\java8\bin\java.exe
```

On UNIX:

```
setup.sh -javahome /opt/java8/bin/java
setup.sh -LAX_VM /opt/java8/bin/java
```

- Run in debug mode to investigate basic installer features.

1. Set the environment variable `LAX_DEBUG`; for example:

On Microsoft Windows:

```
set LAX_DEBUG=true
```

On UNIX:

```
export LAX_DEBUG=true
```

2. Run the installer; for example:

On Microsoft Windows:

```
setup.bat -DDEBUG=console
```

On UNIX:

```
setup.sh -DDEBUG=console
```

- Specify the temporary directory to extract temporary files.

This is recommended if you have less than 2 GB of space in your default temporary directory.

- On Microsoft Windows, set the environment variable %TMP%, and then run `setup.bat` without an option for the temporary directory; for example:

```
set TMP=D:\user\temp
setup.bat
```

- On UNIX, use the `-tempdir` option to specify the absolute path to the temporary directory; for example:

```
setup.sh -tempdir /opt/home/user/temp
```

- To use more than one of the preceding options, you can combine them in any order; for example:

```
setup.bat -i console -javahome D:\prod\java8\bin\java.exe
```

```
setup.sh -LAX_VM /opt/java8/bin/java -DDEBUG=console -i console
```

- To start the debugger in GUI mode:

1. Type the command; for example:

```
setup.bat -DDEBUG=console -i console
```

2. Press ENTER, and then hold down the CTRL key.

The GUI installer window opens, and a console window also opens with the debugger messages.

Task 4-1-2: Using the PeopleSoft Installer in GUI Mode

To install PeopleSoft PeopleTools with the PeopleSoft Installer in GUI mode:

1. Launch the installer. For example:

```
PS_INSTALL\disk1\setup.bat
```

Click Next when you see the Welcome screen for PeopleTools.

2. Click the radio button to accept the license agreement and click Next.

The License Agreement window includes the terms in several languages.

3. Choose a Unicode or non-Unicode database and click Next.

Note. Unicode databases are recommended by Oracle. Some languages in a PeopleSoft installation are only supported in a Unicode database. Unicode databases can require more disk space than non-Unicode databases.

See *PeopleTools: Global Technology*.

4. Select the servers you want to install and click *Next*.

Warning! If you are installing for DB2 for z/OS, 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.

Use the following information to help you make your selection on the Server window:

- You can install multiple servers at the same time, but they will all be installed on the same machine. If you want to install servers on separate machines, you need to run the PeopleSoft Installer on each server machine.
 - If you do not have admin privileges, you will not be able to install PeopleSoft web server. You will have to either acquire admin privileges or deselect the Web Server option to continue.
5. Specify the directory where you want to install PeopleSoft PeopleTools, referred to in this documentation as *PS_HOME*, in the Directory Name field, and click *Next*.
-

Note. Substitute your network drive and the directory name of your choice for the default selection. The installation directory name cannot contain a space. Note that directory names containing periods or non-US-ASCII characters may not work with some additional component software.

6. Specify the location of your Connectivity Program Directory and click *Next*.
- The default location for the connectivity software for DB2 for z/OS (as set by the vendor) is: C:\sqlib\bin. If the database connectivity software was installed to a different directory, enter that path instead.
7. Depending on the PeopleSoft servers you selected, choose whether to install the PeopleSoft PeopleTools icons and click Next.
8. If you elected to install PeopleSoft PeopleTools icons, choose a valid group folder in which to create them and click Next.
9. Enter the configuration information for Environment Management, the Environment Management machine name and port number.

Select the machine name of the web server running the Environment Manager Hub. (This will very likely be the machine on which you run the PeopleSoft Pure Internet Architecture). Select the hub port number (the default is 80, as shown in the example). This needs to match the PeopleSoft Pure Internet Architecture port. If you change the port number for the PeopleSoft Pure Internet Architecture configuration, you must also change the web server listener port number for all the agents in the configuration.properties file.

See the information on configuring and running Environment Management Components in the *PeopleTools: Change Assistant and Update Manager* product documentation.

10. The next screen lists the PeopleSoft PeopleTools components (product features). Accept the defaults for the PeopleSoft PeopleTools features and click Next.
- Select *PeopleTools* to install PeopleSoft PeopleTools and the PeopleSoft Pure Internet Architecture. This component contains the core PeopleTools files and is required for the proper operation of the PeopleSoft system and the PeopleSoft Pure Internet Architecture.
 - Select *PeopleTools System Database* to allow your developers to create custom PeopleSoft PeopleTools applications outside of the delivered PeopleSoft Application.
 - The *PeopleTools Language Pack* and *PeopleTools Language Development Kit* contain the translated PeopleSoft PeopleTools DLLs and the resource files and headers needed to build them.
-

Note. These options are available only for installations on Windows.

Select *PeopleTools Language Pack* if you plan on running the Windows components of the installation in languages other than English. This component contains the compiled PeopleSoft translations for the Windows client. If you are not using multiple languages throughout your implementation, you do not need this component.

Select *PeopleTools Language Development Kit* if you plan on modifying or creating your own new translations for the PeopleSoft PeopleTools Windows client components. It contains the source and header files required to modify and compile new versions of these translations. Again, you do not need this component if you are not using multiple languages.

11. You will see an installation confirmation window. If the information is correct, choose Next. If you need to modify any of the information, choose the Back button and make your changes.

The summary information includes the installation directory, the features, and the PeopleSoft servers:

12. After the files have been installed, click *Done* to complete the setup.

The window displays the installation directory..

Task 4-1-3: Using the PeopleSoft Installer in Console Mode

To install PeopleSoft PeopleTools with the PeopleSoft Installer in console mode:

Note. The console mode installation is typically used on UNIX and Linux platforms, but can also be used on Microsoft Windows.

1. Launch the PeopleSoft Installer in console mode. For example:

On Unix and Linux

```
PS_INSTALL/disk1/setup.sh -i console -tempdir /tmp
```

On Microsoft Windows

```
PS_INSTALL/disk1/setup.bat -i console
```

See Starting the PeopleSoft Installer.

2. At the Welcome prompt, press ENTER to continue.

```
=====→
=====
Welcome
-----

InstallAnywhere will guide you through the installation of PeopleTools
8.55.

PRESS <ENTER> TO CONTINUE:
```

3. Accept the license agreement by entering Y. Select 0 when you are finished.

Portions of the agreement text have been omitted from this example for brevity.

```
=====→
=====
License Agreement
-----

Installation and Use of PeopleTools Requires Acceptance of the Following
License Agreement:

English
```

Notice: This installation program may install products above and beyond those that you have licensed. Please refer to your master license agreement for the products you are entitled to use. Installing and/or using software that you have not specifically licensed may result in termination of your license agreement with PeopleSoft and entitle PeopleSoft to receive damages. It may also be an infringement of PeopleSoft's intellectual property rights.

DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Y/N): **y**

4. Enter 1 to select a Unicode Database (Recommended), or 2 to select a non-Unicode database, and then 0 to continue.

Note. Unicode databases are beneficial if you intend to deploy your applications globally. Some languages in a PeopleSoft installation are only supported in a Unicode database. Unicode databases can require more disk space than non-Unicode databases.

See *PeopleTools: Global Technology*.

Please select the Oracle database character set:

```
->1- Unicode Database (Recommended)
    2- Non-Unicode Database
```

To select an item enter its number, or 0 when you are finished [0] :

5. Select the PeopleSoft servers you want to install.

For DB2 for zOS please select the products to install:

```
->1- PeopleSoft Application Server
->2- PeopleSoft Batch Server
->3- PeopleSoft Database Server
->4- PeopleSoft File Server
->5- PeopleSoft Web Server
```

To select an item enter its number, or 0 when you are finished [0] :

By default, all of the servers supported for your database platform are selected.

Note. If you are installing on UNIX, do not use Symbolic Links. Use the actual directory.

Note. If you are installing on DB2 z/OS, you must select *all* servers when running the installer on Microsoft Windows. This is because there are additional steps using Server Transfer to upload the files. Also, to install a Unicode database, DB2 z/OS customers must select the Unicode Database (Recommended) option.

6. Enter the installation location, such as /home/pt855, referred to as *PS_HOME*, and press ENTER to continue.

Note. In console mode, the browse option for specifying a different install directory is unavailable.

Please enter an installation location or press <ENTER> to accept the⇒
 default
 (Default: C:\PT8.55):

7. *Microsoft Windows only:* Specify the database connectivity directory.

Please select the location of Connectivity Program Directory [c:\sqllib⇒
 \bin]
 :

The default location for the connectivity software for DB2 for z/OS (as set by the vendor) is: C:\sqllib\bin.
 If the database connectivity software was installed to a different directory, enter that path instead.

8. *Microsoft Windows only:* Indicate whether you want icons to be created.

Do you want to Install PeopleTools Icons?

->1- Yes
 2- No

To select an item enter its number, or 0 when you are finished [0] :

9. If you select the option to create PeopleTools icons, enter the name for the program group.

The default is PeopleTools 8.55.

Please enter in the program group folder you wish to create the icons⇒
 in
 [PeopleTools 8.55]:

10. Enter the configuration for Environment Management. Select the machine name and port number.

Please enter the hub machine name: [PSEMHUB]:

Please enter the hub port number: [80]:

Select the machine name of the web server running the Environment Manager Hub. (This will very likely be the machine on which you run the PeopleSoft Pure Internet Architecture). Select the hub port number (the default is 80). This needs to match the PeopleSoft Pure Internet Architecture port. If you change the port number for the PeopleSoft Pure Internet Architecture configuration, you must also change the web server listener port number for all the agents in the configuration.properties file.

See the information on configuring and running Environment Management components in the *PeopleTools: Change Assistant and Update Manager* product documentation.

11. Choose the features that you wish to install:

To select/deselect a feature or to view its children, type its number

-> 1- PeopleTools
 2- PeopleTools System Database
 3- PeopleTools Language Pack
 4- PeopleTools Language Development Kit

Options 3 and 4 appear only on Microsoft Windows.

12. At this point, you can toggle the install status of each product. Press 0 and then ENTER to continue and the PeopleSoft Installer will give you a summary of your selection. This summary will depend on your earlier selections.

Pre-Install Summary

Please review the following before continuing:

PeopleTools will be installed in the following location: /home/PT855

with the following features:

PeopleTools

PeopleTools System Database

The following PeopleSoft Servers were selected by you:

PeopleSoft Application Server

PeopleSoft Batch Server

PeopleSoft Database Server

PeopleSoft File Server

PeopleSoft Web Server

Database Type:

DB2 for zOS

Environment Hub Configuration:

Hub machine name: PSEMHUB

Hub port number: 80

Press 1 for Next, 2 for Previous, 3 to Cancel, or 5 to Redisplay [1]

13. Press ENTER to start the installation.

The PeopleSoft Installer displays a text-based progress bar to indicate the progress of the installation.

14. Press ENTER to exit.

Note. For UNIX operating systems, if you chose PeopleSoft servers that require a JRE, you see the "Unpacking JRE" message after the progress bar.

Installation Complete

Congratulations. PeopleTools has been successfully installed to:

/home/PT855

PRESS <ENTER> TO EXIT THE INSTALLER:

15. If you are installing on AIX, go to the *PS_HOME/jre* directory and ensure that the directory has executable permissions. If not, set the permission using a command such as `chmod +x`.

Task 4-2: Verifying Necessary Files for Installation on Windows

The current PeopleSoft PeopleTools release was developed using Microsoft Visual Studio 2015. PeopleSoft PeopleTools programs require Microsoft Visual C++ Redistributable for Visual Studio 2015 files to be present or the programs will not run.

During your PeopleSoft PeopleTools installation, the install programs will automatically update the Microsoft Windows machine performing the installation.

The required Visual C++ Redistributable for Visual Studio 2015 packages are part of the installation for the following components:

- PeopleSoft PeopleTools
- PeopleTools Client
- Database Configuration Wizard (DCW)
- PeopleSoft Pure Internet Architecture
- Change Assistant
- Change Impact Analyzer
- Web Application Deployment tool

In some cases it may be necessary for you to carry out a separate installation of the Visual C++ Redistributable for Visual Studio 2015 packages. For example:

- If the update does not take place during the installation program run, you may not be able to launch PeopleSoft PeopleTools client or server executables on that machine and may receive error messages.
- If you are accessing PeopleSoft PeopleTools executables from a machine on which you did not install directly, the executables may not work and you may receive error messages.

If you encounter these errors, you can update the Microsoft Windows machine's Visual C++ Redistributable for Visual Studio 2015 packages by running the installers manually.

If installing on a server or PeopleTools Client environment:

1. Go to *PS_HOME*\setup\psvcrt.
2. Run vcredist_x64.exe.

Note. For each installer, the installation is completed automatically.

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:

- On Microsoft Windows 7, select *Start, Programs, PeopleTools 8.56, Configuration Manager*. (This program group will be available if you installed PeopleSoft PeopleTools on this workstation.)
- On Microsoft Windows 8 or 2012 R2, access the Apps screen, navigate to the PeopleTools 8.56 category, and select Configuration Manager.

Note. See the documentation for your operating system for information on accessing the Apps screen.

- If the *PeopleTools 8.56* program group was not installed on this workstation, run *pscfg.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.

The screenshot shows the 'Edit Profile - Default' dialog box with the 'Process Scheduler' tab selected. The 'General' section contains the following fields and values:

- PeopleSoft Home Directory (PS_HOME): C:\PT8.56\
- PeopleSoft App Home Directory (PS_APP_HOME): C:\app_home\
- PeopleSoft Customizations Home Directory (PS_CUST_HOME): C:\PT8.56\
- Temp Directory (TEMP): c:\temp
- Crystal Reports (CRWRPTPATH): C:\PT8.56\crw
- Database Drivers (DBBIN): C:\sqlib\bin
- Output Directory (OUTPUT): c:\temp\
- Word Executables Directory (WINWORD):
- Log Directory (LOG): c:\temp
- Redirect Output:

The 'Application Engine' section contains the following options:

- Debug:
- Disable Restart:

The 'SQR' section contains the following fields and values:

- SQR Executables (SQRBIN): C:\PT8.56\bin\sqr\DB2\binw
- PSSQR Path: C:\PT8.56\sqr
- SQR Flags (PSSQRFLAGS): -ZIFC:\PT8.56\sqr\pssqr.ini

The 'COBOL' section contains the following field and value:

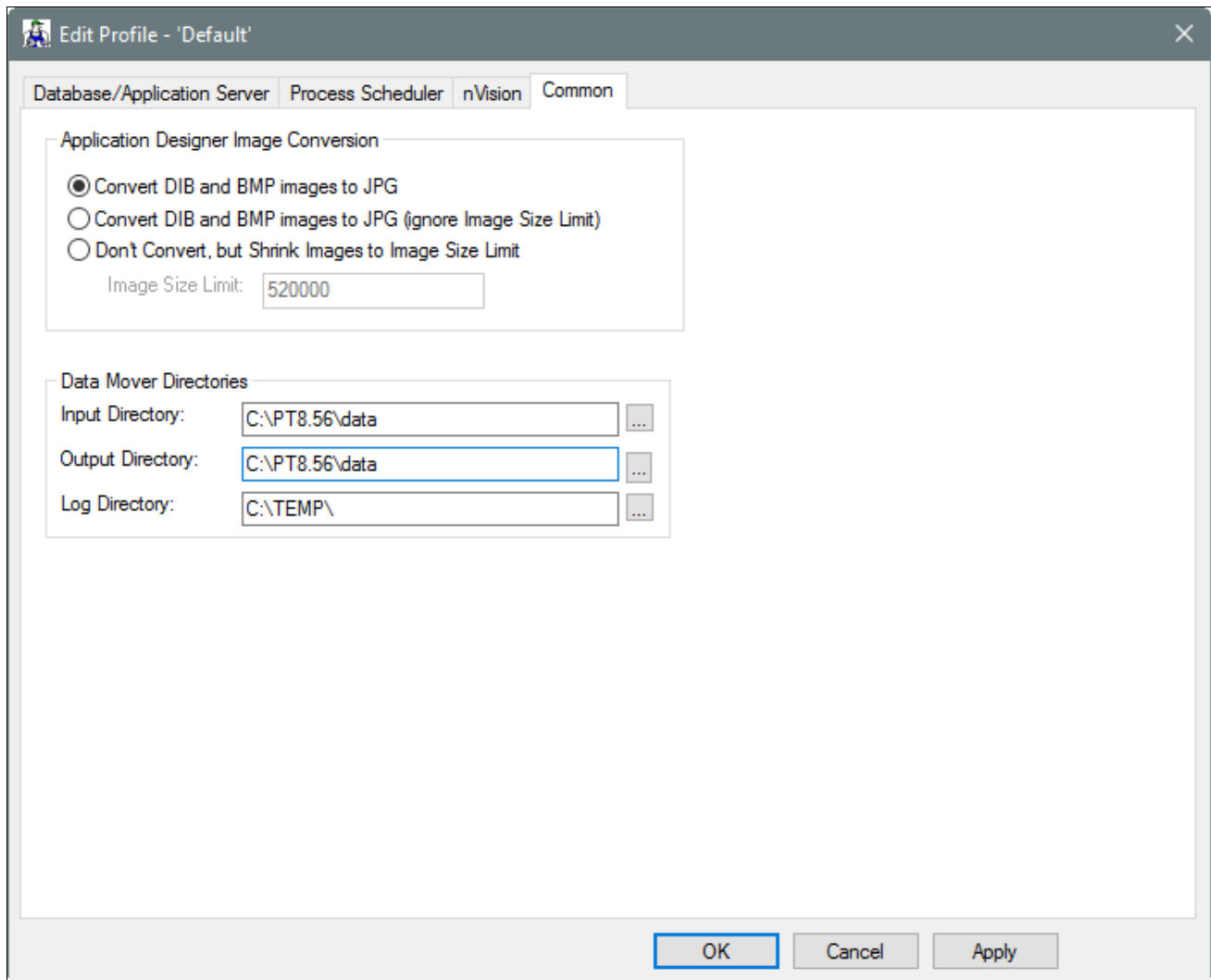
- COBOL Executables (CBLBIN): C:\PT8.56\cblbin\%PS_COBOLTY%

The 'OK' button is highlighted with a blue border.

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 PeopleSoft Installer.
- 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 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 8.56*.
3. If you do not have a PeopleTools 8.56 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 8.56 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 8.56 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
- 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 V5.1, follow the instructions in the section Using IBM Enterprise COBOL for z/OS V5.1. If you are using IBM Enterprise COBOL for z/OS V4.2 follow the instructions in this chapter, but skip the section Using IBM Enterprise COBOL for z/OS V5.1. 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
<p><i>1. z/OS Dataset High Level Qualifier</i></p> <p>The high-level qualifier used for PeopleSoft COBOL and SQR datasets.</p> <p>Suggested usage: <i>hlq.ppvvv</i></p> <p>where <i>hlq</i> is the highest-level qualifier, and <i>ppvvv</i> is the PeopleSoft product and release (such as HR920).</p> <p>Note. This documentation often uses HLQ.PPVVV as an example.</p>	<enter value>	PS.HR920
<p><i>2. PeopleSoft File Server High Level Directory</i></p> <p>Set to <i>PS_HOME</i>, the directory to which you installed the PeopleSoft software, such as N:\HR920.</p>	<enter value>	N:\HR920
<p><i>3. Target Directory for Generated Files</i></p> <p>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 \).</p> <p>Suggested usage: <i>PS_HOME\STAGE</i></p>	<enter value>	N:\HR920\STAGE
<p><i>4. File Transfer Method</i></p> <p>Indicates which file transfer protocol will be used.</p> <p>Suggested usage: Microsoft FTP</p>	<enter value>	Microsoft File Transfer Protocol (FTP)
<p><i>5. Database Server Host/Node Name</i></p> <p>FTP Only: Symbolic IP Name For z/OS System</p> <p>Suggested usage: IP Name of Server</p> <p>If you do not use FTP, specify any alphanumeric character in this field.</p>	<enter value>	Server IP name

Transfer Parameters	Site-Specific Value	Sample Value
<p>6. Database Server Login ID</p> <p>FTP Only: z/OS user ID used to connect to z/OS server and create files and directories on USS.</p> <p><i>Note:</i> This ID MUST be in the same UNIX GROUP as any IDs under which subsequent batch processing will be executed.</p> <p>Suggested usage: LOGONID</p> <p>If you do not use FTP, specify any alphanumeric character in this field.</p>	<enter value>	USER1
<p>7. Job Card Line 1</p> <p>This is the first line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program.</p> <p>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.</p> <p><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.</p>	<enter value>	//PSHR920 JOB (PSOFT),'J',CLASS=A,MSGCLASS=A
<p>8. Job Card Line 2</p> <p>This is the second line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program.</p> <p>Enter // in first two positions followed by at least one space before continuing to add job card information.</p> <p>Suggested usage: //*</p>	<enter value>	//REGION=OM,MSGLEVEL=(1,1),USER=BATCHID1,PASSWORD=BPSWD1
<p>9. Job Card Line 3</p> <p>This is the third line of a job card that will be inserted into JCL files by the PeopleSoft Server Transfer program.</p> <p>Enter // in first two positions followed by at least one space before continuing to add job card information.</p> <p>Suggested usage: //*</p>	<enter value>	// NOTIFY=&SYSUID

Transfer Parameters	Site-Specific Value	Sample Value
<p><i>10. OS390z/OS/DB2 Operator ID</i></p> <p>This parameter is for PeopleSoft internal use. Let it default to OPRID.</p>	<enter value>	OPRID
<p><i>11. OS390z/OS/DB2 Table Owner ID</i></p> <p>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.</p> <p>Suggested usage: PSOWNER</p>	<enter value>	PS001
<p><i>12. DB2 Subsystem Name</i></p> <p>This is the DB2 Subsystem used for the PeopleSoft application you are currently installing (DMO or SYS).</p> <p>Suggested usage: DDDD</p>	<enter value>	DSNT
<p><i>13. DB2 System Dataset Containing DSN Member</i></p> <p>This is the DB2 system dataset that contains member DSN.</p>	<enter value>	DSN n 10.SDSNLOAD (n is an alphanumeric variable)
<p><i>14. DB2 System Dataset Containing DSN3@ATH Member</i></p> <p>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.</p>	<enter value>	DSN n 10.SDSNEXIT (n is an alphanumeric variable)
<p><i>15. DB2 System Dataset Containing DSNTEP2 Member</i></p> <p>This is the DB2 runtime system dataset containing member DSNTEP2.</p>	<enter value>	DSN n 10.RUNLIB.LOAD (n is an alphanumeric variable)
<p><i>16. PeopleSoft Database Name</i></p> <p>Suggested usage: DB</p>	<enter value>	PSHR920

Transfer Parameters	Site-Specific Value	Sample Value
<p><i>17. Plan Name for PTPSQLRT via TSO Attach Facility</i></p> <p>This is DB2 Plan used by PTPSQLRT (the COBOL/DB2 API used by COBOL batch and process scheduler jobs).</p> <p>Suggested usage: PTPSQLRT</p>	<enter value>	PTPSQLRT
<p><i>18: Package Name for PTPSQLRT via TSO Attach Facility</i></p> <p>This is the DB2 Package used by PTPSQLRT (the COBOL/DB2 API used by COBOL batch and process scheduler jobs).</p> <p>Suggested usage: PAKSQLRT</p>	<enter value>	PAKSQLRT
<p><i>19. Plan Name for PTPSQLRT via Call Attach facility (for USS)</i></p> <p>Suggested usage: PTPSQLRA</p>	<enter value>	PTPSQLRA
<p><i>20: Package Name for PTPSQLRT via CALL Attach facility (for USS)</i></p> <p>Suggested usage: PAKSQLRA</p>	<enter value>	PAKSQLRA
<p><i>21. Language Environment runtime library (that is, CEE.SCEERUN)</i></p> <p>We recommend that you ensure the LE runtime libraries are present on the system:</p> <p>xxx.SCEERUNxxx.SCEERUN2</p>	<enter value>	<p>Check with System Administrator for installation LE library name.</p> <p>For example:</p> <p>SYS1.CEE.SCEERUN</p>
<p><i>22. Language Environment linkedit library (that is, CEE.SCEELKED)</i></p> <p>Note that SQR uses PM Binder CEE.SCEEBIND.</p>	<enter value>	CEE.SCEELKED

Transfer Parameters	Site-Specific Value	Sample Value
<p><i>23. CBL System Dataset Containing IGY* Members</i></p> <p>This is the COBOL load library containing modules used by COBOL compiler. Its members include IGYCASM1, IGYCINIT, and so on.</p> <p>Suggested usage:</p> <ul style="list-style-type: none"> • For IBM Enterprise COBOL V4.2: <ul style="list-style-type: none"> • 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 <p>See Changing the IBM Enterprise COBOL Compiler Version</p>	<enter value>	<p>Check with the System Administrator for the installation of IBM Enterprise COBOL V4.2.</p> <p>For example: IGY.V4R2M0.SIGYCOMP</p>
<p><i>24. COBOL Compiler</i></p> <p>Select the COBOL compiler version from the drop-down list:</p> <ul style="list-style-type: none"> • IGY51 IBM Enterprise COBOL V5.1 (Version 5 Release 1) • IGY42 IBM Enterprise COBOL V4.2 (Version 4 Release 2) <p>See Changing the IBM Enterprise COBOL Compiler Version</p>	<enter value>	IGY51
<p><i>25. System Storage Name for Temporary Datasets</i></p> <p>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.</p> <p>Suggested usage: SYSTEMP</p>	<enter value>	SYSTEMP

Transfer Parameters	Site-Specific Value	Sample Value
<p><i>26. System Storage Name for Permanent Datasets</i></p> <p>This is the storage device name used for permanent datasets used in dataset allocation, such as those used to store COBOL and SQR files.</p> <p>Suggested usage: SYSPERM</p>	<enter value>	SYSPERM
<p><i>27. Assembler System Dataset Containing STIMER</i></p>	<enter value>	SYS1.MACLIB
<p><i>28. Assembler Program Name</i></p>	<enter value>	ASMA90
<p><i>29. SQR High Level Qualifier</i></p> <p>This is the high-level qualifier used for SQR datasets.</p> <p>Suggested usage: PS.HR920.SQR</p>	<enter value>	PS.HR920.SQR
<p><i>30. SQR Program Name Found in SQR Load Library</i></p> <p>This is the name of the SQR program contained in the SQR Load Library.</p> <p>Suggested usage: SQR</p>	<enter value>	SQR
<p><i>31. SQR Plan Name</i></p> <p>This is the DB2 Plan name assigned for SQR.</p> <p>Suggested usage: DBCALLS</p>	<enter value>	SQR920
<p><i>32. SQR Package Name</i></p> <p>This is the DB2 Package name assigned for SQR.</p> <p>Suggested usage: PAKSQR</p>	<enter value>	PAKSQR
<p><i>33. Target Server Hardware Platform</i></p>	<enter value>	UNIX System Services (OS390z/OS)
<p><i>34. PeopleSoft Unix System Services Home Directory</i></p> <p>Suggested usage: /u/data001/dbname</p>	<enter value>	/u/data001/PSHR800
<p><i>35. Library for DB2 CLI Load Module (that is, DSNAOCLI)</i></p>	<enter value>	DSNn10.SDSNLOAD (n is an alphanumeric variable)

Transfer Parameters	Site-Specific Value	Sample Value
<p>36. Plan Name for CLI Packages (that is, DSNACLI)</p> <p>Suggested usage: DSNACLI</p>	<enter value>	DSNACLI
<p>37. Attachment Type for ODBC to Connect to DB2</p> <p>Suggested usage: RRSAF</p>	<enter value>	RRSAF (Resource Recovery Services Attachment Facility)
<p>38. HFS path to top level of JDK product</p> <p>This will provide the value for the JDK_HOME environment variable in the psconfig.sh file.</p> <p>Suggested usage: /usr/lpp/java/J1.7</p>	<enter value>	/usr/lpp/java/J1.7

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 need to have run the PeopleSoft Installer, as described in the chapter "Using the PeopleSoft Installer." Run it on a Microsoft Windows machine, making sure to select *all* of the PeopleSoft servers. 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.
- 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.

See "Using the PeopleSoft Installer."

Note. In PeopleTools 8.4 and above, the Server Transfer program is used only to transfer files to your batch server. On UNIX or Windows, to install files to your application server, file server, web server, and so on, you should use the PeopleSoft Installer.

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.

The screenshot shows a Windows-style dialog box titled "PeopleSoft Server Transfer - IBM DB2 For OS390 (Batch Server)". Inside the dialog, there is a section labeled "Transfer Parameters" containing a table with the following data:

	Parameter Description	Parameter Value
1	OS390 Dataset High Level Qualifier (HLQ.PPVVVV)	
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	

Below the table, there is a "Host/Node Login ID Password" label and an empty text input field. To the right of the table is a "Browse" button. At the bottom of the dialog are four buttons: "OK", "Reset", "Cancel", and "Help".

Entering transfer parameters in the PeopleSoft Server Transfer dialog box

2. Enter the appropriate value for each parameter.

Using the preinstallation worksheet you completed earlier, 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 a list of suggested usage) 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 either 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 either 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 shows 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
??DDLU.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: 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 6-5: 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 6-6: 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 (PSBNSQR)
```

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 6-7: 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 6-8: 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 PSCOBD, 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 6-9: Compiling and Link-Editing COBOL

Submit HLQ.PPVVVV.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 to 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 6-10: 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.PPVVVV.PROCLIB):
 - 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, 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 or 5.1 is included in the JOB output.

Chapter 7

Creating a Database

This chapter discusses:

- Understanding Database Creation
- 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 the DB2 Connect Gateway
- 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

This section describes the tasks required to create a PeopleSoft product database. 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.

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.

See Also

"Preparing for Installation," Planning Database Creation

"Setting Up the Install Workstation"

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 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 more details.

Task 7-1: 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 PS_APP_HOME/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 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.PSvzv.DDLLIB(PSDDL) using SPUFI or DSNTDP2. 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 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 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 7-5: Creating DB2 Databases, Storage Groups, and Tablespaces

This section discusses:

- Understanding DB2 Databases, Storage Groups, and Tablespaces
- Customizing the Database Name
- Working with Tablespaces

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.DDLLIB(XXDDL/XXDDL) file.
- 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.DDLLIB(XXDDL/XXDDL).

Task 7-5-1: 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.

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 more details.

Task 7-5-2: 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 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.
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 PSIMAGE 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.

Tablespaces	Comments
XXWORK	Contain PeopleSoft PeopleTools and PeopleSoft Application "temporary" tables.
XXLRG	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	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).
XXIMAGE	Contain Application tables requiring 32K buffer pool 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" to help you plan a strategy for implementing production PeopleSoft databases.

See *PeopleTools: Data Management*.

Task 7-6: 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 TBDDLU 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*U) 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 more details.

Task 7-7: Configuring the DB2 Connect Gateway

Because subsequent installation tasks require connectivity to the remote database, you now need to configure the DB2 Connect Gateway, 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 the appendix "Installing and Configuring DB2 Connect." For details on DB2 Connect configuration, refer to your IBM DB2 Connect documentation.

Task 7-8: 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 7-8-1: 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.

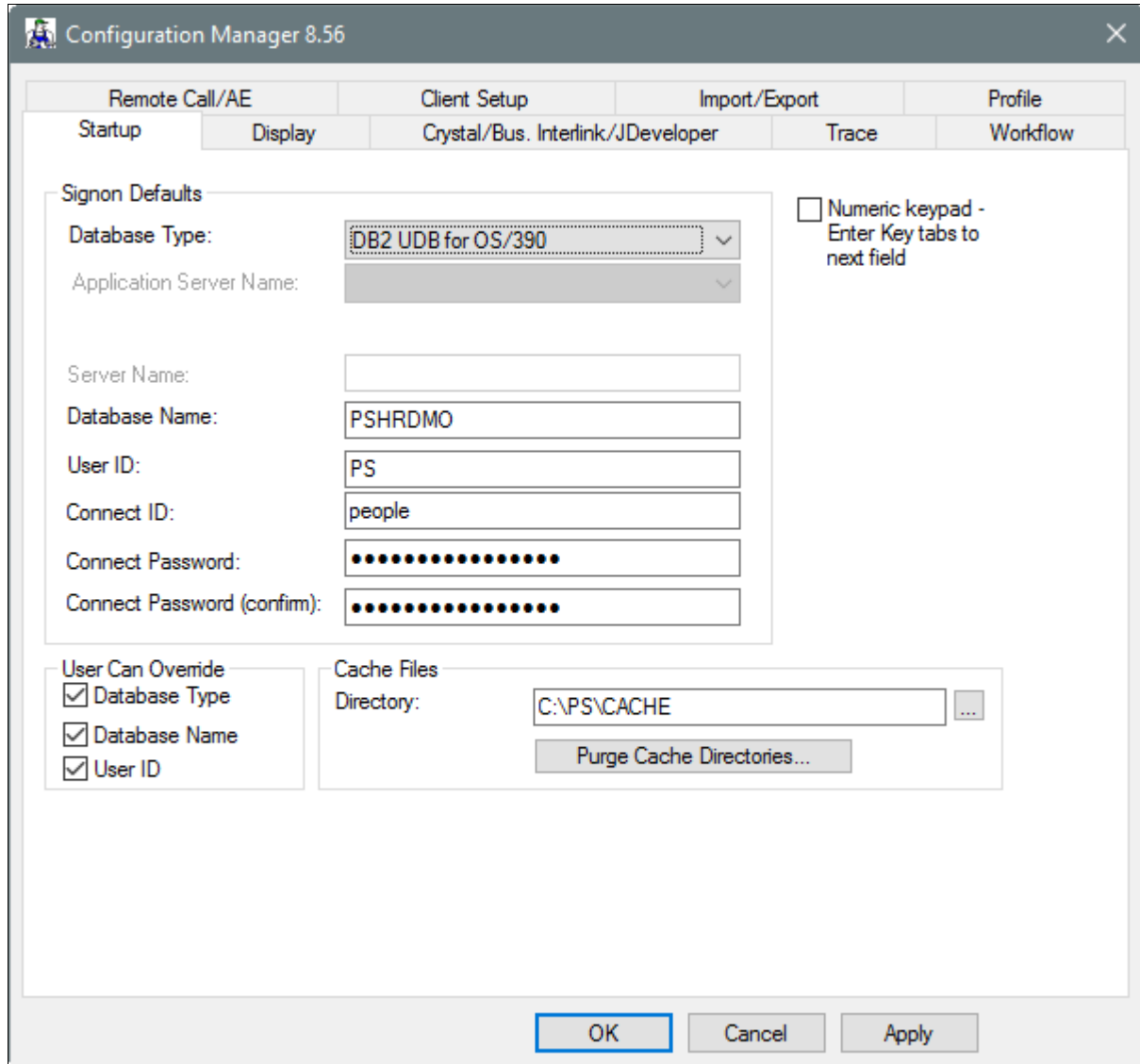
Task 7-8-2: Running Database Setup to Create Data Mover Import Scripts

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 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Configuration Manager.
 - Run `PS_HOME\bin\client\winx86\pscfg.exe`.

- 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.



Startup tab on the Configuration Manager dialog box

- 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.
- Run Data Mover by using one of these methods:
 - On Microsoft Windows 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Data Mover.
 - Run `PS_HOME\bin\client\winx86\psdmt.exe`.
- Log on using the Access ID and password you defined in your mainframe security software application; this will start Data Mover in bootstrap mode.

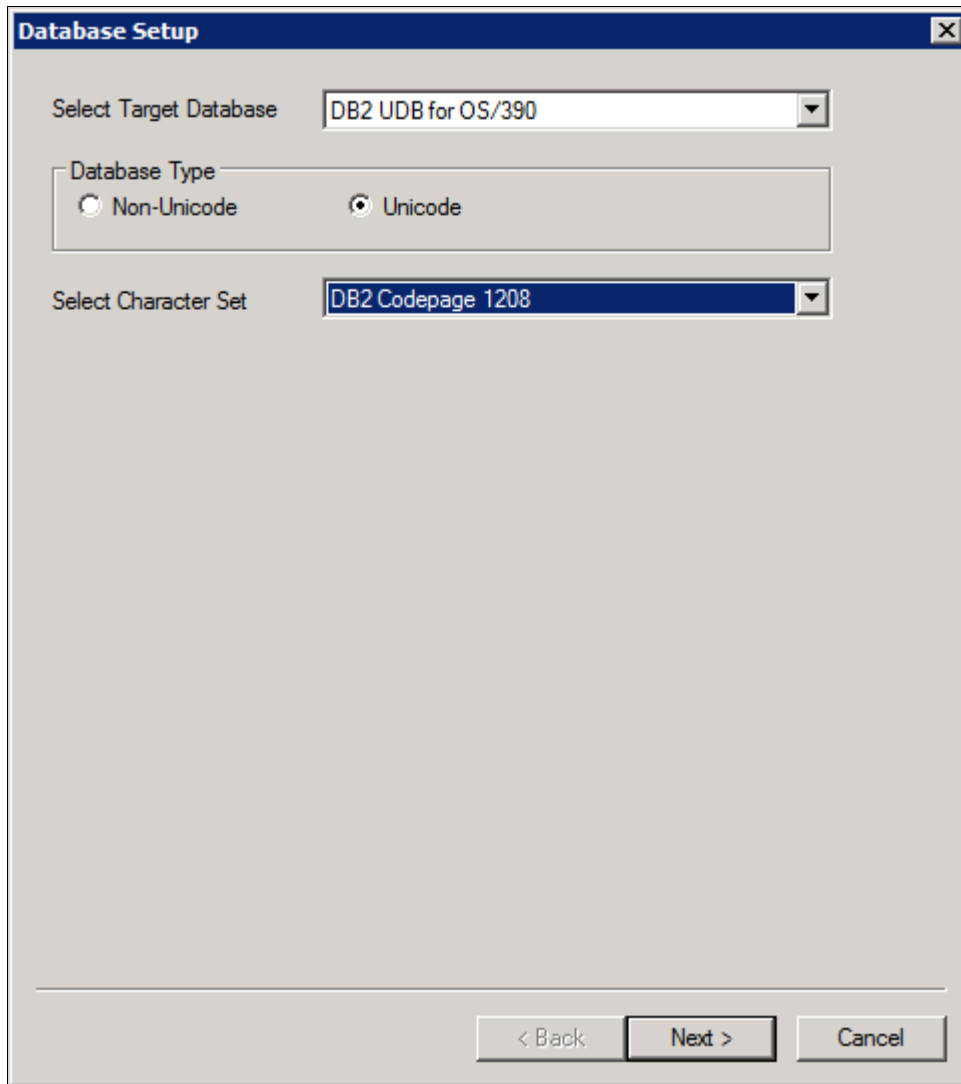
See Checking the Log Files and Troubleshooting, Running Data Mover.

Note. You must limit the Access ID to eight characters or less. You must limit the Access password to 30 characters or less.

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.
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.

The screenshot shows a dialog box titled "Database Setup - Database Parameters". It contains the following fields and options:

- Database Name: PSHRDMO
- Symbolic ID: SYSADM1
- Access ID: SYSADM
- Access Password: (empty)
- Connect ID: PEOPLE
- Application Server ID: (empty)
- Application Server Password: (empty)
- Web Server ID: PTWEBSERVER
- Web Server Password: (empty)
- Enable All Profiles
- Set Global Password
- Global Password: (empty)
- Table Owner: TABLEOWNER
- Index Storage Group: PSSGIDX
- Tablespace Storage Group: PSSGSPC

At the bottom of the dialog box, there are three buttons: "< Back", "Finish", and "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.

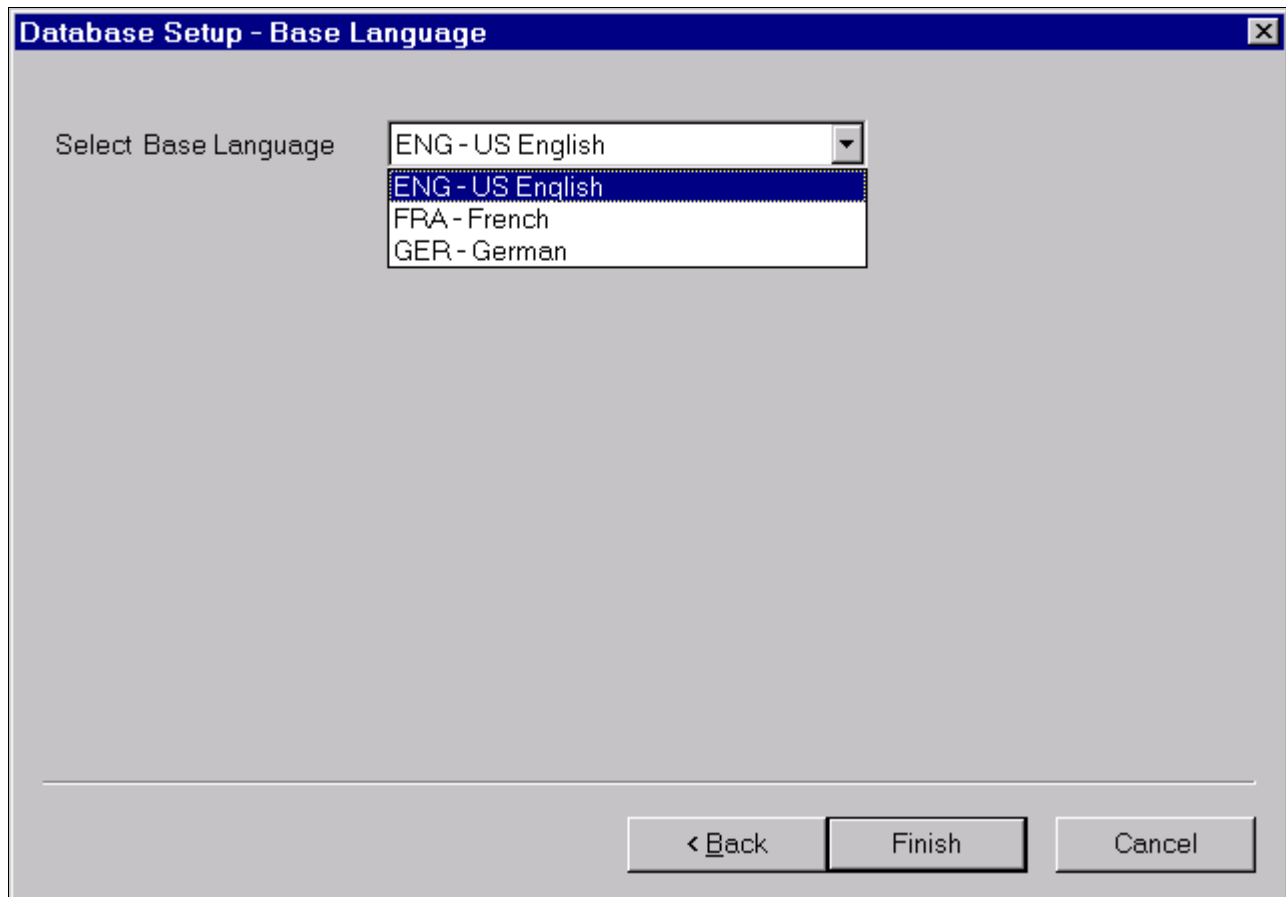
This value must be the same as that used in the XXDDL.SQL/XXDDL.U.SQL script described earlier when the Tablespaces were created.

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.

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). The appendix "Extracting DDL for PTSYS Database" discusses a sample script that you can use to customize the database names for your location. Refer to this appendix for information on creating a PTSYS database.

See Also

PeopleTools: Data Management

PeopleTools: Security Administration, "PeopleSoft Authorization IDs"

"Extracting DDL for PTSYS Database"

Task 7-9: 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 7-9-1: 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>*.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 7-10: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. The Application Engine program PTIACLEANLNG removes any orphaned related language objects that do not have a matching base language object.

1. Run the following SQL statement using the appropriate SQL query tool for your RDBMS.
 For *<Log Path>*, specify the path where you want the log for the application engine program in step 2 to be generated, such as *c:\temp*.

```
set current sqlid = '<db owner name>';
UPDATE PS_PTIASPDMPARAM SET PTIASPPROPVAL = '<Log Path>' WHERE⇒
PTIASPPROPNM='DMLOGPATH';
```

2. Run the PTIACLEANLNG application engine program.

From the command line utility, the syntax is::

```
<PS_HOME>\bin\client\winx86\psae -CD <dbname> -CT DB2ODBC -CO <oprid> -⇒
CP <pswd> -R <run_control> -AI PTIACLEANLNG
```

Use the values for the database name and user ID that you entered on the startup tab of the Configuration Manager for <dbname> and <userid> respectively. However, be aware that <userpswd> is not the same as the connect password you entered on the Configuration Manager startup tab. Enter a value for <userpswd> that is the password associated with the <userid>.

Task 7-11: Checking the Log Files and Troubleshooting

This section discusses:

- Checking the Log Files
- Running Data Mover
- Troubleshooting
- Improving Performance
- Improving Execution

Task 7-11-1: 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 7-11-2: Running Data Mover

Use one of these methods to run Data Mover.

Microsoft Windows

- On Microsoft Windows 2012 R2, access the Apps screen, and navigate to PeopleTools 8.56, Data Mover 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 7-11-3: 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_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>;
```

where <RECORD NAME> is 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>.

- Restart the script (File, Run Script).

Task 7-11-4: 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 7-11-5: 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 7-12: 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 7-13: 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 7-14: Creating PeopleSoft Views

This section discusses:

- Understanding PeopleSoft Views
- Creating Views in Data Mover
- Creating Views in Application Designer

Understanding PeopleSoft Views

If you had to carry out the task "Updating Database to Latest PeopleTools Release" you have already created your views, in which case you can skip this task.

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 7-14-1: 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.

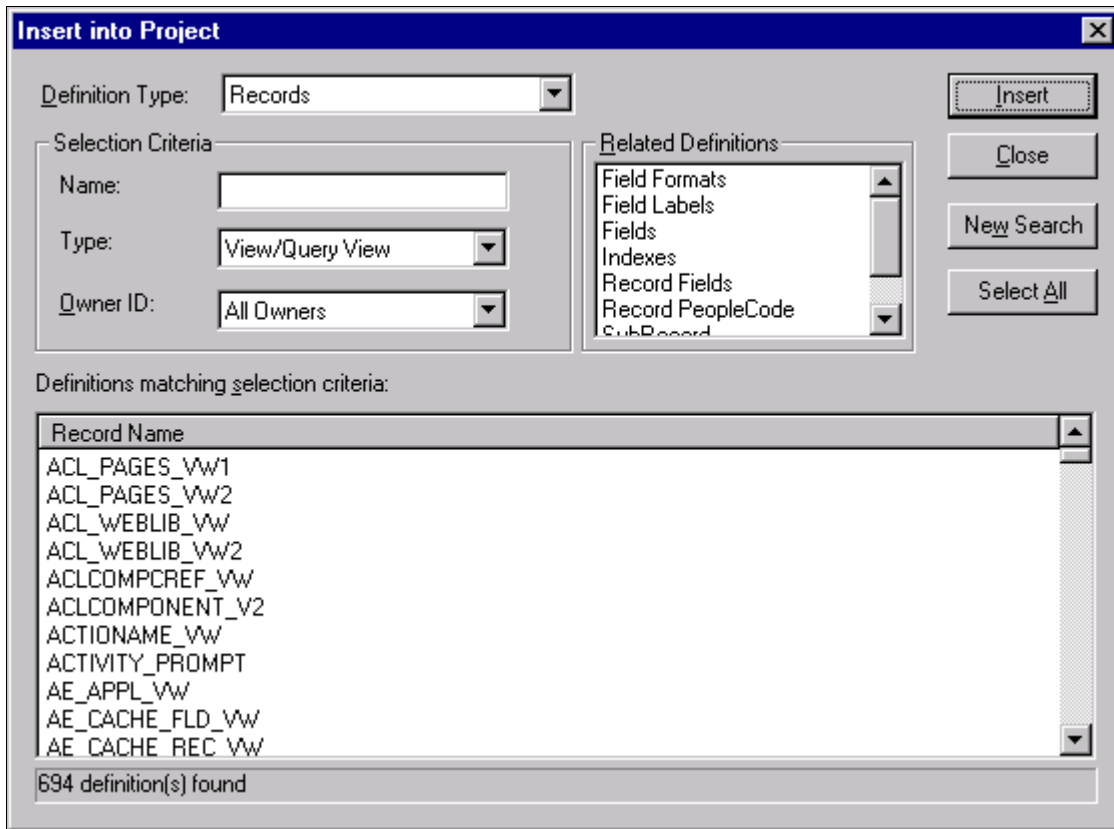
Task 7-14-2: Creating Views in Application Designer

To create views in Application Designer:

1. Start Application Designer; for example:
 - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Application Designer.
 - On Microsoft Windows 8 or 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Application Designer.
 - 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.

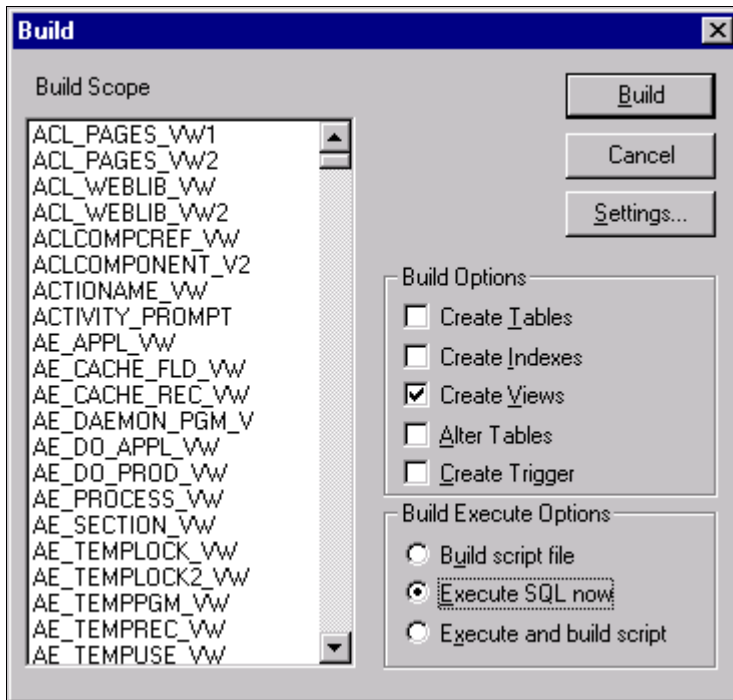
This example shows the Insert into Project dialog box with a list of results in the Record Name area.



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.

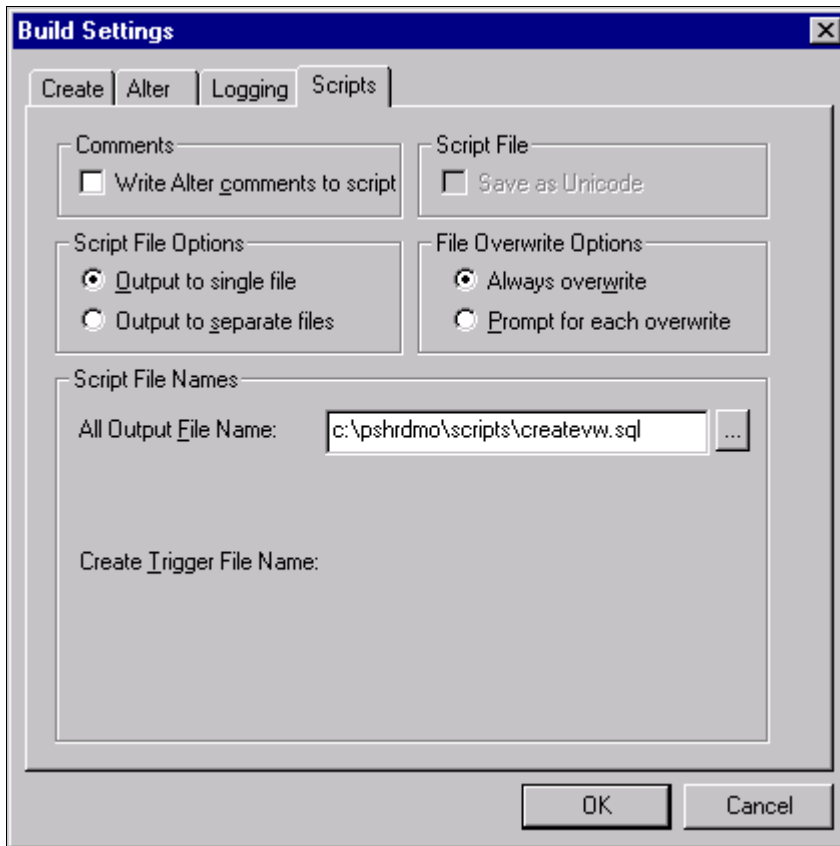
- b. In the Build Options group, select the Create Views check box. In the Build Execute Options group, select the Execute SQL now radio button to create the views directly, or the Build script file radio button to generate a DDL script of CREATE VIEW statements.



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 7-15: 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 7-15-1: 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 7-15-2: 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 7-15-3: 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 7-15-4: 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.

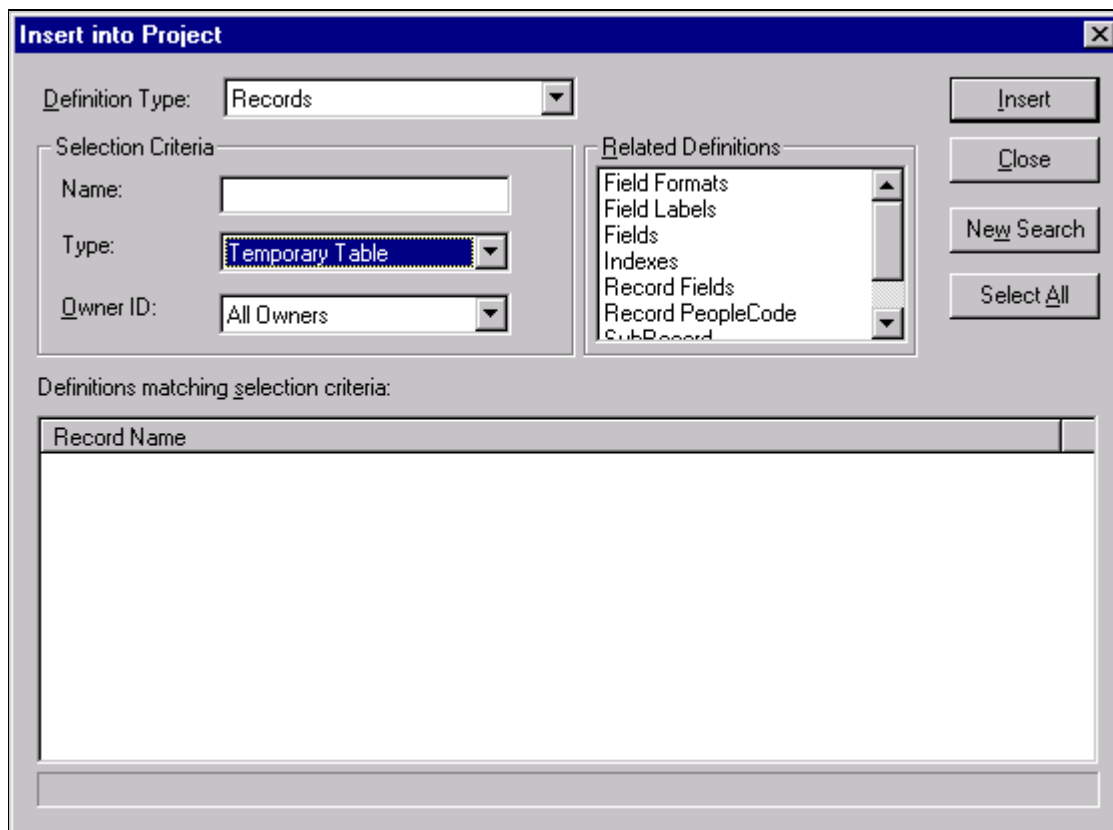
Task 7-15-5: Building the Temporary Tables and Their Indexes

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:

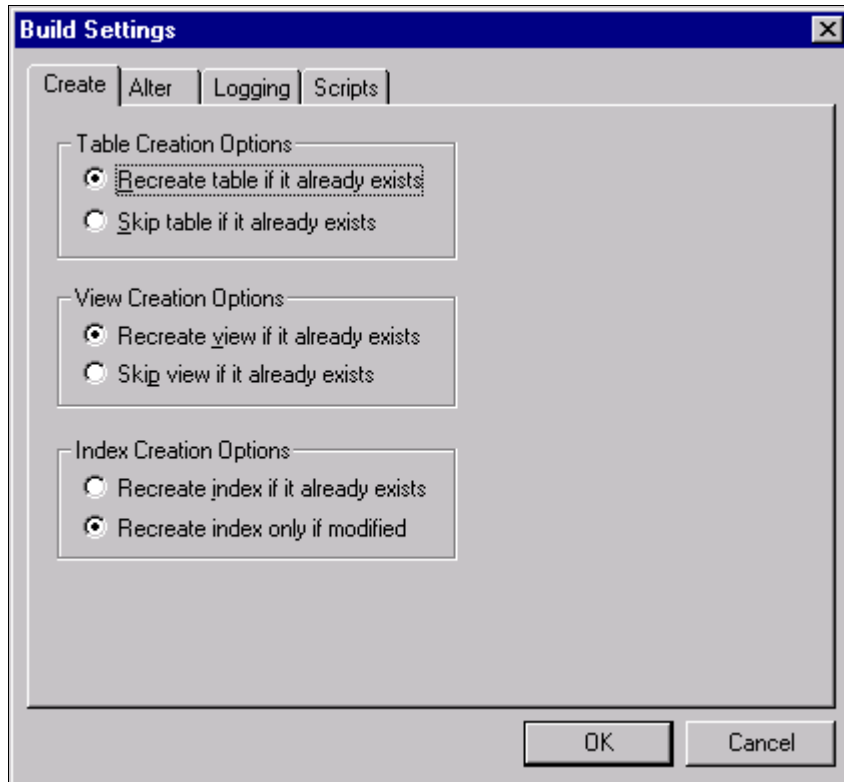
1. Open Application Designer.
2. Choose File, New. In the New dialog, select Project, and then click OK.
3. Choose Insert, Definitions into Project.
4. Set Definition Type to *Records* and Type to *Temporary Table*.



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.

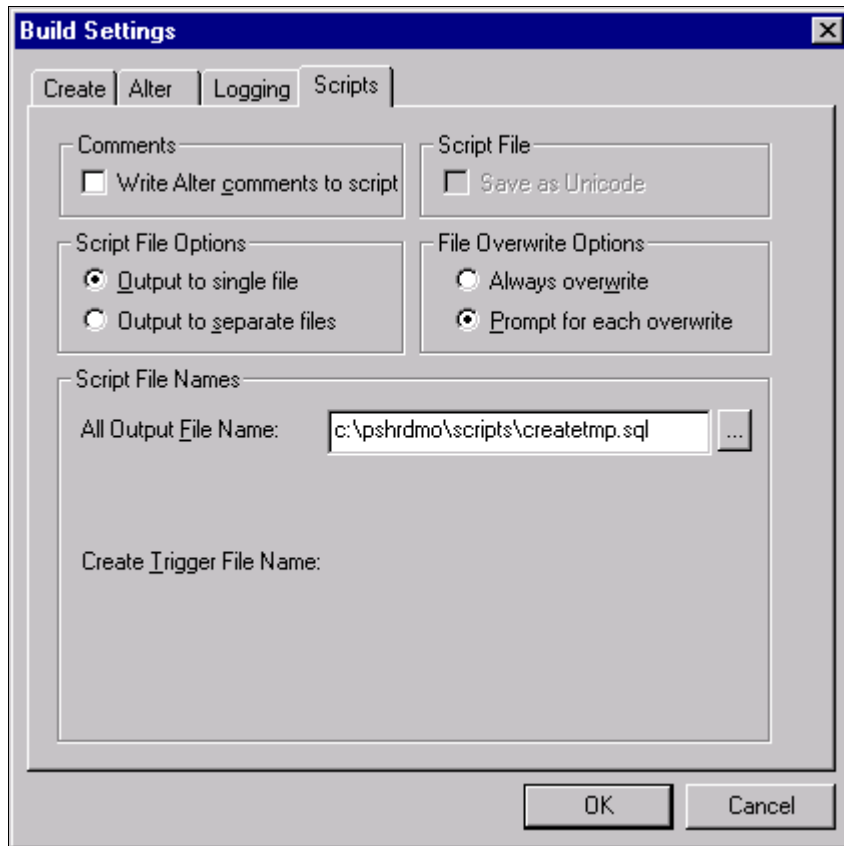


Selecting the Recreate table if it already exists in the Build Settings dialog box

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 7-16: 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 7-16-1: Creating Triggers in Data Mover

To create triggers in Data Mover:

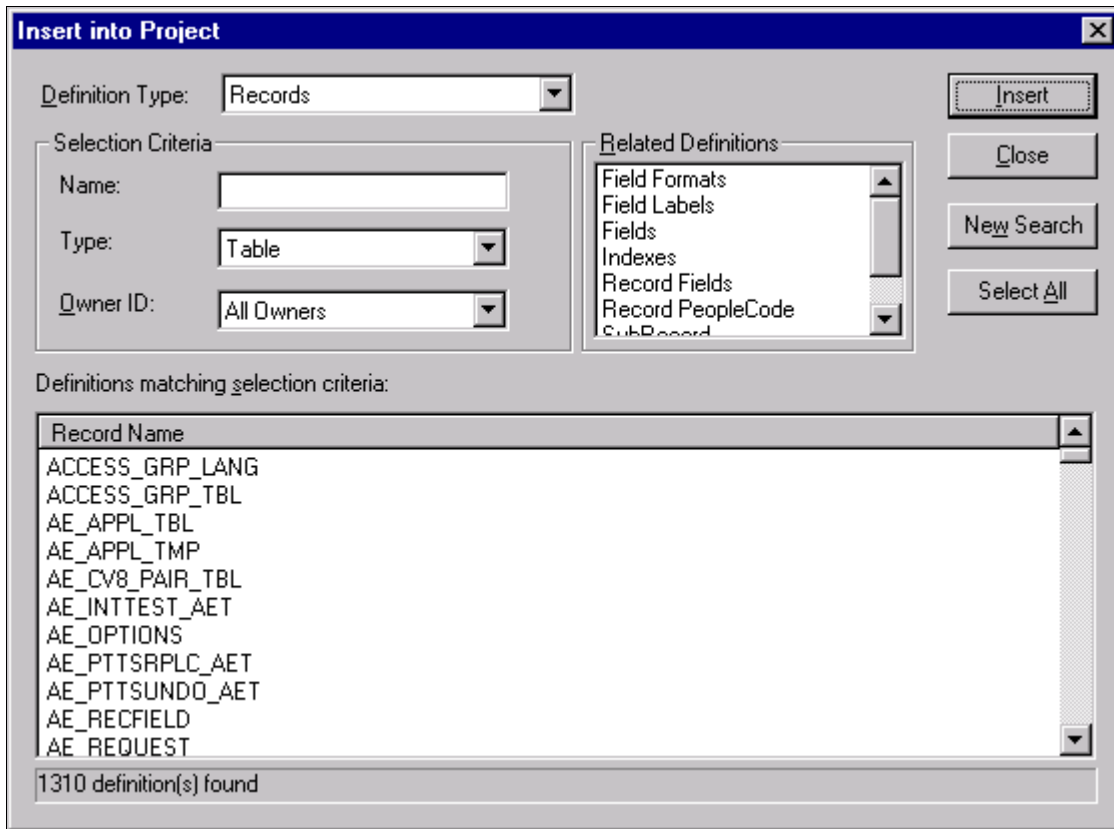
1. Start Data Mover in User mode, using a valid PeopleSoft operator ID, for example, PS or VP1.
See Running Data Mover.
2. Choose File, Open from the Data Mover menu and navigate to *PS_HOME*\scripts.
3. Select the script CREATETRGR.dms.
4. Choose File, Run to execute the script.
5. Exit Data Mover.

Task 7-16-2: Creating Triggers in Application Designer

To create triggers in Application Designer:

1. Start Application Designer, for example:
 - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Application Designer.
 - On Microsoft Windows 8 or 2012 R2, access the Apps screen, and navigate to PeopleTools 8.56, Application Designer.
 - 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*.

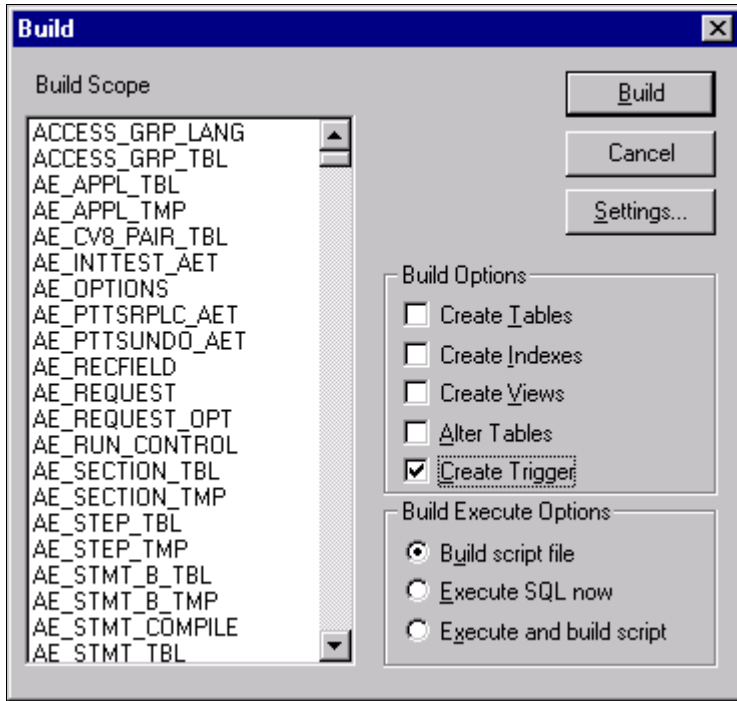
- c. In the Selection Criteria control group, choose a Type of *Table*; and then press ENTER to select the records.



Insert into Project dialog box

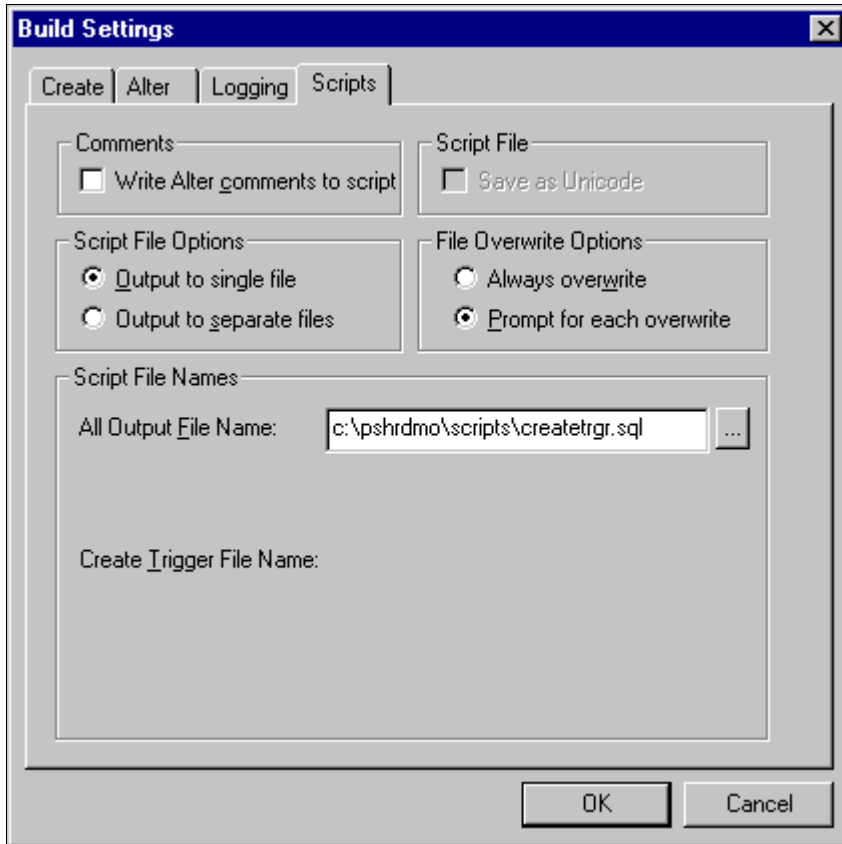
- d. Click Select All, and then click Insert to insert the Table records into the project.
 - e. Click Close to close the Insert into Project dialog.
4. Build the project.
- a. Choose Build, Project. The Build dialog displays.

- 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 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>`.

Task 7-17: 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 7-18: 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:\PT856
```

See Also

PeopleTools: SQR for PeopleSoft Developers

PeopleTools: SQR Language Reference for PeopleSoft

Task 7-18-1: 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
```

Note. The executable program PSSQR.EXE is a wrapper program used by PeopleSoft Process Scheduler to run SQR reports. It is not designed to run manually outside of Process Scheduler. That is, the PeopleSoft system does not support running PSSQR from the command line.

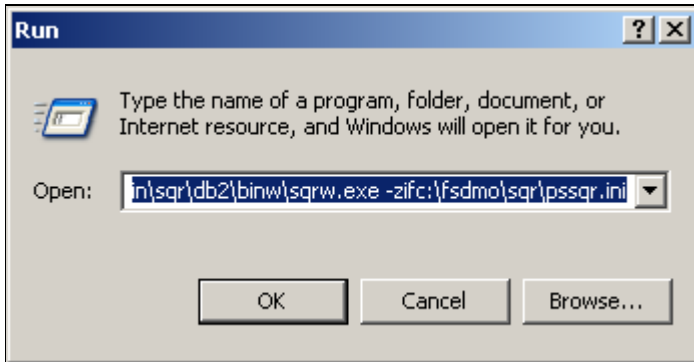
Task 7-18-2: Running SQRs on the Client Workstation

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

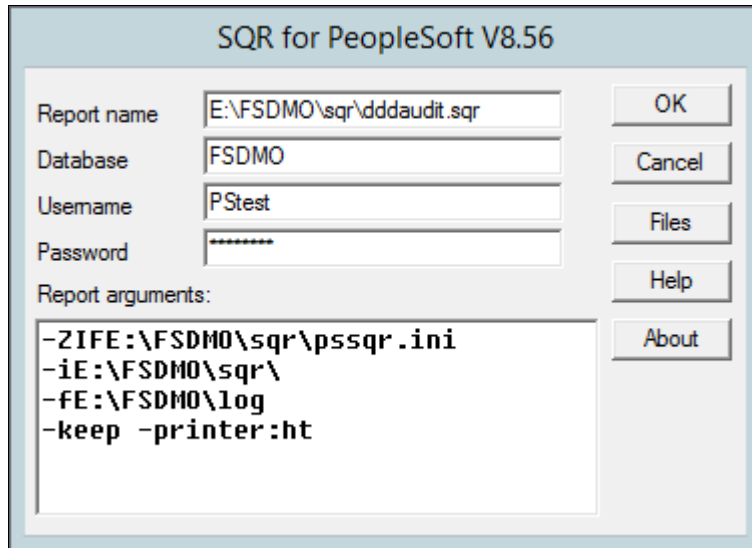
The following table summarizes the SQR report arguments used by PeopleSoft software. (For a full listing of report arguments, press the Help button to view the SQR help topic for this dialog box.)

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 <code>-keep</code> flag, you must specify the directory with a trailing slash. If you use the <code>-printer</code> flag, specify a full pathname with a filename for the HTML file.
-ZIF	Sets the full path and name of the SQR initialization file. The <code>-ZIF</code> flag should point to your <code>PS_HOME\sqr\pssqr.ini</code> 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 <code>-f</code> flag.

3. Click OK.

The SQR for PeopleSoft V8.56 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 7-18-3: 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 7-19: 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 7-19-1: 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.

Note. Oracle also provides SETINDEX.SQR and SETBUFF.SQR, which will help the PeopleSoft DBA keep the PeopleSoft system tables in sync with the DB2 catalogs.

Task 7-20: 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 7-21: 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 7-22: 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."

Note. If any records show up in the VIEWS-2 or TABLE-3 section of dddaudit and are contained within the PPLTLS84CURDEL project, you may safely drop these records using the SQL query tool for your platform.

See Also

PeopleTools: Data Management

PeopleTools: System and Server Administration

Task 7-23: 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 8

Deploying Mid-Tier Components

This chapter discusses:

- Understanding the Mid-Tier Deployment
- Running the DPK Setup Script for Mid-Tier Deployment
- Using the PeopleSoft Installation
- Completing Post-Installation Steps

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.
- Installs Oracle Tuxedo and Oracle WebLogic software, unless the DPK setup script installed them in previous deployment to the same *BASE_DIR*/pt location.

The DPK installation does not support IBM WebSphere. If you want to use IBM WebSphere rather than Oracle WebLogic as the web server software, you must install it manually and use traditional methods to set up the domains.

Task 8-1: Running the DPK Setup Script for Mid-Tier Deployment

This section discusses:

- Prerequisites
- Running with the Mid-Tier Option on Microsoft Windows
- Running with the Mid-Tier Option on Linux and UNIX

Prerequisites

Use this procedure to install the PeopleSoft mid-tier components (application server, PIA, and Process Scheduler domains) and the Oracle WebLogic and Oracle Tuxedo software required. This procedure assumes that:

- You have downloaded all of the required PeopleSoft PeopleTools DPKs, and saved them in a location accessible to the Microsoft Windows or Linux host, referred to here as *DPK_INSTALL*.

See Obtaining the PeopleSoft 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.

- 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, and *root access* on Linux.

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.

- There is enough space on the host for the PeopleSoft environment.
See "Prerequisites," Reviewing Hardware Requirements on Microsoft Windows.
- For deployment on Linux, there is a writable directory available for the home for the users that own the PeopleSoft runtime. The default is /home.
- For deployment with the AIX DPK, you have installed JDK.
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.

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."

- 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
- You have the information for the user IDs and passwords needed for the deployment, including the following:
 - PeopleSoft Connect ID and password
 - PeopleSoft database administrator
 - 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
- If you created a *psft_customizations.yaml* file, back it up in a location other than the installation location, *BASE_DIR/dpk/production/puppet/data*. The DPK setup script will delete the existing YAML files, including the *psft_customizations.yaml*.

Task 8-1-1: 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 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 PeopleSoft application DPKs.

Starting the PeopleSoft Environment Setup Process:

```
Extracting the Zip File FILENAME-1of4.zip: [ OK ]
Extracting the Zip File FILENAME-2of4.zip: [ OK ]
Extracting the Zip File FILENAME-3of4.zip: [ OK ]
Extracting the Zip File FILENAME-4of4.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. Review the log file in *DPK_INSTALL/setup*. If there are missing operating system packages, you will need to carry out additional steps.

See Obtaining Operating System Packages Required for Puppet.

Starting the PeopleSoft Environment Setup Process:

Verifying if Puppet Software is Installed on the Host:

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 Hierarchical 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.

Preparing the Windows 2012Server VM for PeopleSoft Environment:

Checking if PeopleSoft DPKs are Present: [OK]

- 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 script creates the folder if it is not present.

Note. When entering the path for the base directory, use forward slashes (/). For example, C:/psft. Enclose any names with special characters in double quotes.

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 PeopleTools 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*.

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

```
Validating the PeopleSoft DPKs in the Windows VM:
Validating the PeopleSoft PeopleTools Server DPK:           [ OK ]
Validating the PeopleSoft PeopleTools Client DPK:          [ OK ]
Validating the Manifest Information in PeopleSoft DPKs:     [ OK ]
```

8. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the PeopleSoft DPK Archives in the Windows VM:
Extracting the PeopleSoft PeopleTools Server DPK Archives: [ OK ]
Extracting the 8.56 PeopleTools Client DPK Archive:       [ OK ]
```

9. 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 ]
```

10. 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*.

11. 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 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-lingual support.

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

- d. Enter the database name.

```
Enter the PeopleSoft database name [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".

```
Enter the PeopleSoft database host name:
```

```
Enter the PeopleSoft database port [1521]: 1521
```

12. Enter the PeopleSoft Connect ID at the following prompt:

The default is people.

Enter the PeopleSoft database Connect ID [people]:

13. Enter a password for the PeopleSoft Connect ID, and enter again on the next line, at the following prompt.

Enter the PeopleSoft database Connect ID [people] password:

The password should contain only alphanumeric characters and is between⇒
6

and 30 characters in length:

Re-Enter the PeopleSoft database Connect ID password:

14. Enter the password twice for the PeopleSoft operator ID, such as PS or VP1.

Enter a new PeopleSoft database Operator ID [PS] password.

The password should contain only alphanumeric characters and is between⇒
1

and 32 characters in length:

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 and do not contain any space (), percentage (%), slash (/), quote (",') and equals (=) characters:

Re-Enter the Application Server Domain connection password:

16. Enter the password for the PTWEBSERVER web profile user at the following prompt:

Enter the PeopleSoft WebProfile user PTWEBSERVER password:

The password should contain only alphanumeric characters and is between⇒
6

and 32 characters in length:

Re-Enter the PeopleSoft WebProfile user PTWEBSERVER 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⇒
lower

case letter, one uppercase letter and one number or one special⇒
character

(!@#%\$%^&):

Re-Enter the WebLogic Server Admin user password:

18. 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 contains only alphanumeric characters and is between 8
  and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user 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 commands to continue with=> the setup of PeopleSoft environment.

1. cd c:\psft\dpk\puppet\production\manifests
2. puppet apply --confdir=c:\psft\dpk\puppet site.pp --debug --trace

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 8-1-2: Running with the Mid-Tier Option on Linux and UNIX

To deploy mid-tier components on Linux and UNIX hosts:

1. Open a terminal window and change directory to *DPK_INSTALL/setup*.
2. As a user with root access, 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 deploy 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.

3. 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].

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 PeopleSoft application DPKs.

Starting the PeopleSoft Environment Setup Process:

```
Extracting the Zip File FILENAME-1of4.zip: [ OK ]
Extracting the Zip File FILENAME-2of4.zip: [ OK ]
Extracting the Zip File FILENAME-3of4.zip: [ OK ]
Extracting the Zip File FILENAME-4of4.zip: [ 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*. If there are missing operating system packages, you will need to carry out additional steps.

See Obtaining Operating System Packages Required for Puppet.

Starting the PeopleSoft Environment Setup Process:

Verifying if Puppet Software is Installed on the Host:

```
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.

Preparing the OracleLinux VM for PeopleSoft Environment:

Checking if PeopleSoft DPKs are Present: [OK]

- 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 (/). If the name includes any non-alphanumeric characters such as periods, enclose the name in double quotes. For example, */cs1/psft*.

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

Enter the PeopleSoft Base Folder: **/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 Filesystem 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 PeopleTools components.
- *BASE_DIR/db*
This directory is not used for this deployment.

- If the default home directory is not writable, enter a new location at the following prompt.

The DPK setup creates local users on the host. These users deploy the PeopleSoft components and own the PeopleSoft runtime domains. The script checks whether the default home directory for the PeopleSoft users (/home) is writable. If not, it will prompt the user to enter a new location to be used for creating the home directories for these local users.

```
Checking if Default User Home Directory /home is Writable: [FAILED]
```

The PeopleSoft environment setup creates local users on the VM. The default Home directory for these users is /home. Please ensure this directory is writable or provide a new directory on the VM that is writable.

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

If the /home directory is writable, no response is required.

```
Checking if Default User Home Directory /home is Writable: [ OK ]
```

7. Review the status messages as the script validates the files found in *DPK_INSTALL*.

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

```
Validating the PeopleSoft DPKs in the Linux VM:
Validating the PeopleSoft PeopleTools Server DPK: [ OK ]
Validating the PeopleSoft PeopleTools Client DPK: [ OK ]
Validating the Manifest Information in PeopleSoft DPKs: [ OK ]
```

8. Review the status messages as the script extracts the archives from the DPKs.

```
Extracting the PeopleSoft DPK Archives in the Linux VM:
Extracting the PeopleSoft PeopleTools Server DPK Archives: [ OK ]
Extracting the 8.56 PeopleTools Client DPK Archive: [ OK ]
```

9. 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 VM:
Generating eYAML Hiera Backend Encryption Keys: [ OK ]
Updating the Puppet Hiera YAML Files in the VM: [ OK ]
Updating the Role in Puppet Site File for the VM: [ OK ]
Applying Linux customizations to Puppet Hiera YAML Files: [ OK ]
```

10. 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*.

11. 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 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-lingual support.

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

- d. Enter the database name.

```
Enter the PeopleSoft database name [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".

```
Enter the PeopleSoft database host name:
```

```
Enter the PeopleSoft database port [1521]: 1521
```

12. Enter the PeopleSoft Connect ID at the following prompt:

The default is `people`.

```
Enter the PeopleSoft database Connect ID [people]:
```

13. Enter a password for the PeopleSoft Connect ID, and enter again on the next line, at the following prompt.

```
Enter the PeopleSoft database Connect ID [people] password:
```

The password should contain only alphanumeric characters and is between⇒
6

and 30 characters in length:

```
Re-Enter the PeopleSoft database Connect ID password:
```

14. Enter the password twice for the PeopleSoft operator ID, such as `PS` or `VP1`.

```
Enter the PeopleSoft database Operator ID [PS]:
```

```
Enter a new PeopleSoft database Operator ID [PS] password.
```

The password should contain only alphanumeric characters and is between⇒
1

and 32 characters in length:

```
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 contains only alphanumeric characters and is  
between 8 and 30 characters in length:
```

```
Re-Enter the Application Server Domain connection password.
```

16. Enter the password twice for the `PTWEBSERVER` web profile user at the following prompt:

```
Enter the PeopleSoft WebProfile user PTWEBSERVER password:
```

The password should contain only alphanumeric characters and is between⇒
6

and 32 characters in length:

```
Re-Enter the PeopleSoft WebProfile user PTWEBSERVER 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⇒
lower
case letter, one uppercase letter and one number or one special⇒
character
(!@#$$%^&):
Re-Enter the WebLogic Server Admin user password:
```

18. 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 contains only alphanumeric characters and is between 8
and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user 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.

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 Input: [ 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 [/cs1/psft/dpk/puppet/production/data] folder. After making the necessary customizations, run the following commands to continue with the setup of PeopleSoft environment.

1. cd /cs1/psft/dpk/puppet/production/manifests
2. puppet apply --confdir=/cs1/psft/dpk/puppet site.pp --debug --trace

Exiting the PeopleSoft environment setup process.

22. 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 [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.

1. cd /cs1/psft/dpk/puppet/production/manifests
2. puppet apply --confdir=/cs1/psft/dpk/puppet site.pp --debug --trace

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 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 8-2: Using the PeopleSoft Installation

This section discusses:

- Reviewing the PeopleSoft Environment
- Reviewing the Deployment File System
- Reviewing the Deployed Users
- Managing PeopleTools Domains with PSADMIN

Task 8-2-1: Reviewing the PeopleSoft Environment

After you complete the initialization of the virtual machine the PeopleSoft installation will be available. This section includes brief information to help you work with the PeopleSoft environment. For detailed definitions, and information on working with the components in a PeopleSoft installation, see the PeopleSoft documentation referenced earlier.

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`.

Task 8-2-2: 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	The binary installation files are placed into a secure <code>ps_home<peopletools_patch_version></code> directory, where <code><peopletools_patch_version></code> is the full release, for example 8.56.01.	<code>BASE_DIR/pt/ ps_home<peopletools_patch _version></code>	This directory can only be written to by the PeopleSoft administrator, psadm1.

Directory	Description	Default Location	Access
PS_CFG_HOME	The Application Server and Process Scheduler server configuration files are placed into a <i>PS_CFG_HOME</i> directory named <i><peopletools_major_version></i> , where <i><peopletools_major_version></i> does not include patch numbers; for example, 8.56.	<ul style="list-style-type: none"> On Linux, <i>/home/psadm2/psft/pt/<peopletools_major_version></i> On Microsoft Windows, <i>C:\%USERPROFILE%\psft\pt/<peopletools_major_version></i> <p>For example, if the USERPROFILE environment variable is <i>C:\Users\username</i>, the location is <i>C:\Users\username\psft\pt\8.56</i>.</p>	This directory is owned by <i>psadm2</i> .
PS_APP_HOME	The PeopleSoft application installation files are located in the <i><app>_ps_home</i> directory, where <i><app></i> refers to the PeopleSoft application, such as <i>fscm_ps_home</i> for Financials and Supply Chain Management	<i>BASE_DIR/pt/<application>_ps_home</i>	This directory can only be written to by <i>psadm3</i> .
ORACLE_HOME (Oracle RDBMS software)	<p>This includes the Oracle RDBMS database server and client connectivity software, including the SQL*Plus program.</p> <p>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.</p> <p>Note. The database listener for the RDBMS hosting the PeopleSoft PeopleTools tables is 1522.</p>	<i>BASE_DIR/db/oracle-server</i>	This directory is owned by user <i>oracle2</i> .
Oracle WebLogic	This includes the installation files for the Oracle WebLogic web server.	<i>BASE_DIR/pt/bea/wlserver</i>	
Oracle Tuxedo	This includes the installation files for Oracle Tuxedo.	<i>BASE_DIR/pt/bea/tuxedo</i>	

Directory	Description	Default Location	Access
PeopleSoft database files (on Oracle RDBMS)	This includes the Oracle database files and tables for the PeopleSoft application.	<i>BASE_DIR</i> /pt/db/oradata	The owner of the database tables is oracle2 and its group is oinstall. Note. This is different from the users for the PeopleSoft installation and configuration.
Other directories	The rest of the environment, outside <i>PS_HOME</i> and <i>PS_CFG_HOME</i> . The file system ownership and permissions are similar to typical Oracle Linux and Microsoft Windows installations.	NA	These directories are owned by root on Linux OS.

See Also

PeopleTools: System and Server Administration, "Securing *PS_HOME* and *PS_CFG_HOME*"

Task 8-2-3: Reviewing the Deployed Users

The deployed configuration includes the default users and default passwords described in the following table.

Important! All default, non-root passwords are set to expire immediately. On the first login of one of the non-root users, the system will prompt you to provide new passwords.

In the case of the passwords that expire immediately, such as those for *psadm1* and so on, if you do not log in as the user specified in this table and change the password, the default passwords documented here remains in effect.

New passwords must include the following characteristics:

- At least 14 characters long
- At least one digit (0–9)
- At least one special character (for example, * or #)
- At least one lowercase letter (a–z)
- At least one uppercase letter (A–Z)

User Name	Default Password	Role Definition
<i>psadm1</i>	Oradmin (the first character is the number zero)	The PeopleSoft installation administrator who owns <i>PS_HOME</i> . This user cannot write into <i>PS_CFG_HOME</i> .

User Name	Default Password	Role Definition
psadm2	Oradmin (the first character is the number zero)	The PeopleTools domain user who creates and configures the Application Server domain, Process Scheduler (batch server) domain, and the PIA. This user cannot write to <i>PS_HOME</i> , but has read-execute access.
psadm3	Oradmin (the first character is the number zero)	The PeopleSoft installation administrator who owns <i>PS_APP_HOME</i> .
oracle2	oracle	The Oracle Database Server user name.

See Also

"Completing the DPK Initialization with Customizations," Preparing the Customization File for Linux Users

Task 8-2-4: Managing PeopleTools Domains with PSADMIN

Use the PSADMIN utility to manage any of the PIA, Application Server, or Process Scheduler domains. You can find the PSADMIN utility in *PS_HOME/appserv*. You must first sign in with the PeopleTools domain user *psadm2*, described in the section *Reviewing the File System and Users*. When you sign in as the PeopleTools domain user, the *psconfig.sh* script is automatically invoked through the user's profile. This is referred to as sourcing the *psconfig.sh* script. This ensures that all of the required environment variables are set prior to working with PSADMIN. You can perform all the usual administrative options for PIA, Application Server, and Process Scheduler domains using PSADMIN. You may reconfigure the existing domains, shut them down, restart them and create additional domains if necessary. The environment as delivered has however been sufficiently configured to perform many of the activities for which this virtual machine has been created.

See Also

PeopleTools: System and Server Administration, "Using the PSADMIN Utility"

Task 8-3: Completing Post-Installation Steps

This section discusses:

- Using Fluid User Interface
- Setting Options for Multilingual Databases
- Updating PeopleTools Options
- Updating Time Zone Information
- Updating Database Information

Task 8-3-1: 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:

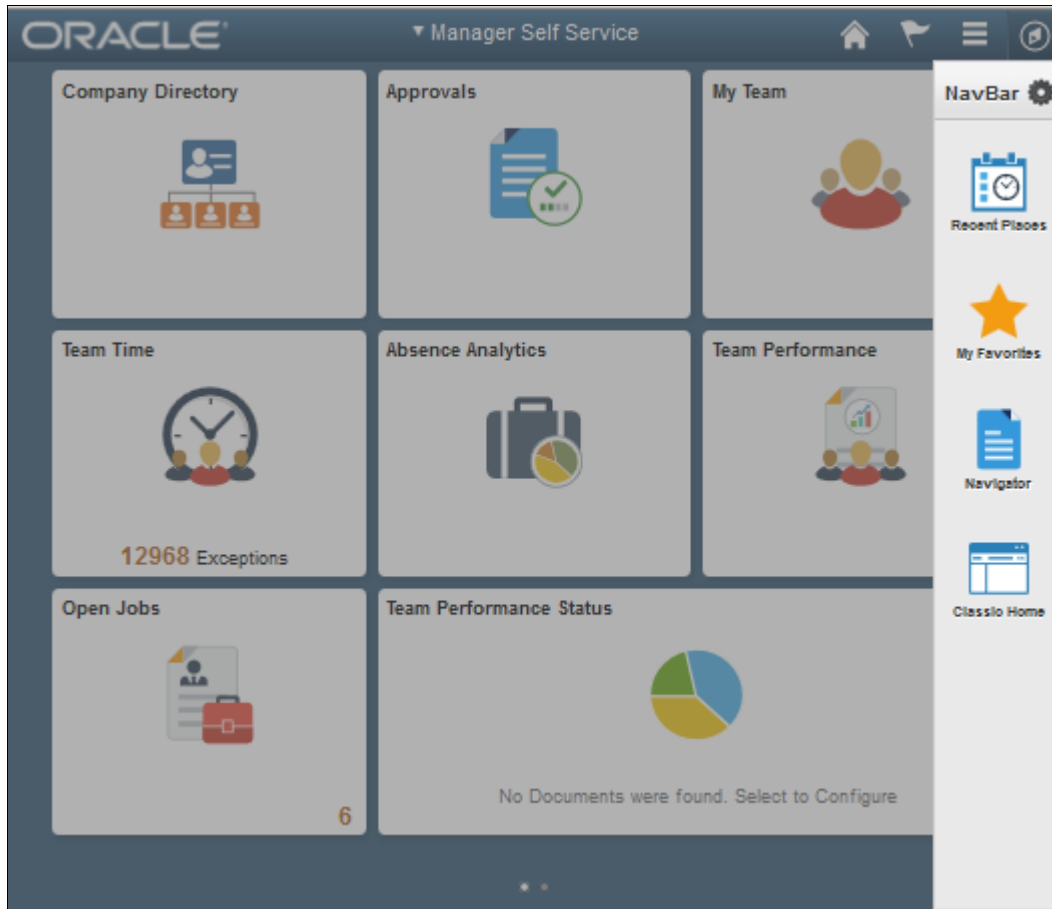
1. On the PeopleSoft Fluid User Interface, shown in this example, select (press) the NavBar button at the top right (diamond inside a circle).



PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

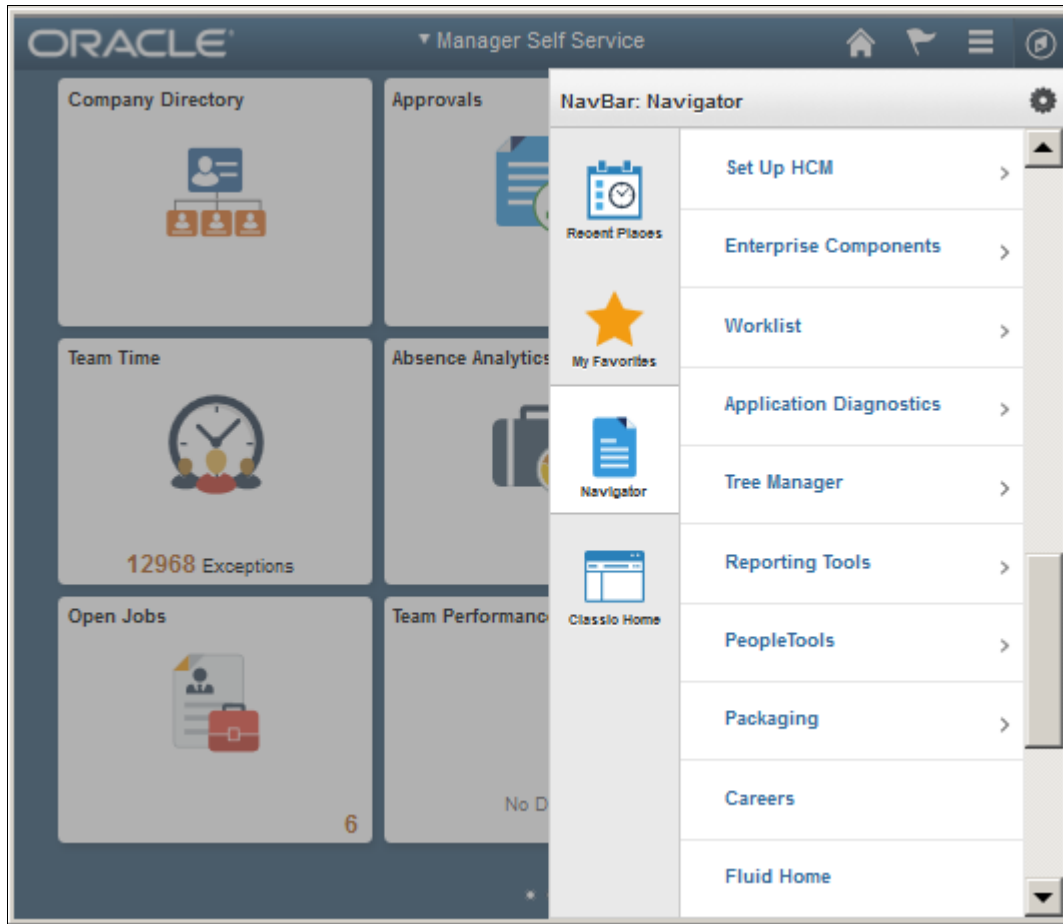
2. Select (press) Navigator.



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 8-3-2: 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.
- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

See *PeopleTools: Global Technology*, "Setting Data Field Length Checking."

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

Use the guidelines in this table to select the correct option for your environment:

Environment	PeopleTools Option Page Selection	PSOPTIONS.DBLENGHTHYPE Value
Unicode-encoded database or a non-Unicode SBCS database	Others	N
Japanese database on DB2 LUW	DB2 MBCS	D
Non-Unicode Japanese database Note. If your installation uses the Shift-JIS character set for Japanese, you must use this option.	MBCS Note. The MBCS option is not supported for DB2 z/OS.	M

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODI_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 UNICODI_ENABLED=0.
- For Unicode databases, set UNICODI_ENABLED=1.

See the information on converting to Unicode in the *PeopleTools: Global Technology* product documentation.

Task 8-3-3: 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 8-3-4: 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 8-3-5: 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.

Chapter 9

Deploying the PeopleTools Client DPK

This chapter discusses:

- Deploying the PeopleTools Client DPK

Task 9-1: 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 9-1-1: Understanding the Standalone Mode Deployment

Use the standalone mode (SA mode) deployment for the PeopleTools Client DPKs when deploying the DPKs alone, without first deploying the PeopleSoft application or PeopleSoft PeopleTools DPKs. Use this method, for example, when carrying out a PeopleTools-only upgrade.

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.

See "Reviewing Deployment Use Cases," Reviewing the PeopleTools-only Upgrade Use Case.

- 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 "Reviewing Deployment Use Cases," Reviewing the PeopleTools Patch DPK Use Case.

- 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.

See the PeopleTools installation guide for your database platform, "Installing PeopleSoft Change Assistant."

- **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.

Task 9-1-2: Preparing for the PeopleTools Client DPK Deployment

To deploy 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.
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 9-1-3: Deploying in Standalone Mode

This section assumes that the user running the script has administrative permission.

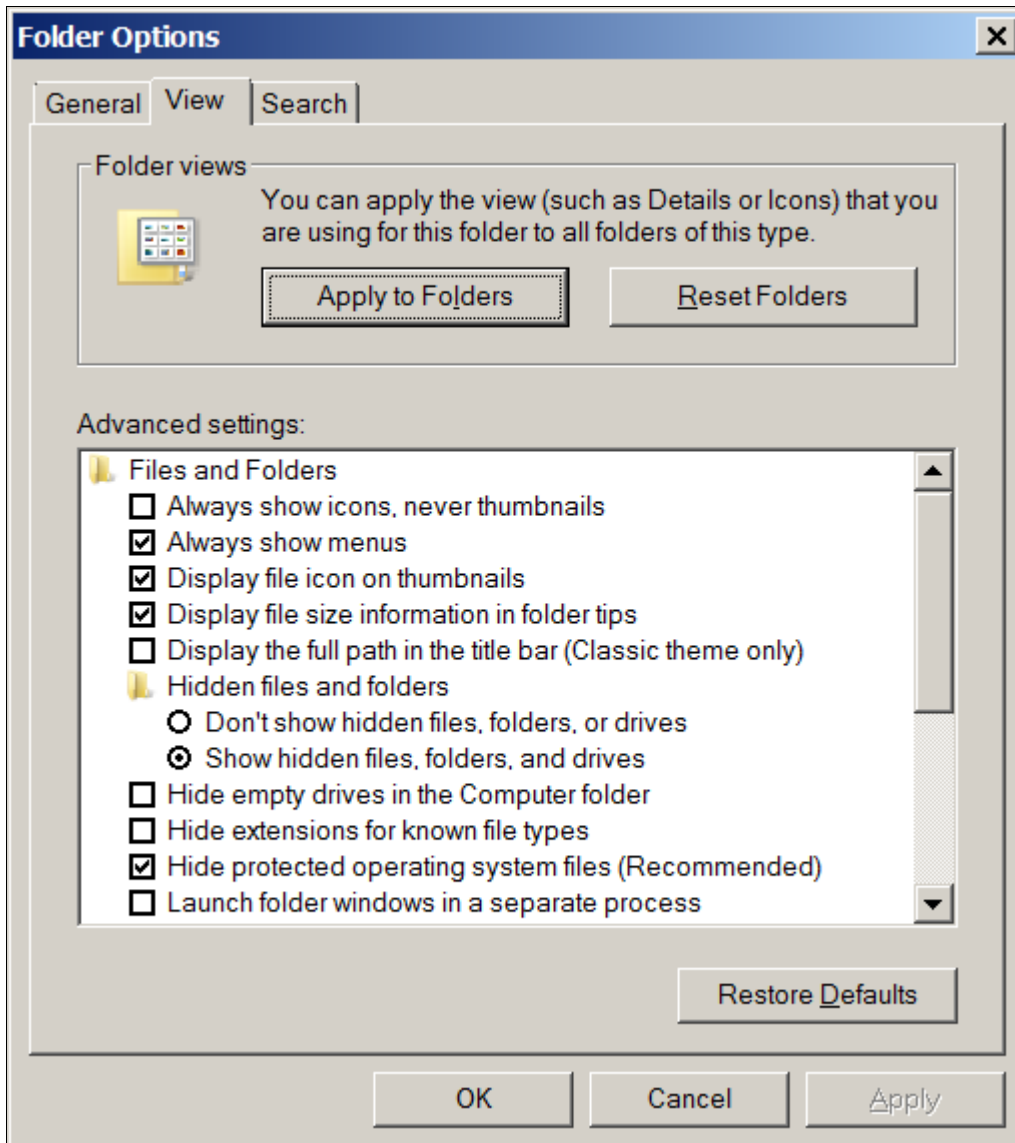
To deploy the PeopleTools Client DPK in SA mode:

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 *1*, Oracle.

```
Please Select the Database Platform:
1. Oracle
2. DB2 for LUW
3. Microsoft SQL Server
4. DB2 for zOS
Enter your choice [1-4] : 1
```

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:\PT8.56.02_Client_ORA.

```
Please specify the PSHOME for the PeopleTools Client [C:\PT8.56.02_=>
Client_ORA]:
```

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 VPI 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 8.56.02 Client in C:\PT8.56.02_Client_ORA
Configuring PeopleTools 8.56.02 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 10

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

This chapter explains how to install and configure the components of the PeopleSoft Pure Internet Architecture in silent mode.

See "Installing Web Server Products."

The setup program for the PeopleSoft Pure Internet Architecture is installed to the web server machine when you run the PeopleSoft Installer and select the PeopleSoft Web Server option.

See "Using the PeopleSoft Installer."

Oracle only supports customer installations that use web servers that are certified for PeopleSoft PeopleTools. *You must install the web server before you install the PeopleSoft Pure Internet Architecture.* Before you install the PeopleSoft Pure Internet Architecture, you must also have configured an application server, as described in the previous chapter.

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*.

For PeopleSoft PeopleTools 8.51 and later, 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*.

See "Preparing for Installation," Defining Installation Locations.

If your web server is on a different machine than your application server, you need to make sure you have JRE installed on your web server to run the PeopleSoft Pure Internet Architecture installation.

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 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.

Review the following additional notes before beginning the PeopleSoft Pure Internet Architecture installation:

- If you want to connect between multiple application databases, you need to implement single signon.
- If the PeopleSoft Pure Internet Architecture installation encounters an error, it will indicate which log files to refer to.

See "Installing Web Server Products."

- The machine on which you run the PeopleSoft Pure Internet Architecture install must be running in *256 color mode*. This is not necessary for UNIX or console mode.

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

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 or IBM WebSphere.

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 10-1: 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, and for both Oracle WebLogic and IBM WebSphere web servers.

Task 10-1-1: 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\scripts`. 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 PeopleSoft Pure Internet Architecture, such as `PS_CFG_HOME`, `DOMAIN_NAME`, `SERVER_TYPE`, and so on. Many input parameters are self-explanatory, and the sample response file includes brief definitions in some cases. Here are some additional guidelines:

- Specify `SERVER_TYPE=weblogic` to deploy on Oracle WebLogic.
For Oracle WebLogic, specify the installation location for `BEA_HOME`.
- Specify `SERVER_TYPE=websphere` to deploy on IBM WebSphere.
If you installed IBM WebSphere, specify the installation location for `WS_HOME`.
- 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.
- `INSTALL_TYPE`
 - `SINGLE_SERVER_INSTALLATION` — This 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` — This 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.
 - `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.
See Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation.

Note. When specifying paths on Microsoft Windows operating systems, use forward slashes (`/`), as shown in the examples in the response file.

Sample Response file template:

```
#Following inputs are required in response file for silent installation

# Location of PIA_HOME directory. For windows path should have front=>
  slash '/' instead of back slash '\'
# Set the below variable to the location where you want to install PIA.
# PLEASE NOTE this variable could be ANY DIRECTORY on your machine. It=>
```

```
includes but is definitely not limited to PeopleTools Home.
PS_CFG_HOME=C:/PT8.50

# Name of the PIA domain
DOMAIN_NAME=peoplesoft

# Web server type. Possible values are "weblogic", "websphere"
SERVER_TYPE=weblogic

# WebLogic home, the location where Oracle WebLogic is installed (for Web=>
Logic deployment only)
BEA_HOME=c:/bea

# WebSphere Home, the location where IBM WebSphere is installed (for Web=>
Sphere deployment only)
WS_HOME=C:/IBM/WebSphere/AppServer

# admin console user id/password for securing WebLogic/WebSphere admin=>
console credential
USER_ID=system
USER_PWD=
USER_PWD_RETYPE=

# 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

# Domain type to specify whether to create new domain or modify existing=>
domain. Possible values are "NEW_DOMAIN", "EXISTING_DOMAIN".
DOMAIN_TYPE=NEW_DOMAIN

# App home is required only when you are installing extensions from a=>
decoupled Apps home, please leave it commented otherwise.
# Silent installer can detect the deployable application extensions from=>
the PS_APP_HOME
# PS_APP_HOME=D:/CR9.2

# Install type to specify whether the installation is a single server or=>
multi server deployment. Possible values are "SINGLE_SERVER_>
INSTALLATION", "MULTI_SERVER_INSTALLATION"
INSTALL_TYPE=SINGLE_SERVER_INSTALLATION

# WebSite Name
WEBSITE_NAME=ps

# 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=

# AppServer Name
APPSERVER_NAME=

# Appserver JSL Port
JSL_PORT=

# HTTP Port
HTTP_PORT=80

# HTTPS Port
HTTPS_PORT=443

# Authentication Domain (optional)
AUTH_DOMAIN=

# Web Profile Name Possible Values are "DEV","TEST","PROD","KIOSK"
WEB_PROF_NAME=PROD

# Web Profile password for User "PTWEBSERVER"
WEB_PROF_PWD=
WEB_PROF_PWD_RETYPE=

# Integration Gateway user profile.
IGW_USERID=administrator
IGW_PWD=
IGW_PWD_RETYPE=

# AppServer connection user profile
APPSRVR_CONN_PWD=
APPSRVR_CONN_PWD_RETYPE=

# Directory path for reports
REPORTS_DIR=

```

Task 10-1-2: 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=D:/PT8.56
```


To install the PeopleSoft Pure Internet Architecture in silent mode on UNIX or Linux:

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.bat -i silent -DRES_FILE_PATH=/home/PT856
```

Task 10-2: 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}7m4OtVwXFNyLc1j6pZG69Q==
```

4. Save and close the file.

Task 10-3: Testing and Administering the PeopleSoft Pure Internet Architecture Installation

This section discusses:

- Verifying the PeopleSoft Pure Internet Architecture Installation
- Starting and Stopping Oracle WebLogic
- Starting and Stopping IBM WebSphere Application Servers
- 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 or IBM WebSphere web servers whenever necessary.

Task 10-3-1: Starting and Stopping Oracle WebLogic

If you are using the Oracle WebLogic web server, you need to sign on to Oracle WebLogic before using these commands. If you are using IBM WebSphere instead, go on to the next section. 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 or Linux:


```
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 or Linux:


```
startWebLogicAdmin.sh
```
 2. Then execute:
 - On Microsoft Windows:


```
startManagedWebLogic.cmd ManagedServerName
```
 - On UNIX or Linux:


```
startManagedWebLogic.sh ManagedServerName
```
- To stop the server, use the following commands:
 - Single Server on Microsoft Windows:


```
stopPIA.cmd
```
 - Single Server on UNIX or Linux:


```
stopPIA.sh
```
 - Multiple Servers or Distributed Servers on Microsoft Windows:

```
stopWebLogic.cmd ManagedServerName
```

Single Server on UNIX or Linux:

```
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 10-3-2: Starting and Stopping IBM WebSphere Application Servers

This section discusses:

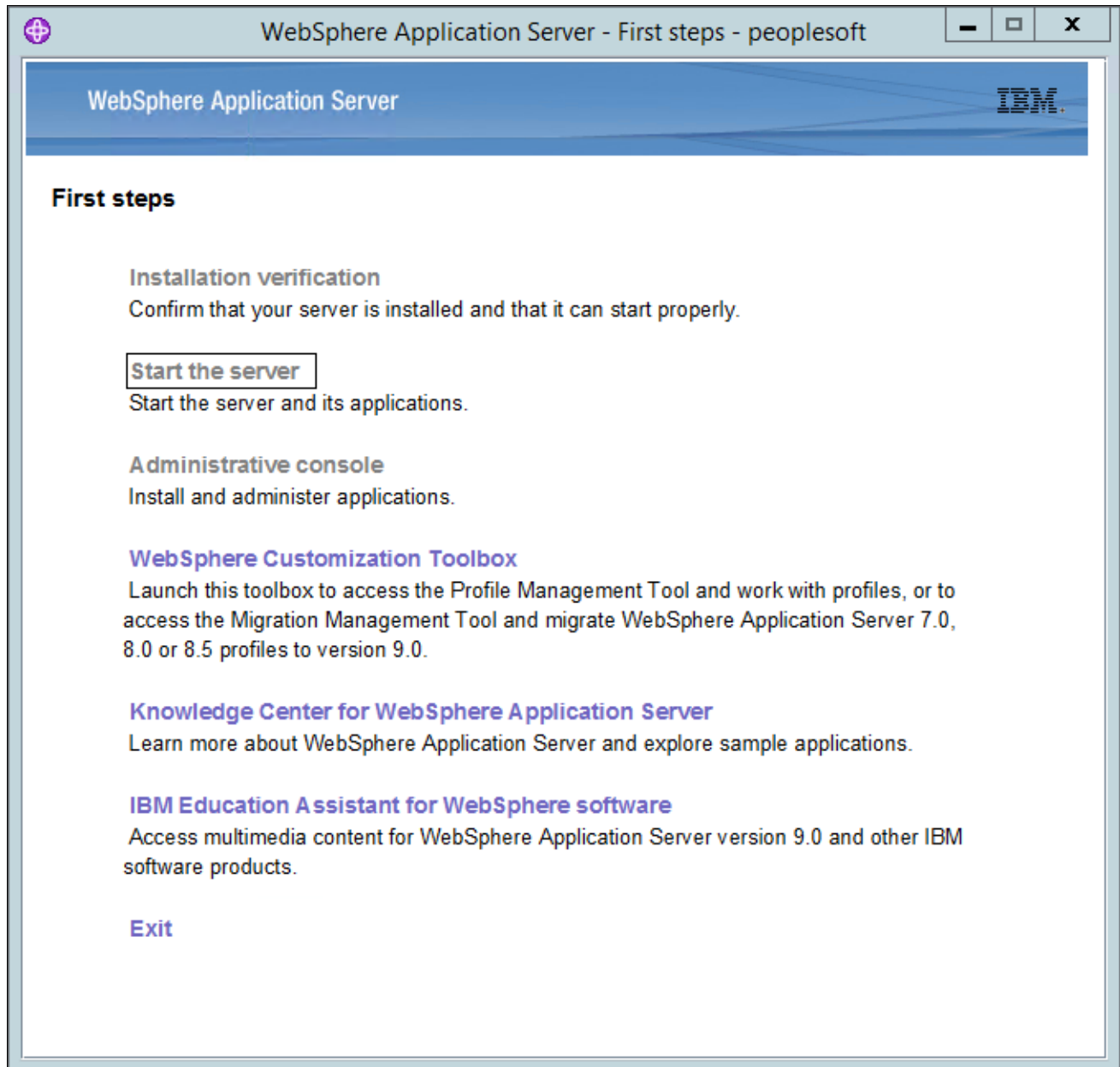
- Starting and Stopping IBM WebSphere Application Servers on Windows
- Starting and Stopping IBM WebSphere Application Servers on UNIX or Linux
- Verifying the IBM WebSphere Installation

Starting and Stopping IBM WebSphere Application Servers on Windows

To start and stop the WebSphere Application Server Network Deployment 9.0.0.0 (WebSphere ND), use the WebSphere First Steps utility:

1. For example, on Microsoft Windows 2012 R2, access the Apps screen and locate the First steps utility in the IBM WebSphere category.

The following example shows the First steps window for the profile *peoplesoft*:



WebSphere Application Server - First steps window

2. Select the link Start the server.

If the server starts properly, a verification window appears with several messages about the initialization process.

- To verify whether the server was installed and can start properly, click the link Installation Verification on the First Step window and review the messages.

```

[5/17/17 18:34:55:850 MDT] 00000001 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/17/17 18:35:04:917 MDT] 00000001 SibMessage W [ ] CWSJY0003W: MQJCA5001: WMQ messaging : '9.0.0.0-p900-L160509.1'.
[5/17/17 18:35:08:352 MDT] 0000004c AuthConfigFac W SECJ8032W: AuthConfigFactory implementation is not defined, using the default JASPI factory imple
[5/17/17 18:35:11:601 MDT] 0000004c webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/17/17 18:35:11:604 MDT] 0000004c webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/17/17 18:35:16:379 MDT] 0000004d FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/17/17 18:40:26:405 MDT] 00000001 WSKeyStore W CWPKI0041W: One or more key stores are using the default password.
[5/17/17 18:40:27:423 MDT] 00000001 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/17/17 18:40:27:424 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/17/17 18:40:27:426 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/17/17 18:40:27:427 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/17/17 18:40:27:427 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/17/17 18:40:27:581 MDT] 00000001 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/17/17 18:40:32:792 MDT] 00000001 SibMessage W [ ] CWSJY0003W: MQJCA5001: WMQ messaging : '9.0.0.0-p900-L160509.1'.
[5/17/17 18:40:34:404 MDT] 0000004c AuthConfigFac W SECJ8032W: AuthConfigFactory implementation is not defined, using the default JASPI factory imple
[5/17/17 18:40:36:487 MDT] 0000004c webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/17/17 18:40:36:489 MDT] 0000004c webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/17/17 18:40:41:741 MDT] 0000004b FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\w
[5/17/17 19:31:32:812 MDT] 000000a8 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/25/17 15:14:43:235 MDT] 00000001 WSKeyStore W CWPKI0041W: One or more key stores are using the default password.
[5/25/17 15:14:54:209 MDT] 00000001 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\w...
[5/25/17 15:14:54:210 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/25/17 15:14:54:215 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/25/17 15:14:54:217 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/25/17 15:14:54:219 MDT] 00000001 ModuleManifes E UTLS0002E: The shared library psSharedLibrary contains a classpath entry which does not resolve to
[5/25/17 15:14:55:452 MDT] 00000001 FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
[5/25/17 15:15:12:355 MDT] 00000001 SibMessage W [ ] CWSJY0003W: MQJCA5001: WMQ messaging : '9.0.0.0-p900-L160509.1'.
[5/25/17 15:15:18:677 MDT] 0000004e AuthConfigFac W SECJ8032W: AuthConfigFactory implementation is not defined, using the default JASPI factory imple
[5/25/17 15:15:36:366 MDT] 0000004e webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/25/17 15:15:36:368 MDT] 0000004e webcontainer W com.ibm.ws.webcontainer.VirtualHostImpl addVhostEntry SRVE8100W: VirtualHost alias already exists
[5/25/17 15:15:52:215 MDT] 0000004d FfdcProvider W com.ibm.ws.ffdc.impl.FfdcProvider logIncident FFDC1003: FFDC Incident emitted on C:\Users\
IVTL0040I: 42 errors/warnings are detected in the C:\Users\
ipsftpt8.56\webserver\peoplesoft\logs\server1\SystemOut.log file
IVTL0070I: The Installation Verification Tool verification succeeded.
IVTL0080I: The installation verification is complete.

```

First steps output - Installation verification window

Starting and Stopping IBM WebSphere Application Servers on UNIX or Linux

To start WebSphere ND on UNIX or Linux, use the following command:

```
<PIA_HOME>/webserv/<profile_name>/bin/startServer.sh <server_name>
```

For example:

```
/home/pt856/webserver/peoplesoft/bin/startServer.sh server1
```

To stop WebSphere ND, use the following command:

```
<PIA_HOME>/webserv/<profile_name>/bin/stopServer.sh <server_name>
```

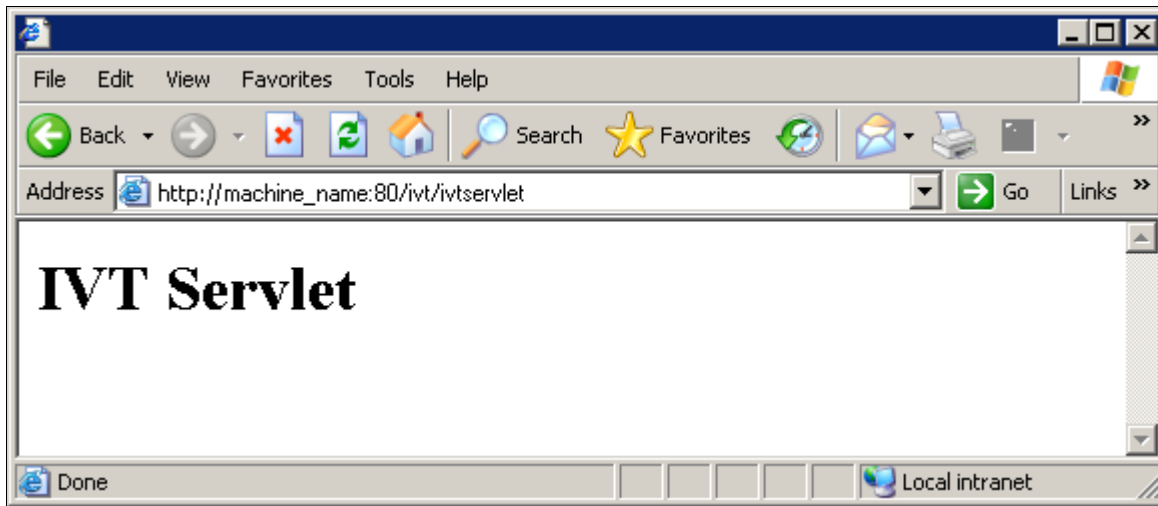
Verifying the IBM WebSphere Installation

Use this method to verify the WebSphere ND and PIA installation for both Microsoft Windows and UNIX.

To verify the WebSphere ND and PIA installation, copy the following URL into a browser address bar, substituting your machine name and the http port number:

```
http://<machine_name>:<http_port>/ivt/ivtservlet
```

You should see the text "IVT Servlet" in the browser, as in this example:



IVT Servlet window

You should also sign into the PeopleSoft application, as described in a later section, to verify the installation. See *Accessing the PeopleSoft Signon*.

Task 10-3-3: Using PSADMIN to Start and Stop Web Servers

In addition to the methods given in the previous sections for starting and stopping Oracle WebLogic and IBM WebSphere 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 10-3-4: Accessing the PeopleSoft Signon

To access the PeopleSoft signon:

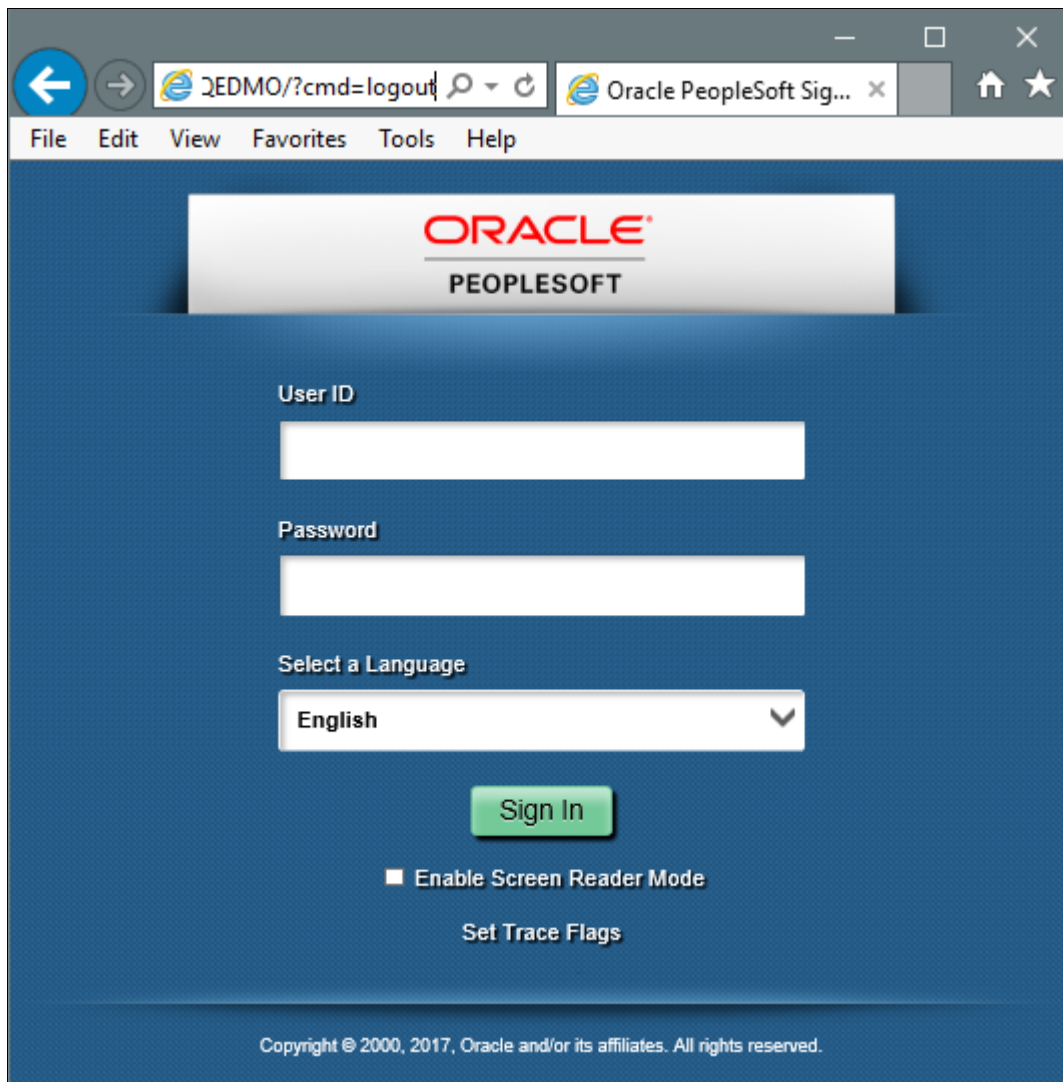
1. Open your web browser.

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
```

Note. PeopleSoft Pure Internet Architecture installed on IBM WebSphere server listens at the HTTP/HTTPS ports specified during the PeopleSoft Pure Internet Architecture install. Invoke PeopleSoft Pure Internet Architecture through a browser by using the specified HTTP or HTTPS ports—that is, `http://<WebSphere_machine_name>:<server_port>/<site_name>/signon.html` (if `AuthTokenDomain` is not specified) or `http://<WebSphere_machine_name.mycompany.com>:<server_port>/<site_name>/signon.html` (if you specified `.mycompany.com` as the `AuthTokenDomain`). You can find the HTTP and HTTPS ports in the file `<PIA_HOME>/webserv/<domain_name>/logs/AboutThisProfile.txt`.

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 10-4: Completing Post-Installation Steps

This section discusses:

- Using Fluid User Interface
- Setting Options for Multilingual Databases
- Updating PeopleTools Options
- Updating Time Zone Information
- Updating Database Information

Task 10-4-1: 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:

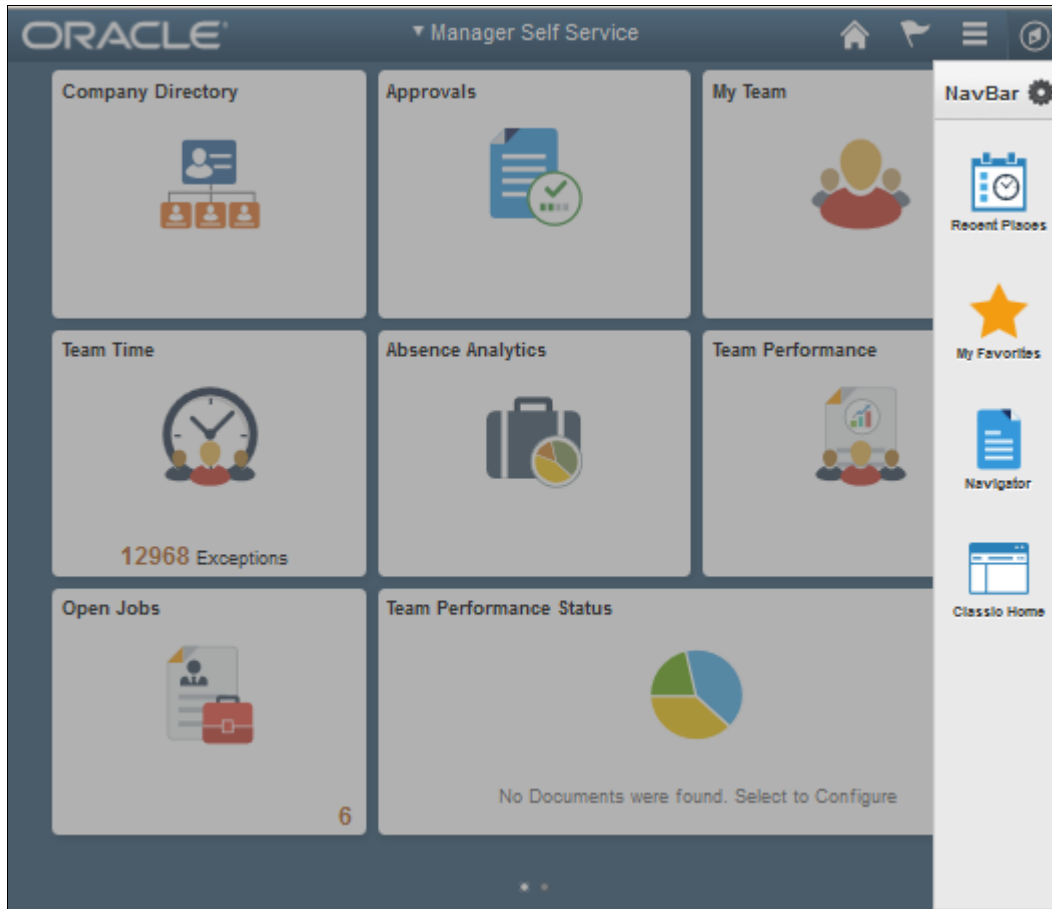
1. On the PeopleSoft Fluid User Interface, shown in this example, select (press) the NavBar button at the top right (diamond inside a circle).



PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

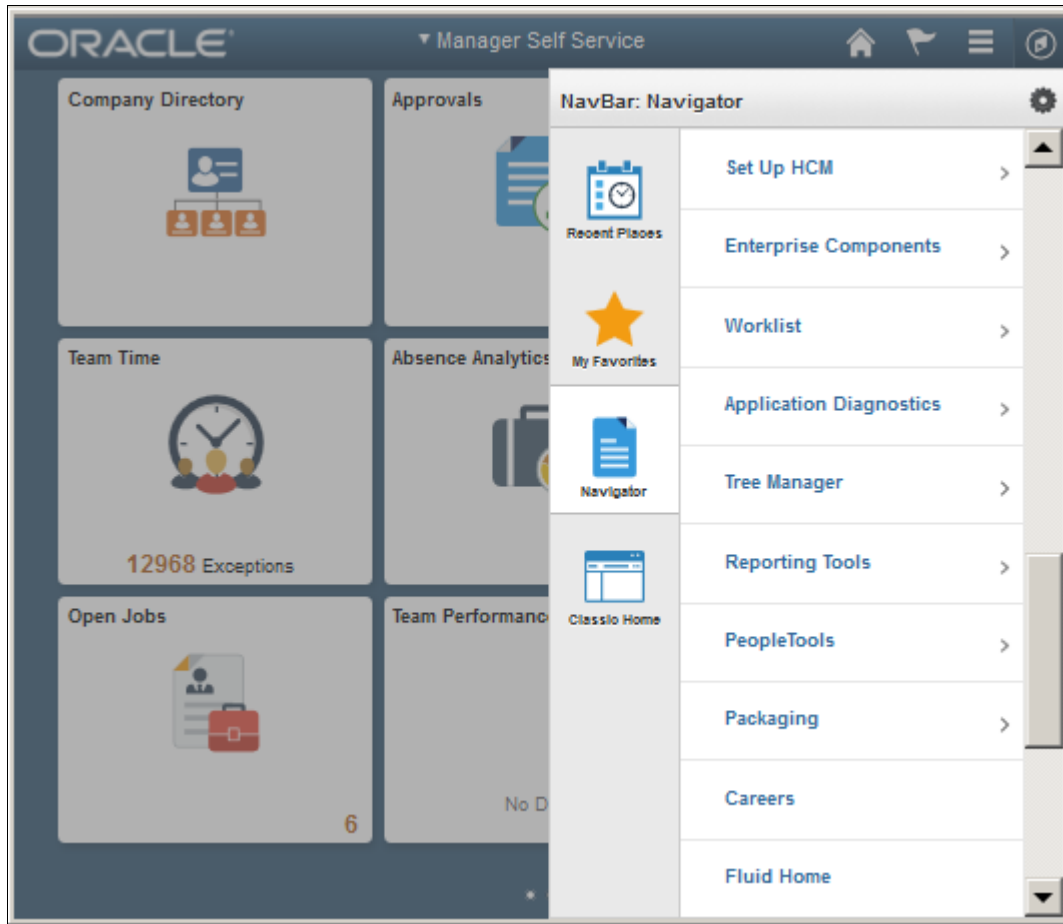
2. Select (press) Navigator.



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 10-4-2: 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.
- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

See *PeopleTools: Global Technology*, "Setting Data Field Length Checking."

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

Use the guidelines in this table to select the correct option for your environment:

Environment	PeopleTools Option Page Selection	PSOPTIONS.DBLENGHTHYPE Value
Unicode-encoded database or a non-Unicode SBCS database	Others	N
Japanese database on DB2 LUW	DB2 MBCS	D
Non-Unicode Japanese database Note. If your installation uses the Shift-JIS character set for Japanese, you must use this option.	MBCS Note. The MBCS option is not supported for DB2 z/OS.	M

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODER_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 UNICODER_ENABLED=0.
- For Unicode databases, set UNICODER_ENABLED=1.

See the information on converting to Unicode in the *PeopleTools: Global Technology* product documentation.

Task 10-4-3: 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 10-4-4: 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 10-4-5: 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.

Chapter 11

Installing PeopleSoft Change Assistant

This chapter discusses:

- Understanding PeopleSoft Change Assistant
- Installing PeopleSoft Change Assistant in Silent Mode
- 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 PeopleSoft Change Assistant to carry out maintenance both for PeopleSoft applications using the PeopleSoft Update Manager, and those using the classic patching method. PeopleSoft Change Assistant is a Java-based tool that runs only on Microsoft Windows-based operating systems.

For the current PeopleSoft PeopleTools release, the PeopleSoft Change Assistant installation includes the following features:

- You can install multiple instances of PeopleSoft Change Assistant from the current release on one physical machine.

Note. You cannot run more than one instance at a time. That is, you cannot run multiple instances in parallel.

- You must remove installations of PeopleSoft Change Assistant from PeopleSoft PeopleTools 8.55 or earlier before installing from the current release. PeopleSoft Change Assistant from PeopleSoft PeopleTools 8.56 cannot co-exist with that from earlier releases.
- You must install each PeopleSoft Change Assistant instance in a separate installation location.
- You can remove or upgrade each PeopleSoft 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 PeopleSoft 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

"Using the PeopleSoft Installer," Verifying Necessary Files for Installation on Windows

Task 11-1: Installing PeopleSoft Change Assistant in Silent Mode

This section discusses:

- Understanding Silent Mode for PeopleSoft Change Assistant
- Using the Silent Mode Script

Understanding Silent Mode for PeopleSoft Change Assistant

You can carry out a silent installation of PeopleSoft Change Assistant by supplying command-line parameters to a script. With silent installation there is no user interaction after you begin the installation.

You can use install and upgrade PeopleSoft Change Assistant instances in silent mode for the current PeopleSoft PeopleTools release. In addition, you can use silent mode to remove installations from the current or earlier PeopleSoft PeopleTools releases. For example, running the silent mode installation from PeopleSoft PeopleTools 8.56 will remove a Change Assistant installation from PeopleSoft PeopleTools 8.54 or earlier, and also install the 8.56 version of Change Assistant.

The PeopleSoft Change Assistant installer includes the following files in the directory *PS_HOME*\setup\PsCA:

- *silentInstall.bat* — Use this script to upgrade or remove an existing PeopleSoft Change Assistant instance or install a new instance.

Do not edit this file. The file includes instructions in the header portion.

See Using the Silent Mode Script.

- *CA-silentInstall-ResultCodes.rtf* — Review this file to interpret the results seen in the *PS_HOME*\setup\psCA\setup.log file after installation.

The file is in Rich Text Format (RTF), and is most easily read if you open it with word processing software such as Microsoft Word.

Task 11-1-1: Using the Silent Mode Script

The PeopleSoft Change Assistant silent mode script requires the following command-line parameters:

- **Install Home**
Specify the installation location for the PeopleSoft Change Assistant instance. If the location includes spaces, surround it with double quotes, such as "C:\Program Files\PeopleSoft\Change Assistant".
As mentioned earlier in this chapter, for PeopleSoft PeopleTools 8.56 you can install multiple instances of PeopleSoft Change Assistant. You must specify a different installation location for each instance.
- **Install Type**
 - Specify *new* to create a new PeopleSoft Change Assistant instance.
 - Specify *upgrade* to upgrade an existing instance that was installed from the current PeopleSoft PeopleTools release.
 - Specify *uninstall* to remove an existing PeopleSoft Change Assistant instance.
- **Backup Config**
 - Specify *backup* to create a zip file containing files with configuration information. The backup file,

changeassistantcfgbak.zip, is saved in the installation location.

- Specify *nobackup* if you do not want to create a backup file with the configuration information.

To use the PeopleSoft Change Assistant silent installation script:

1. In a command prompt, go to *PS_HOME*\setup\PSCA.

Note. Do not move the file to another location.

2. Run the following command:

```
silentInstall.bat [Install Home] [Install Type] [Backup Config]
```

You must include all three parameters. For example:

- To install a new instance without retaining a configuration file

```
silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant" new=>
nobackup
```

- To upgrade an existing instance, and retain a configuration file:

```
silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant 3">
upgrade backup
```

- To remove an existing instance, and retain a configuration file:

```
silentInstall.bat D:\CA uninstall backup
```

Task 11-2: 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 11-2-1: 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 11-2-2: 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 11-2-3: 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 11-2-4: 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 11-3: 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:

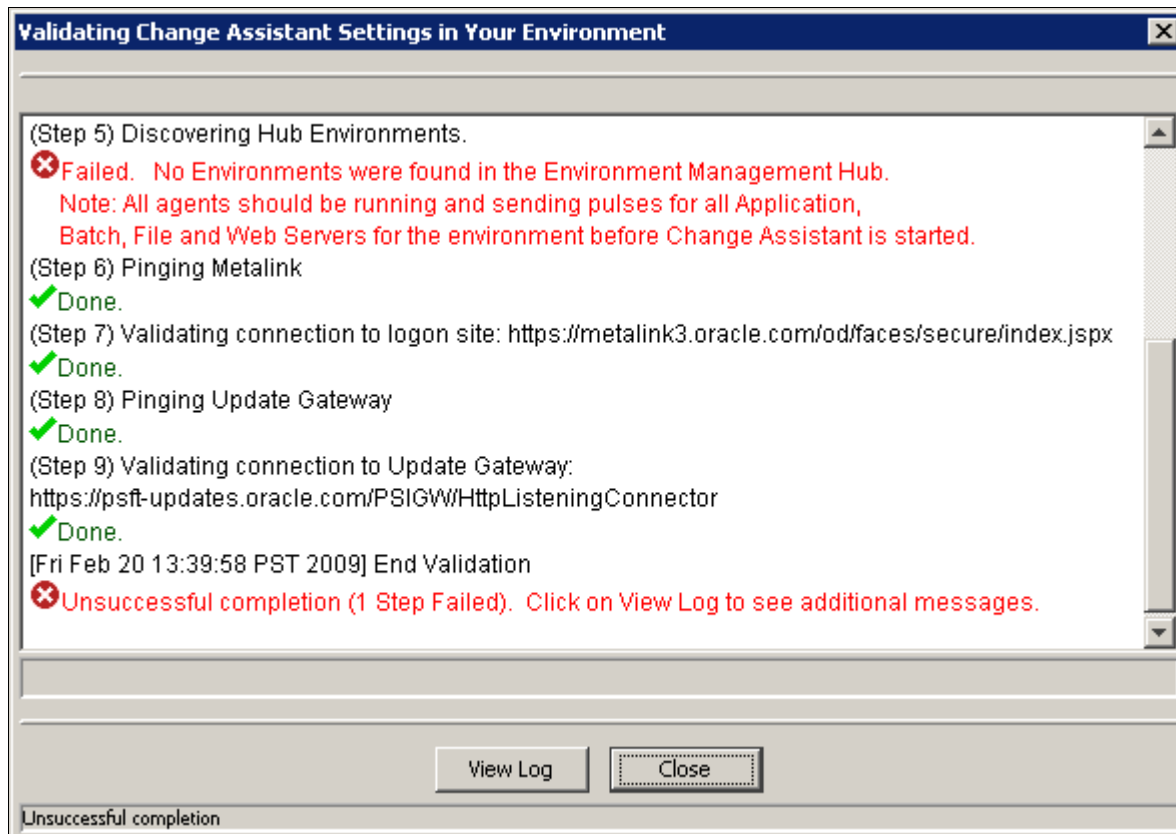
- Locating valid SQL query tools required to run SQL scripts.
- Testing the Environment Management hub and ensuring that PeopleSoft Change Assistant can communicate with it.
- Testing My Oracle Support and ensuring that PeopleSoft Change Assistant can communicate with it.

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 OracleSoftware Support.

To validate your environment, select Tools, Options, Validate. Click Start Validation.

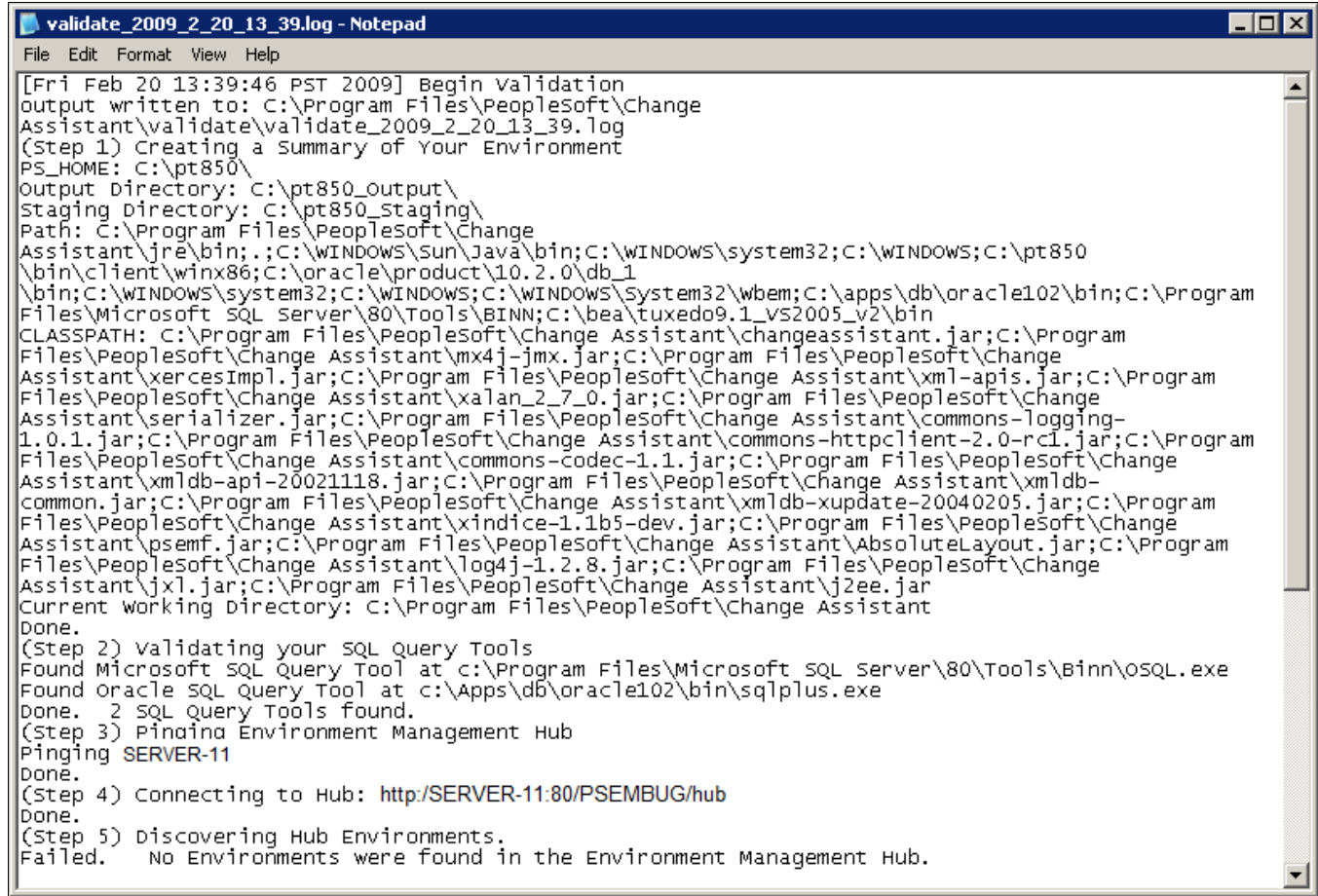
If any of the steps were unable to complete successfully, open the log file to determine the cause. This example shows a summary with both successful messages ("Done") and unsuccessful ("Failed" or "Unsuccessful completion"):



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:



```

[Fri Feb 20 13:39:46 PST 2009] Begin validation
output written to: C:\Program Files\PeopleSoft\Change
Assistant\validate\validate_2009_2_20_13_39.log
(Step 1) Creating a Summary of Your Environment
PS_HOME: C:\pt850\
Output Directory: C:\pt850_output\
Staging Directory: C:\pt850_staging\
Path: C:\Program Files\PeopleSoft\Change
Assistant\jre\bin;. ;C:\WINDOWS\Sun\Java\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\pt850
\bin\client\winx86;C:\oracle\product\10.2.0\db_1
\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\wbem;C:\apps\db\oracle102\bin;C:\Program
Files\Microsoft SQL Server\80\Tools\BINN;C:\bea\tuxedo9.1_vs2005_v2\bin
CLASSPATH: C:\Program Files\PeopleSoft\Change Assistant\changeassistant.jar;C:\Program
Files\PeopleSoft\Change Assistant\mx4j-jmx.jar;C:\Program Files\PeopleSoft\Change
Assistant\xercesImpl.jar;C:\Program Files\PeopleSoft\Change Assistant\xml-apis.jar;C:\Program
Files\PeopleSoft\Change Assistant\xalan_2_7_0.jar;C:\Program Files\PeopleSoft\Change
Assistant\serializer.jar;C:\Program Files\PeopleSoft\Change Assistant\commons-logging-
1.0.1.jar;C:\Program Files\PeopleSoft\Change Assistant\commons-httpclient-2.0-rc1.jar;C:\Program
Files\PeopleSoft\Change Assistant\commons-codec-1.1.jar;C:\Program Files\PeopleSoft\Change
Assistant\xml-db-api-20021118.jar;C:\Program Files\PeopleSoft\Change Assistant\xml-db-
common.jar;C:\Program Files\PeopleSoft\Change Assistant\xml-db-xupdate-20040205.jar;C:\Program
Files\PeopleSoft\Change Assistant\xindice-1.1b5-dev.jar;C:\Program Files\PeopleSoft\Change
Assistant\psemf.jar;C:\Program Files\PeopleSoft\Change Assistant\AbsoluteLayout.jar;C:\Program
Files\PeopleSoft\Change Assistant\log4j-1.2.8.jar;C:\Program Files\PeopleSoft\Change
Assistant\jxl.jar;C:\Program Files\PeopleSoft\Change Assistant\j2ee.jar
Current working Directory: C:\Program Files\PeopleSoft\Change Assistant
Done.
(Step 2) validating your SQL Query Tools
Found Microsoft SQL Query Tool at c:\Program Files\Microsoft SQL server\80\Tools\Binn\osql.exe
Found oracle SQL Query Tool at c:\Apps\db\oracle102\bin\sqlplus.exe
Done. 2 SQL query Tools found.
(Step 3) Pingina Environment Management Hub
Pinging SERVER-11
Done.
(Step 4) Connecting to Hub: http://SERVER-11:80/PSEMBUG/hub
Done.
(Step 5) Discovering Hub Environments.
Failed. No Environments were found in the Environment Management Hub.

```

Validation log

Chapter 12

Installing PeopleSoft Change Impact Analyzer

This chapter discusses:

- Prerequisites
- Removing PeopleSoft Change Impact Analyzer Installations
- Installing and Removing PeopleSoft Change Impact Analyzer in Silent Mode

Prerequisites

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.
- You can install PeopleSoft Change Impact Analyzer from downloaded files as a standalone application, or as a part of your PeopleSoft PeopleTools installation. 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

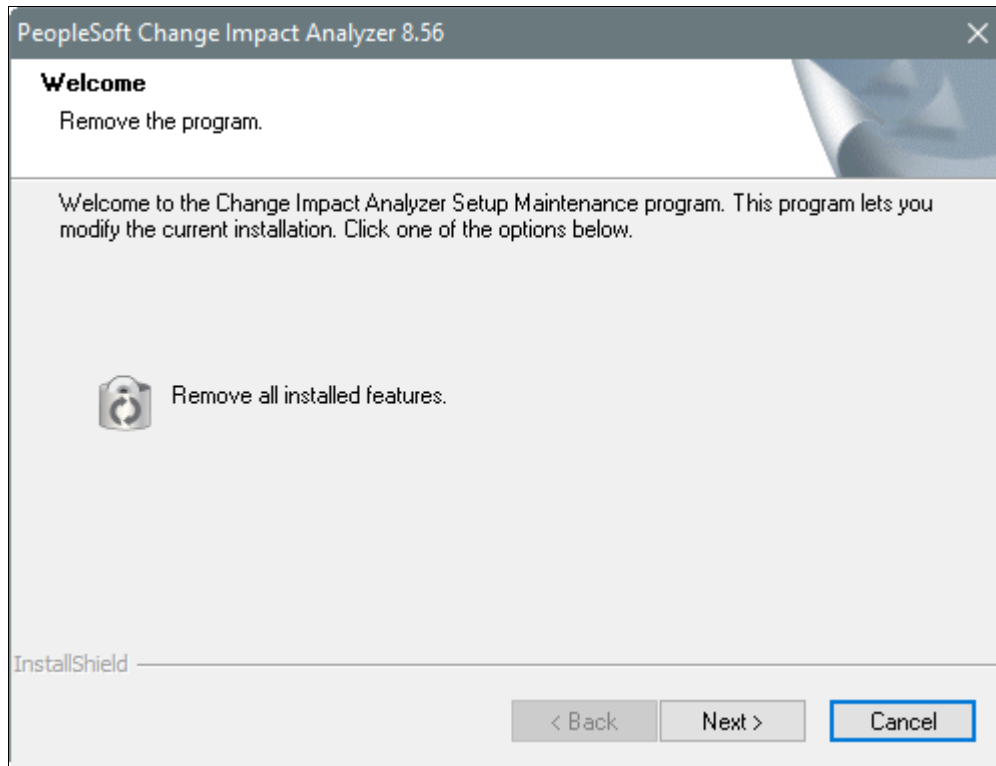
Task 12-1: Removing PeopleSoft Change Impact Analyzer Installations

To uninstall an existing installation of PeopleSoft Change Impact Analyzer, use the setup utility for the current release, as follows:

1. From the `PS_HOME\setup\PscIA` directory, run `installCIA.exe`.

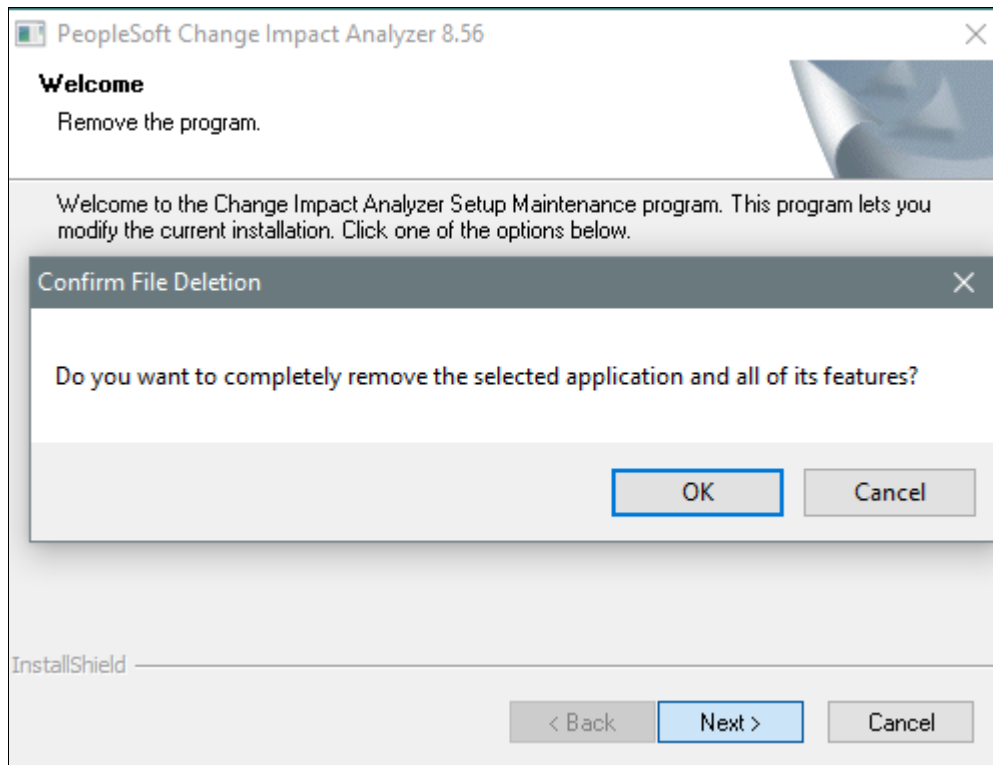
2. If there is an existing installation of PeopleSoft Change Impact Analyzer on your machine, the Remove the program window appears.

Click Next to remove all installed features.



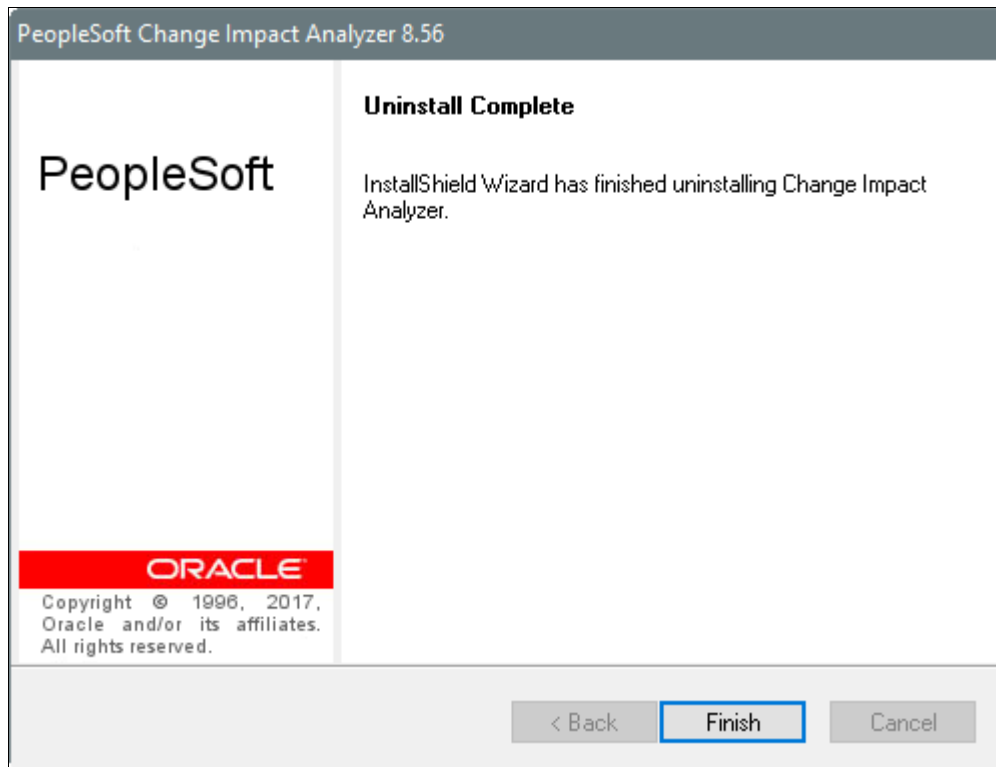
PeopleSoft Change Impact Analyzer Remove the program window

3. Click OK to confirm that you want to remove the previous PeopleSoft Change Impact Analyzer installation.



Confirm File Deletion message dialog box

- When the removal process is complete, click Finish on the Uninstall Complete window.



PeopleSoft Change Impact Analyzer Uninstall Complete window

- Use the instructions in the next section, Installing PeopleSoft Change Impact Analyzer, to install the current release.

Task 12-2: Installing and Removing PeopleSoft Change Impact Analyzer in Silent Mode

This section discusses:

- Understanding Silent Mode for PeopleSoft Change Impact Analyzer
- Installing PeopleSoft Change Impact Analyzer in Silent Mode
- Removing the PeopleSoft Change Impact Analyzer Installation in Silent Mode
- Removing and Installing PeopleSoft Change Impact Analyzer in Silent Mode

Understanding Silent Mode for PeopleSoft Change Impact Analyzer

You can carry out a silent installation or removal of PeopleSoft Change Impact Analyzer by editing a response file to correspond to your installation requirement. When you work in silent mode there is no user interaction after you begin the installation or removal.

The PeopleSoft Change Impact Analyzer installer includes the following files in the directory `PS_HOME\setup\PscIA\`:

- `CIA-silent-install-response-file.txt` — Use this response file to install PeopleSoft Change Impact Analyzer.

- `CIA-silent-uninstall-response-file.txt` — Use this response file to remove PeopleSoft Change Impact Analyzer installations.
- `silentInstall.bat` — Use this script to remove an existing PeopleSoft Change Impact Analyzer installation, and install a new instance.
- `silentInstall-ResultCodes.rtf` — Review this file to interpret the results seen in the `setup.log` file after installation.

The file is in Rich Text Format (RTF), and is most easily read if you open it with an authoring tool, such as Microsoft Word.

Task 12-2-1: Installing PeopleSoft Change Impact Analyzer in Silent Mode

This section discusses:

- Editing the Response File
- Running the Silent Mode Installation

Editing the Response File

Review the header portion at the top of the response file for instructions on running the silent installation. Modify the response file according to your installation requirement. The sections labelled NOTE TO USER include items to be modified.

Open the file `PS_HOME\setup\PscIA\CIA-silent-install-response-file.txt` for editing, modify the following items, and then save the file:

- JDBC driver type

Enter 1 to specify your RDBMS platform, and 0 for the other selections. The options are: Oracle (default), MSS (Microsoft SQL Server), or DB2 (DB2 z/OS or DB2/LUW).

```
##### NOTE TO USER #####
# the following option is for DB type for JDBC driver
# the default is Sel-0=1, for Oracle
# set the Sel-1=1 for MSS
# set the Sel-2=1 for DB2
# NOTE: the options are mutually exclusive
Sel-0=1
Sel-1=0
Sel-2=0
```

- Path to JDBC driver

Enter the full path to the JDBC driver for `szPath`.

```
##### NOTE TO USER #####
# For MSS & DB2 please enter the path to JDBC driver for "szPath" below
szPath=c:\jdbcDrivers
```

- Installation location

The default location is `C:\Program Files\PeopleSoft\Change Impact Analyzer`. If you want to install to a different location, enter the location for `szDir`.

```
##### NOTE TO USER #####
# For "szDir" enter the path where you want to install the Change Impact=>
```

```
Analyzer
szDir=C:\Program Files\PeopleSoft\Change Impact Analyzer
```

Running the Silent Mode Installation

To run the silent mode installation with the modified response file:

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command, substituting your *PS_HOME* location for %PS_HOME% in the command:

```
installCIA.exe /s /f1"%PS_HOME%\setup\PsCIA\CIA-silent-install-response-→
file.txt"
```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log. Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Task 12-2-2: Removing the PeopleSoft Change Impact Analyzer Installation in Silent Mode

Review the header portion at the top of the response file for instructions. The process will search for and remove an existing installation of PeopleSoft Change Impact Analyzer. You do not need to edit the file before running. The file must be located in *PS_HOME*\setup\PsCIA.

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command, substituting your *PS_HOME* location for %PS_HOME% in the command

```
installCIA.exe /s /f1"%PS_HOME%\setup\PsCIA\CIA-silent-uninstall-→
response-file.txt"
```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log. Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Task 12-2-3: Removing and Installing PeopleSoft Change Impact Analyzer in Silent Mode

Use the silentInstall.bat script to remove an existing installation of PeopleSoft Change Impact Analyzer and install a new installation. This script runs commands using CIA-silent-uninstall-response-file.txt followed by CIA-silent-install-response-file.txt. Refer to the previous sections for information on those response files.

To remove an existing installation and reinstall:

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command:

```
silentInstall.bat
```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log. Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Chapter 13A

Installing and Compiling COBOL on Windows

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Net Express on Microsoft Windows
- Managing Micro Focus Net Express Compiler Licenses
- Using the Micro Focus 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 Net Express 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 Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, (search for the article name)

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

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 pspres.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 13A-1: Preparing 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.

Ensure that the following COBOL runtime files in your client and server bin directories match those of your Micro Focus Net Express installation:

- CBLINTS.DLL
- CBLRTSS.DLL
- CBLVIOS.DLL
- COB32API.DLL

See Recompiling COBOL on Microsoft Windows.

Task 13A-2: Installing Micro Focus Net Express on Microsoft Windows

This section discusses:

- Prerequisites
- Obtaining Installation Files for Micro Focus Net Express from Oracle Software Delivery Cloud
- Installing Micro Focus Net Express Wrap Pack 6
- Installing Micro Focus Net Express Wrap Pack 14

Prerequisites

Micro Focus® Net Express™ 5.1 Wrap Pack 14 is the supported COBOL compiler on Microsoft Windows for the current PeopleSoft PeopleTools release. This Wrap Pack is a product update and does require a previous version of the product to be installed. Micro Focus Net Express 5.1 Wrap Pack 14 can upgrade any of the following releases or any combination of these releases:

- Micro Focus Net Express 5.1 Wrap Pack 6
- Micro Focus Net Express 5.1 Wrap Pack 7
- Micro Focus Net Express 5.1 Wrap Pack 8
- Micro Focus Net Express 5.1 Wrap Pack 9
- Micro Focus Net Express 5.1 Wrap Pack 10
- Micro Focus Net Express 5.1 Wrap Pack 11
- Micro Focus Net Express 5.1 Wrap Pack 12
- Micro Focus Net Express 5.1 Wrap Pack 13

If you are running a Wrap Pack prior to Wrap Pack 6 or have no Net Express version installed, install Wrap Pack 6 before installing Wrap Pack 14.

See Installing Micro Focus Net Express Wrap Pack 6.

Check the certification information on My Oracle Support for the supported version for Microsoft Windows operating systems.

Note that Oracle is the exclusive reseller of the Micro Focus COBOL compiler for use with PeopleSoft applications.

See Also

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1

Using the Micro Focus COBOL Compiler on Microsoft Windows

Task 13A-2-1: Obtaining Installation Files for Micro Focus Net Express from Oracle Software Delivery Cloud

The Micro Focus Net Express 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 Net Express 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 the Micro Focus Net Express installation:

1. Log in to Oracle Software Delivery Cloud at <https://edelivery.oracle.com>.
2. Enter Micro Focus in the type-ahead Product field, and select Micro Focus International Ltd. Net Express COBOL for Windows.

The product is added to the Download Queue.

3. Click Continue.
4. Click Continue.
5. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
6. Click one of the filenames to download an individual zip file, or click Download All to obtain all of the files listed.

The files include software, wrap packs, 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 *NE_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 13A-2-2: Installing Micro Focus Net Express Wrap Pack 6

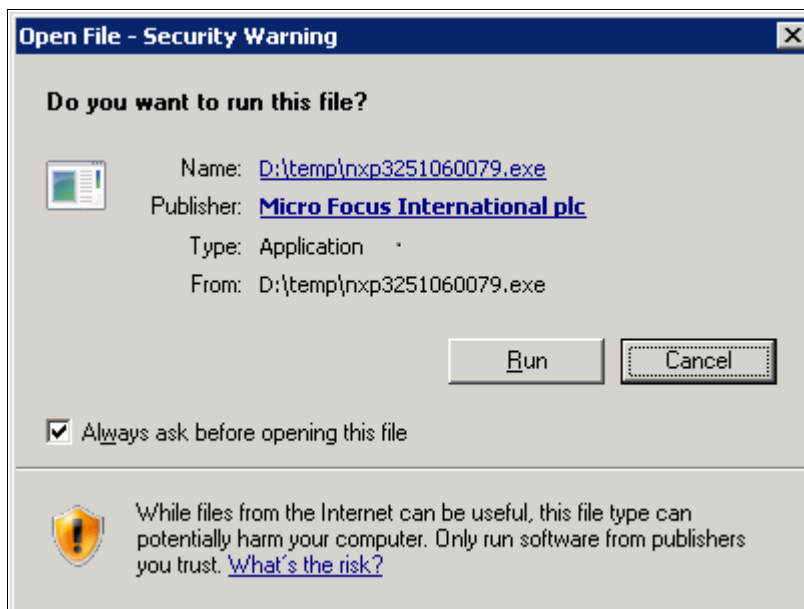
The following procedure assumes that you saved the installation files from Oracle Software Delivery Cloud in the directory *NE_INSTALL*.

Note. Micro Focus Net Express Wrap Pack 6 is a full product release and does not require a previous version of the product to be installed.

To install Micro Focus Net Express Wrap Pack 6:

1. Double-click *NE_INSTALL/nxp3251060079.exe*.

If a security screen appears, click Run to launch the installer.

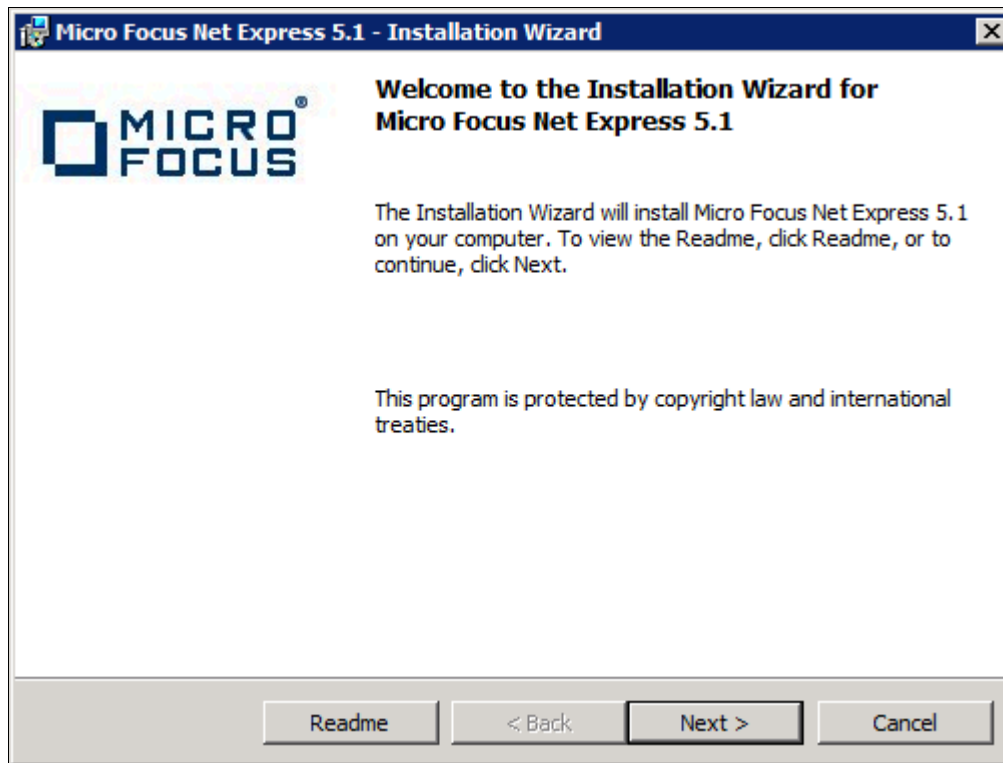


Open File - Security Warning for the Micro Focus installation executable

The Install Shield Wizard starts extracting files. This may take a few minutes until the files are extracted, and then the Installation Wizard dialog box appears.

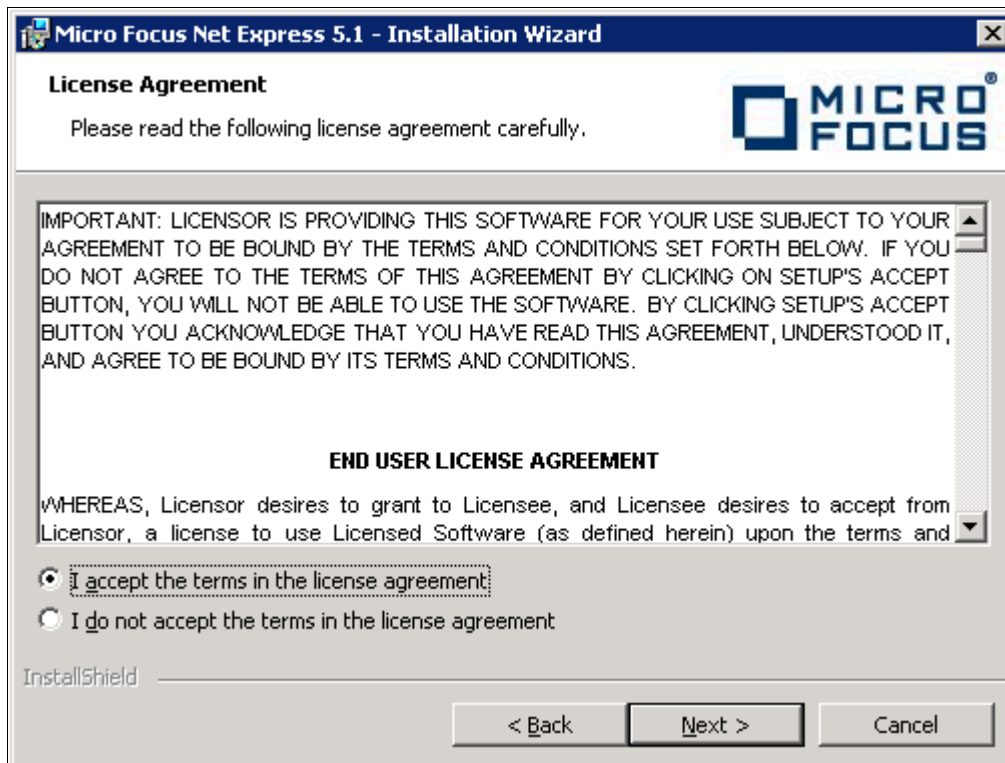
2. Click Next on the welcome window.

The screen includes a button to open a Readme file.



Micro Focus Net Express Installation Wizard Welcome window

3. Read the terms of the License Agreement, select the option to accept the terms, and click Next.

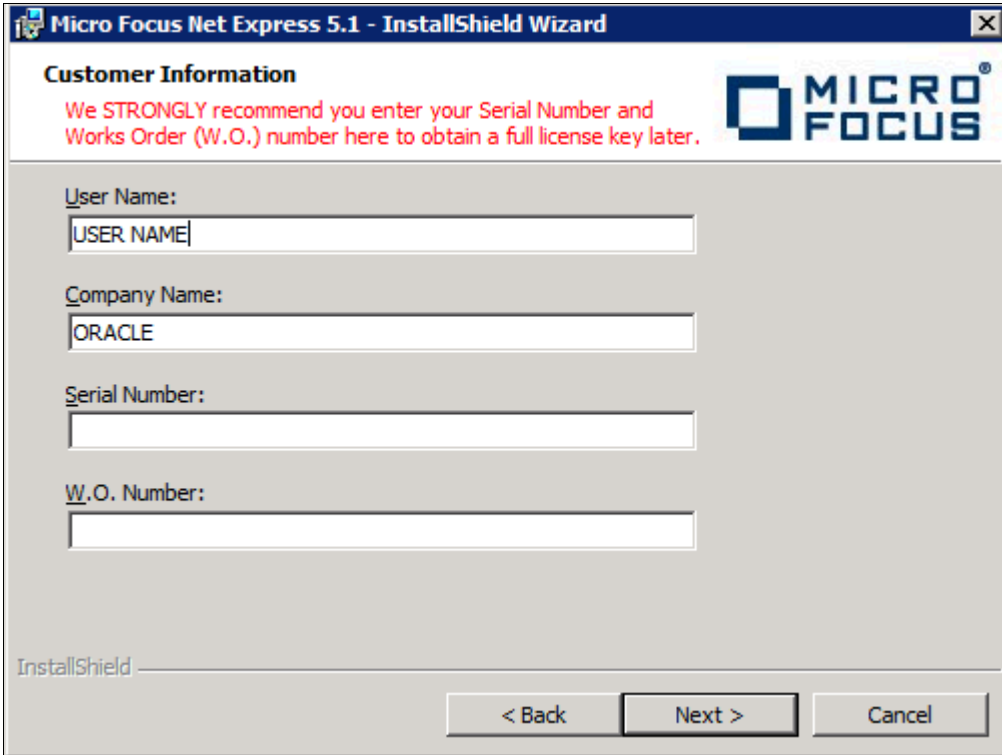


License Agreement window for Micro Focus Express

4. Complete the Customer Information window:
 - a. Enter your name in the User Name field, and enter your Company Name.
In the example shown below, the user name is USER NAME, and the Company Name is ORACLE.
 - b. Leave the Serial Number and W.O. Number fields blank. Oracle does not provide these numbers to you and they are not required.

Note. The message at the top of the window reads "We STRONGLY recommend you enter your Serial Number and Works Order (W.O.) number here. You will need them later to obtain a full license key." The example here leaves these fields blank.

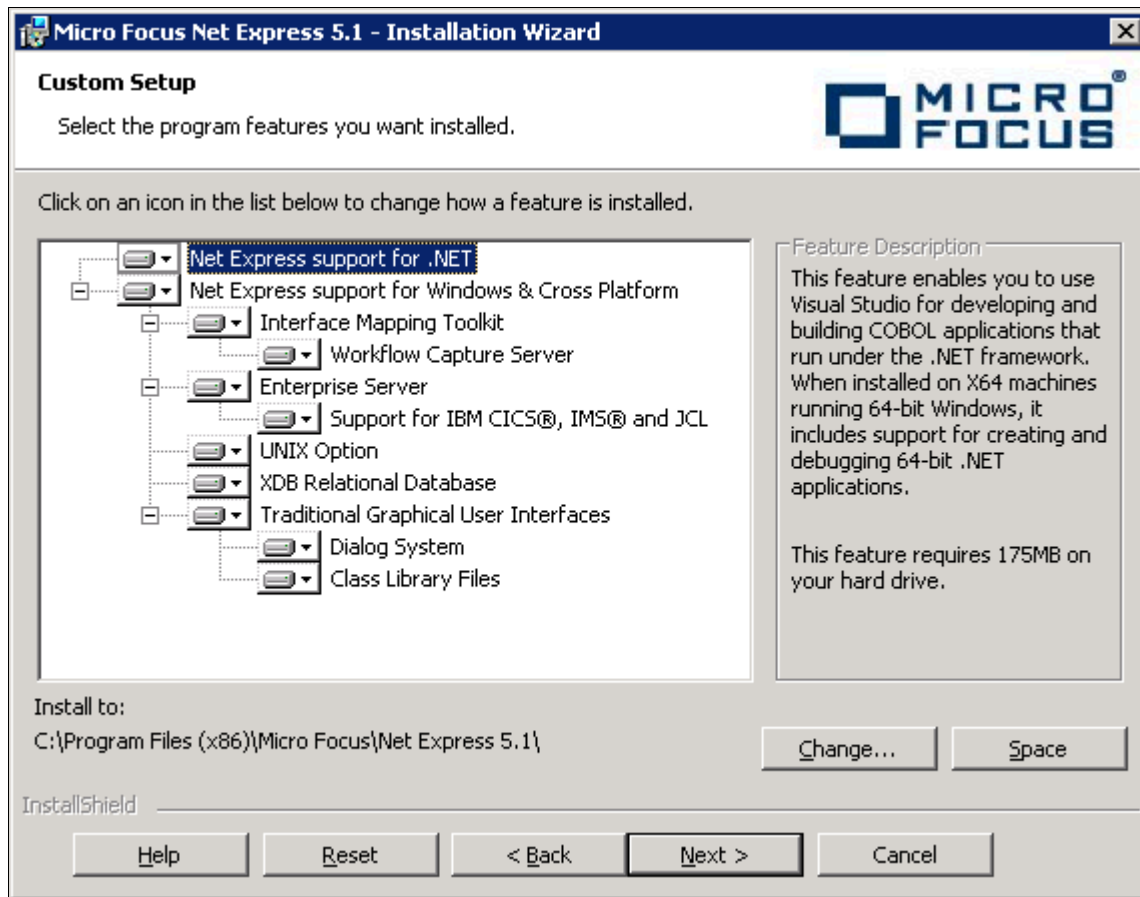
c. Click Next.



The screenshot shows a Windows installation wizard window titled "Micro Focus Net Express 5.1 - InstallShield Wizard". The window has a blue header bar with the title and a close button. Below the header, the text "Customer Information" is displayed in bold. A red message reads: "We STRONGLY recommend you enter your Serial Number and Works Order (W.O.) number here to obtain a full license key later." To the right of this message is the Micro Focus logo. The main area of the window contains four text input fields: "User Name:" with the placeholder text "USER NAME", "Company Name:" with the text "ORACLE", "Serial Number:", and "W.O. Number:". At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted with a black border. The text "InstallShield" is visible in the bottom left corner of the window's content area.

Customer Information window

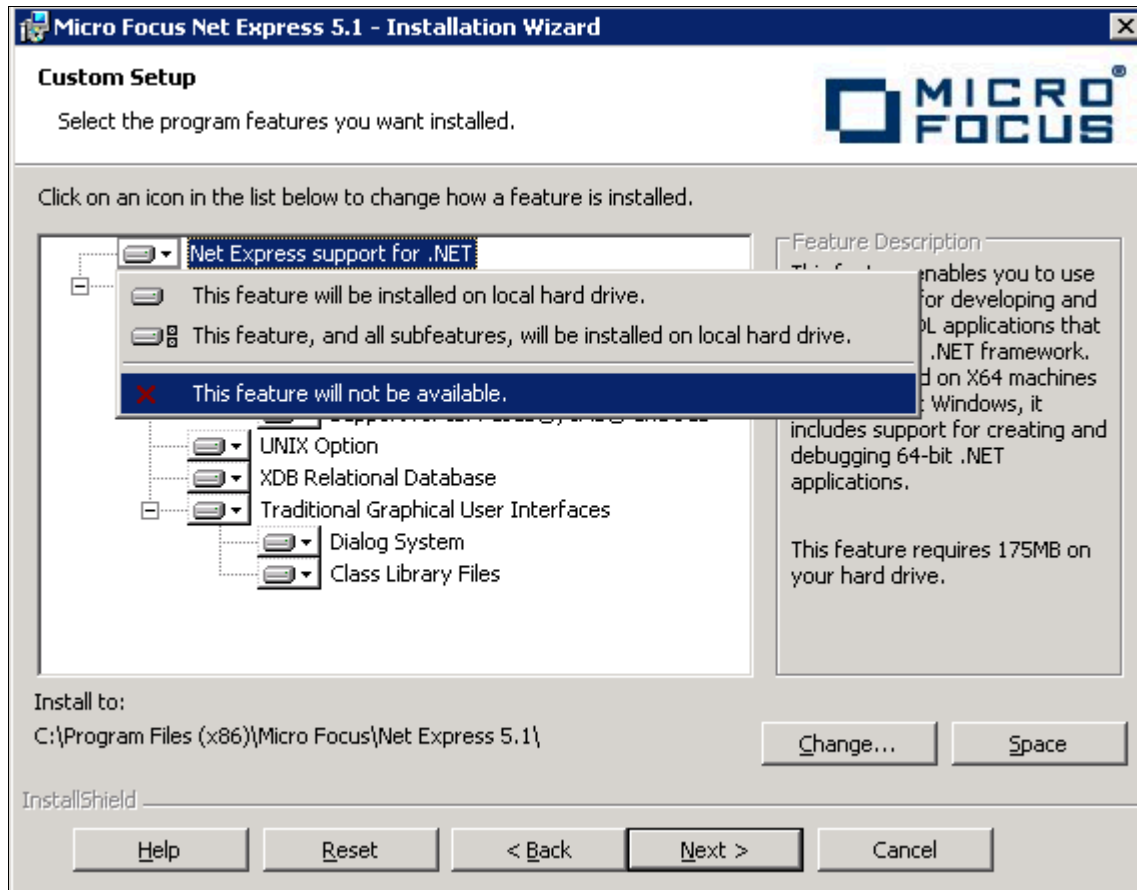
5. The Custom Setup window appears as in this example, with all of the options selected initially:



Custom Setup window before selecting features

6. You must clear several features on the Custom Setup window before proceeding.

You can turn off a feature by clicking on the drop-down button beside the feature and selecting the option "X This feature will not be available," as shown in this example:



Custom Setup window displaying selection and deselection options

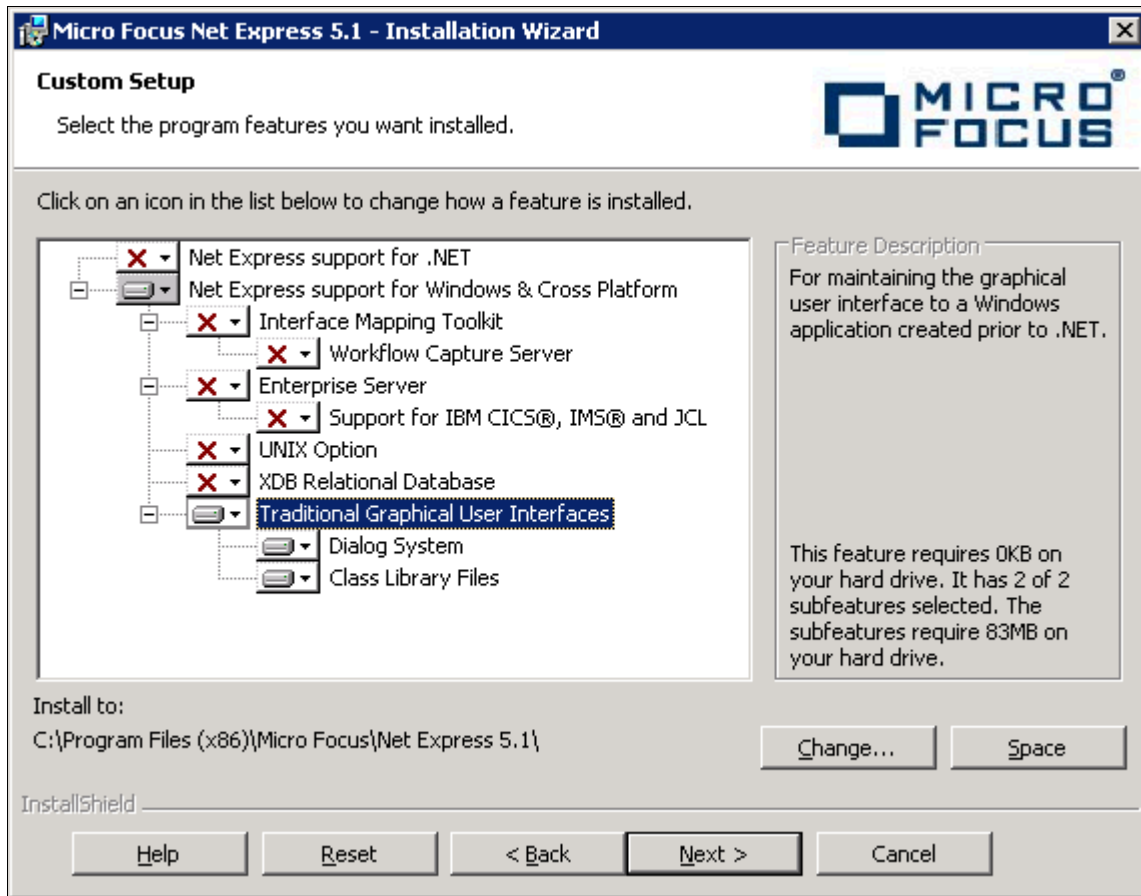
The Traditional Graphical User Interfaces feature is the only feature required for the PeopleSoft installation. (The Traditional Graphical User Interfaces feature also includes Dialog System and Class Library Files.) Clear the following features:

- Net Express support for .NET

Note. Microsoft .NET framework is not required for compiling and running COBOL applications in PeopleSoft architecture. Neither is .NET required for successful installation of MicroFocus Net Express 5.1.

- Interface Mapping Toolkit
When you clear this feature, the Workflow Capture Server option is automatically cleared also.
- Enterprise Server
- UNIX Option
- XDB Relational Database

7. Verify that your final selection matches this example, with only Traditional Graphical User Interfaces, Dialog System, and Class Library Files, selected:



Custom Setup window with options selected for PeopleSoft applications

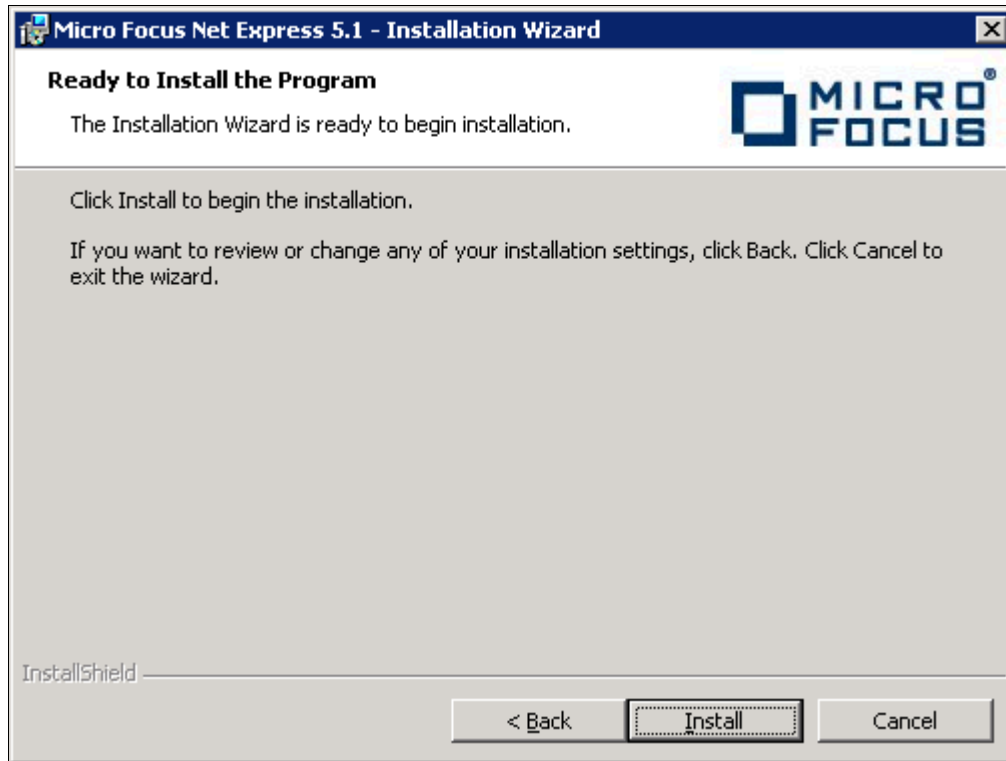
8. Highlight Traditional Graphical User Interfaces.

The installation directory is listed below the feature list. If you want to install to another location, click Change. If not, click Next.

This documentation refers to the installation directory as *NE_HOME*. The Micro Focus Net Express 5.1 default installation directory, for 64-bit systems, is:

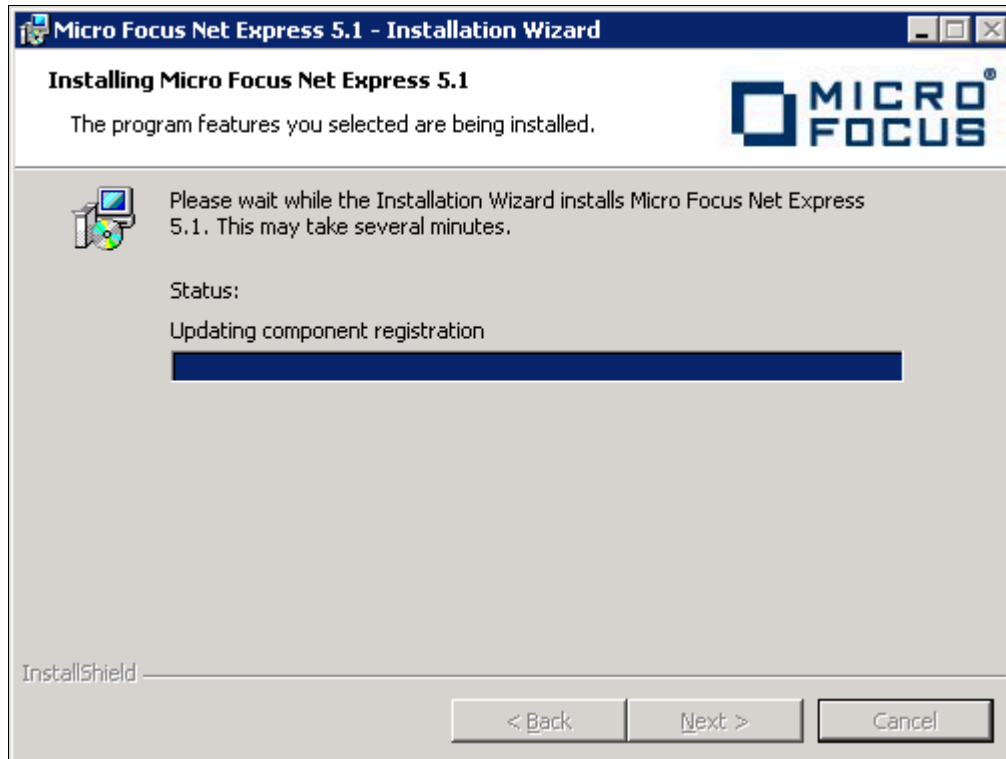
C:\Program Files (x86)\Micro Focus\Net Express 5.1

9. Click Install.



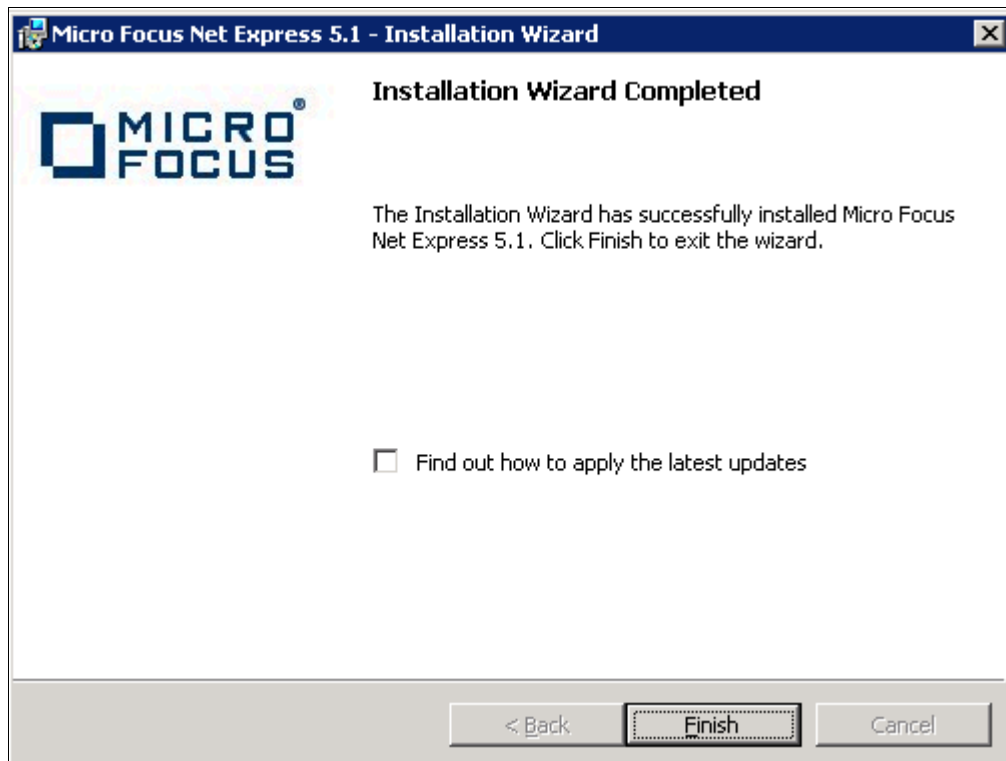
Micro Focus Net Express Installation window: Ready to Install the Program

The installation status window appears, tracking the installation progress.



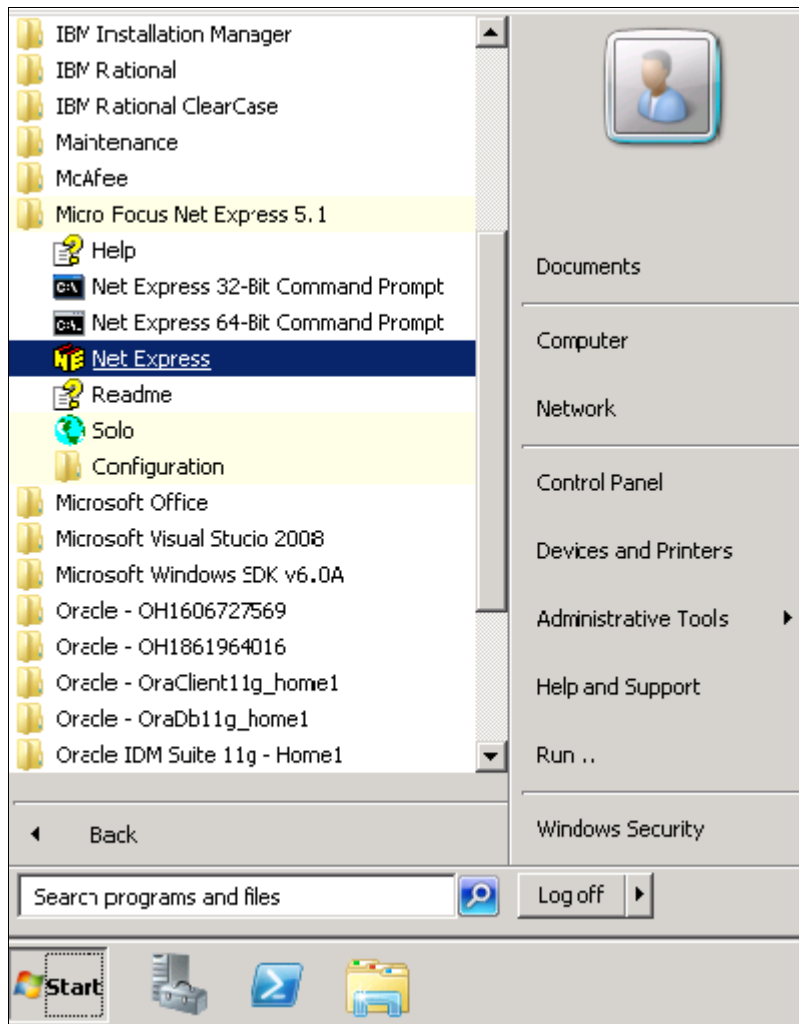
Installation status for the Micro Focus Net Express Installation

10. Click Finish.



Installation Wizard Completed window

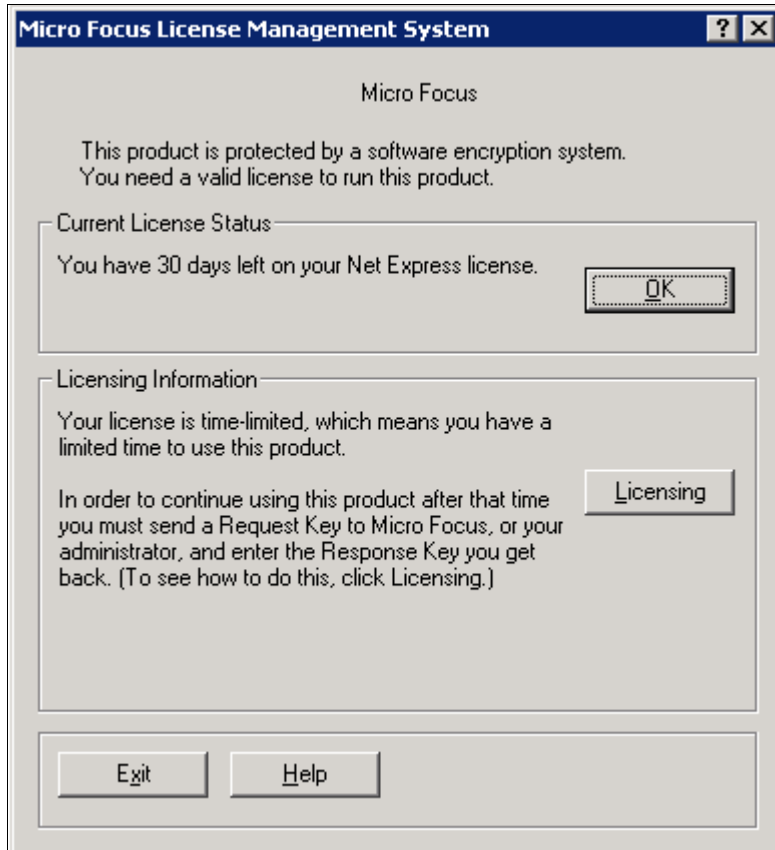
11. To confirm the installation, select Start, All Programs, Micro Focus Net Express 5.1, Net Express.



Selecting Micro Focus Net Express from the Microsoft Windows Start menu

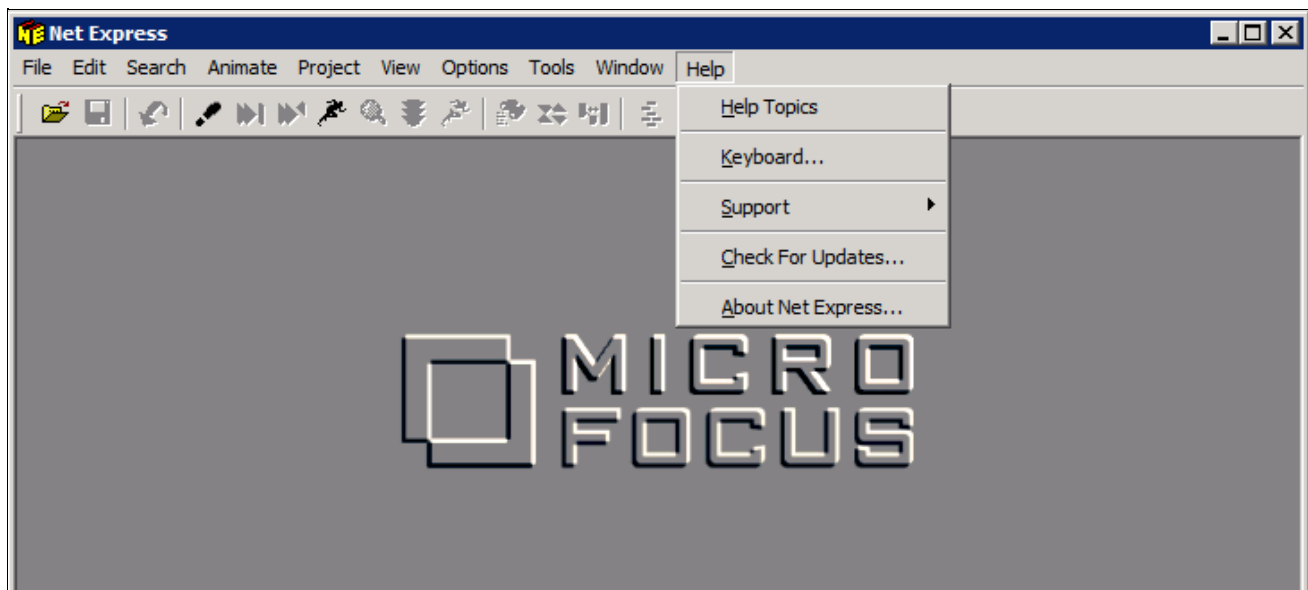
The Net Express Integrated Development Environment (IDE) appears.

12. On the Micro Focus Management System dialog box, read the information under Current License Status, indicating that there is a 30-day license for the compiler that you installed.



Micro Focus License Management System dialog box

13. Click Help, About Net Express.

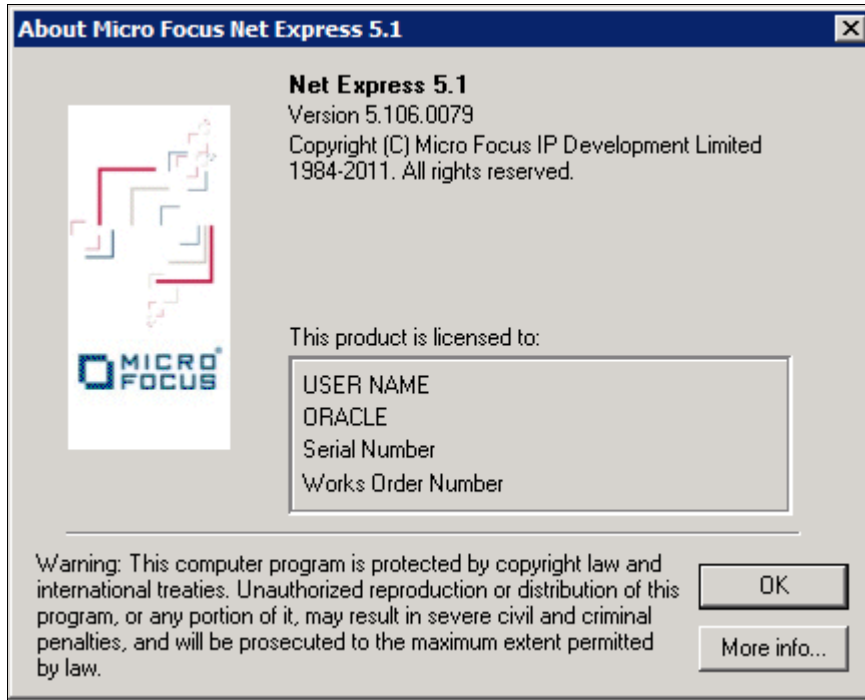


Micro Focus Net Express Integrated Development Environment Help menu

14. Verify that the following information is included on the message box that appears:

Net Express 5.1

Version: 5.106.0079



About Micro Focus Net Express window with version number

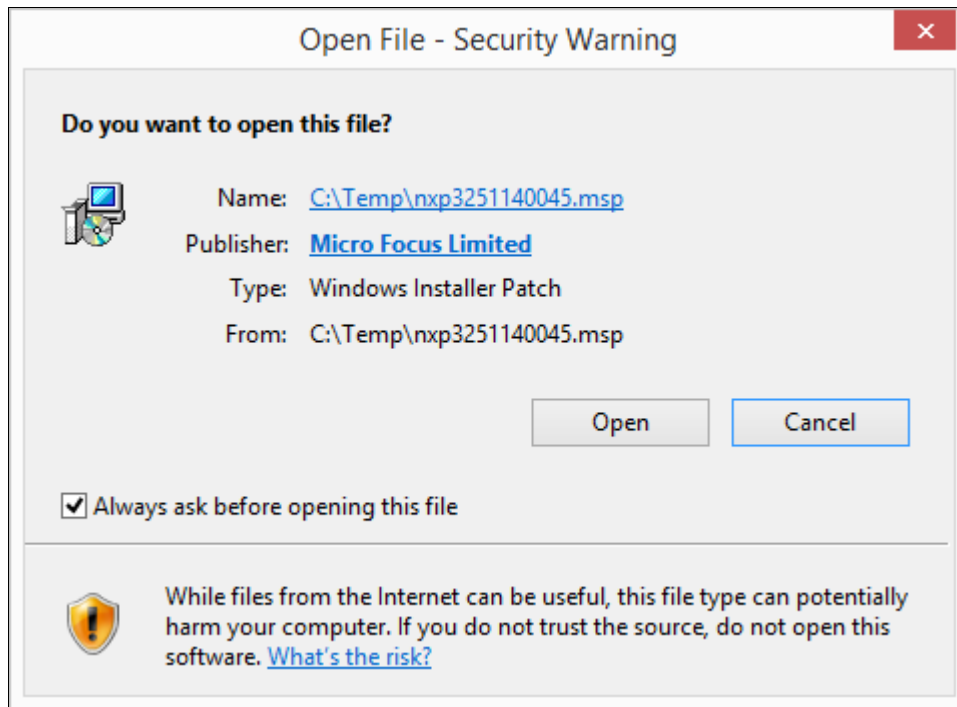
Task 13A-2-3: Installing Micro Focus Net Express Wrap Pack 14

The following procedure assumes that you saved the installation files from Oracle Software Delivery Cloud in the directory *NE_INSTALL*, and that Micro Focus Net Express Wrap Pack 6 or later is installed.

To update to Micro Focus Net Express Wrap Pack 14:

1. Double-click *NE_INSTALL\nxp3251140045.msp*.

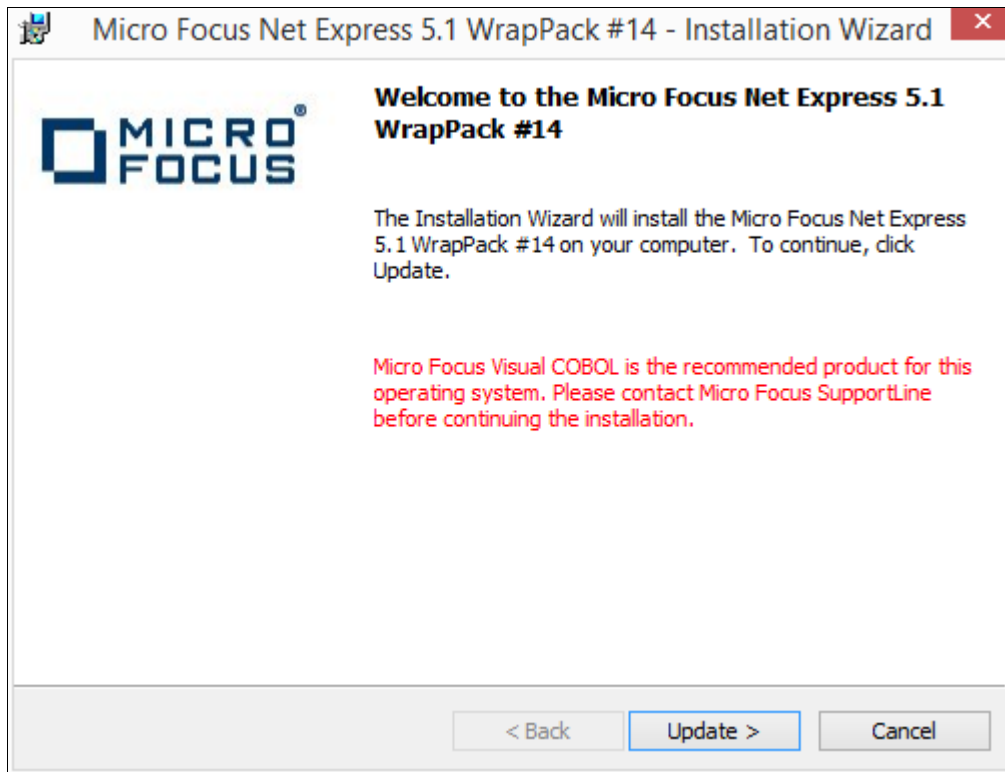
If a security screen appears, as in this example, click Open to launch the installer.



Open File - Security Warning dialog box

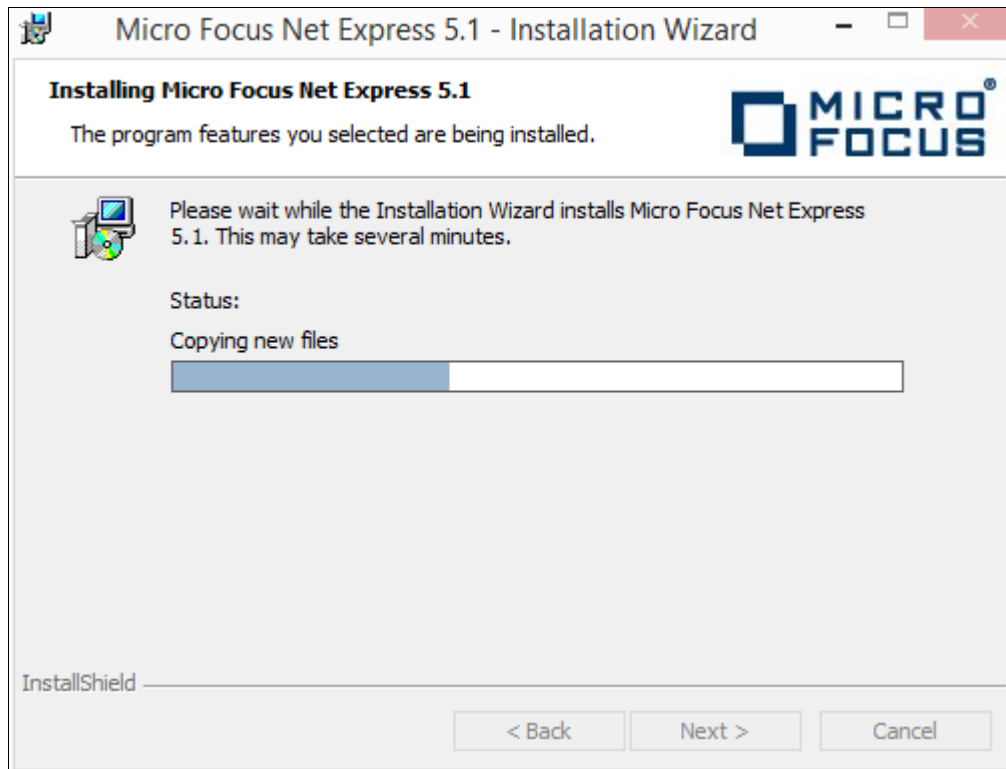
A Welcome window appears.

2. Click Update to continue, as in this example:



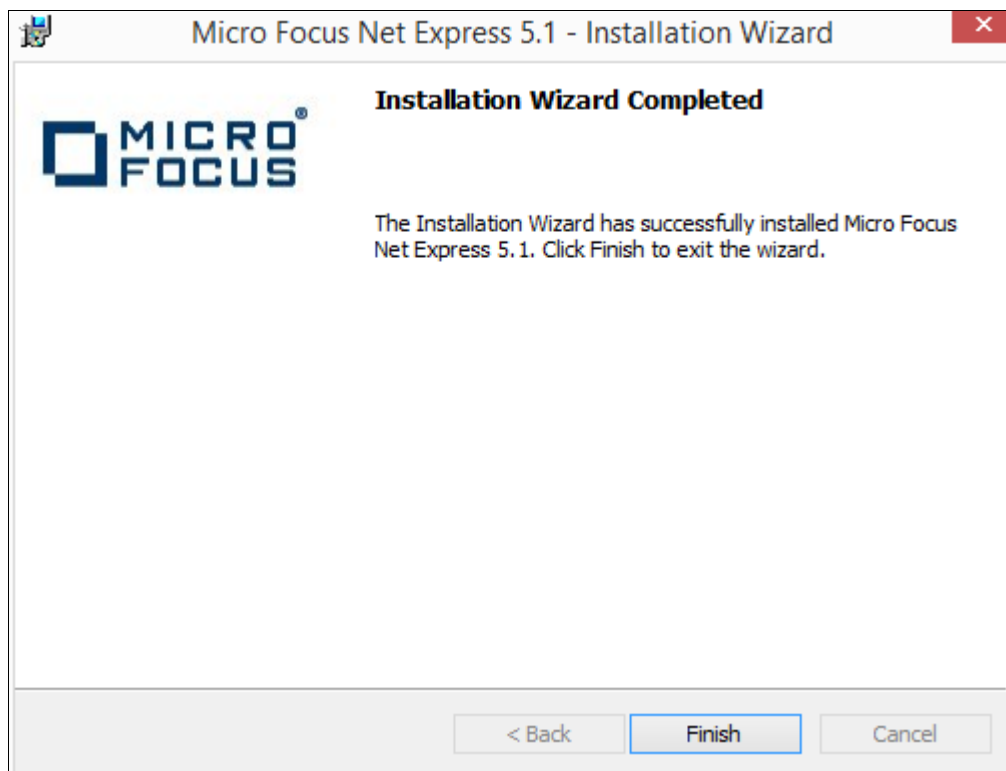
Welcome to the Micro Focus Net Express 5.1 WrapPack #14 window

You see a window indicating the progress of the installation.



Micro Focus Net Express 5.1 Installation Wizard progress indicator

3. After the installation is complete, click Finish on the completion window, as in this example:



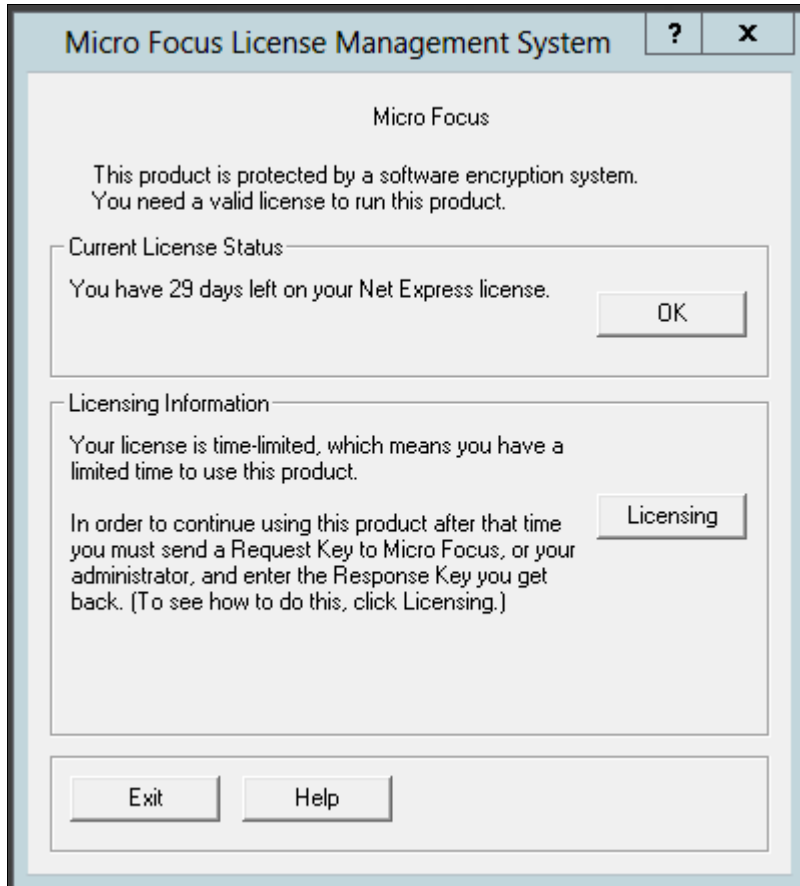
Installation Wizard Completed window

- To verify the installation, select Start, All Programs, Micro Focus Net Express 5.1, Net Express.
Alternatively, you can run *NE_HOME*\Base\Bin\MFNETX.EXE, where *NE_HOME* refers to the directory where you installed Micro Focus Net Express, such as C:\Program Files\Micro Focus.

The Micro Focus Net Express 5.1 Integrated Development Environment (IDE) opens.

- On the Micro Focus License Management System dialog box, read the information under Current License Status.

In this example, the current license status indicates 29 days remaining on the license. Click OK.



Micro Focus License Management System dialog box

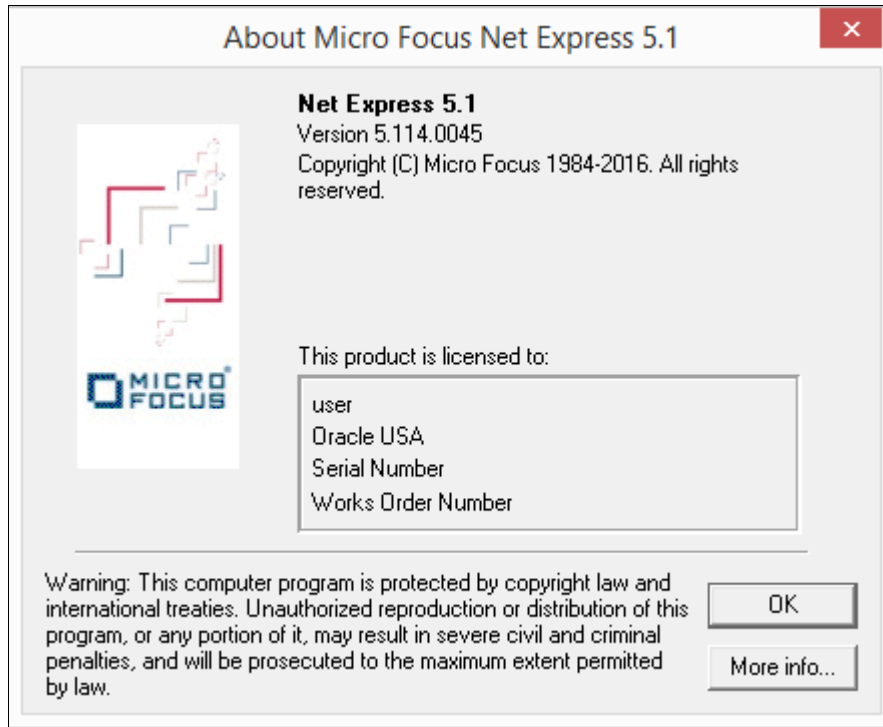
- Click Continue on the Welcome to Micro Focus Net Express window.

7. Select Help, About Net Express.

Verify that the following information is included on the message box that appears:

Net Express 5.1

Version 5.114.0045



About Micro Focus Net Express 5.1 message box

Task 13A-3: Managing Micro Focus Net Express Compiler Licenses

This section discusses:

- Understanding Micro Focus Net Express Compiler Licenses
- Configuring a Full License with the License Server
- Configuring a Timed License with the License Server
- Revoking the License Using the License Management System
- Revoking the License by Removing the Installation

Understanding Micro Focus Net Express Compiler Licenses

The Micro Focus Net Express 5.1 Wrap Pack 14 compiler can be licensed with a Micro Focus License Server or with the Request Key/Response Key mechanism. This section discusses the License Server method, which Oracle recommends because it is more flexible and licensing is immediate. For more details, see the Micro Focus documentation.

There are two types of Micro Focus Net Express licenses. Here is a brief comparison:

- Timed License
 - Timed Licenses expire after the specified duration and can be renewed over the network.
 - Timed Licenses are the default given by the license server.
 - There are two types of Timed Licenses; one is valid for seven days, and other for one day.
- Full License
 - Full Licenses do not expire.
 - The user can request and revoke Full Licenses using the License Management System.

It is a good idea to use Timed Licenses, unless you have a compelling demand. Mostly developers who work with COBOL on a daily basis should use a Full License. If you require COBOL for a few compiles, and only for some days, use a Timed License. When the Timed License expires, you can renew it again.

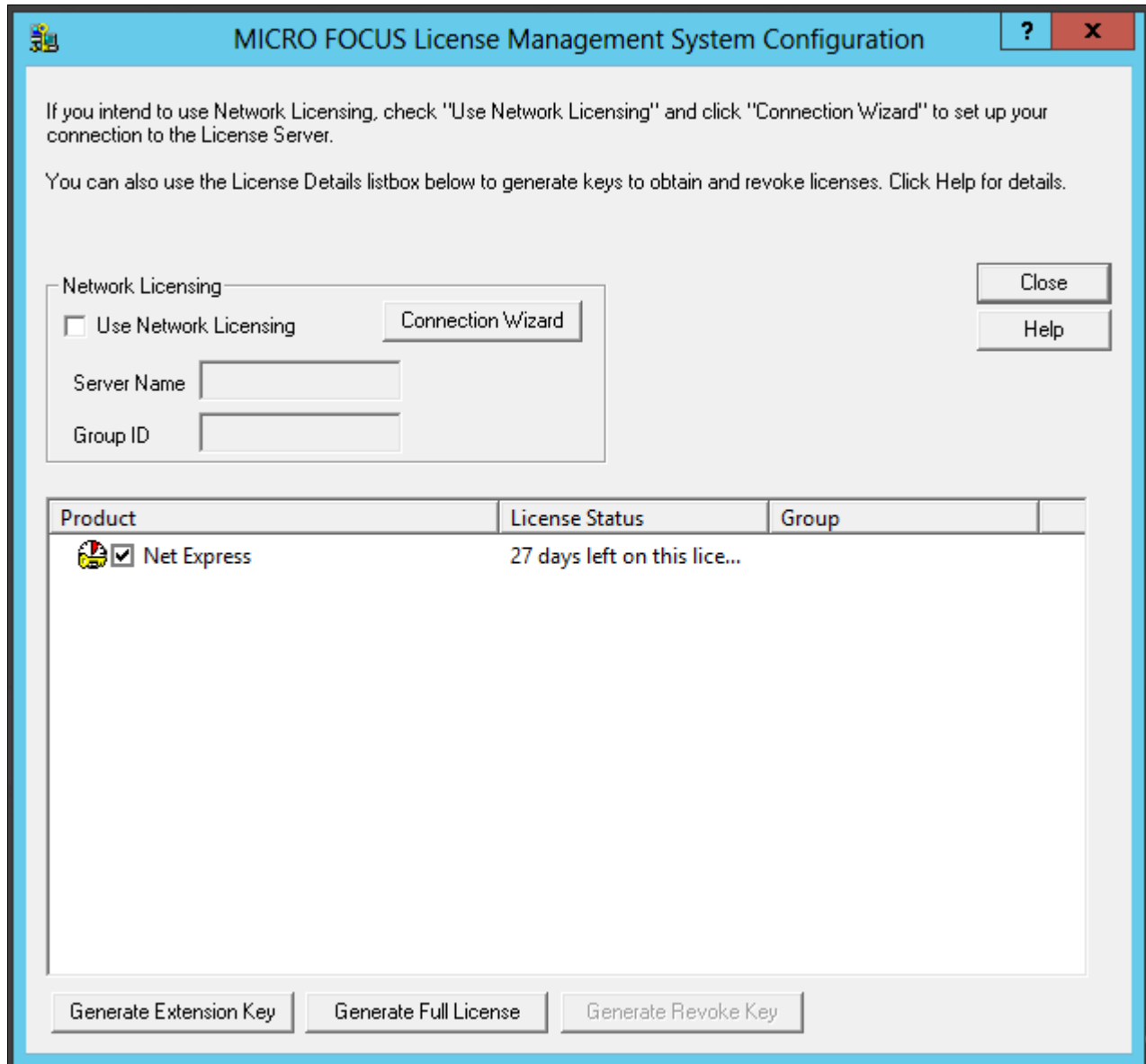
Task 13A-3-1: Configuring a Full License with the License Server

To configure a Full License for permanent use:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.

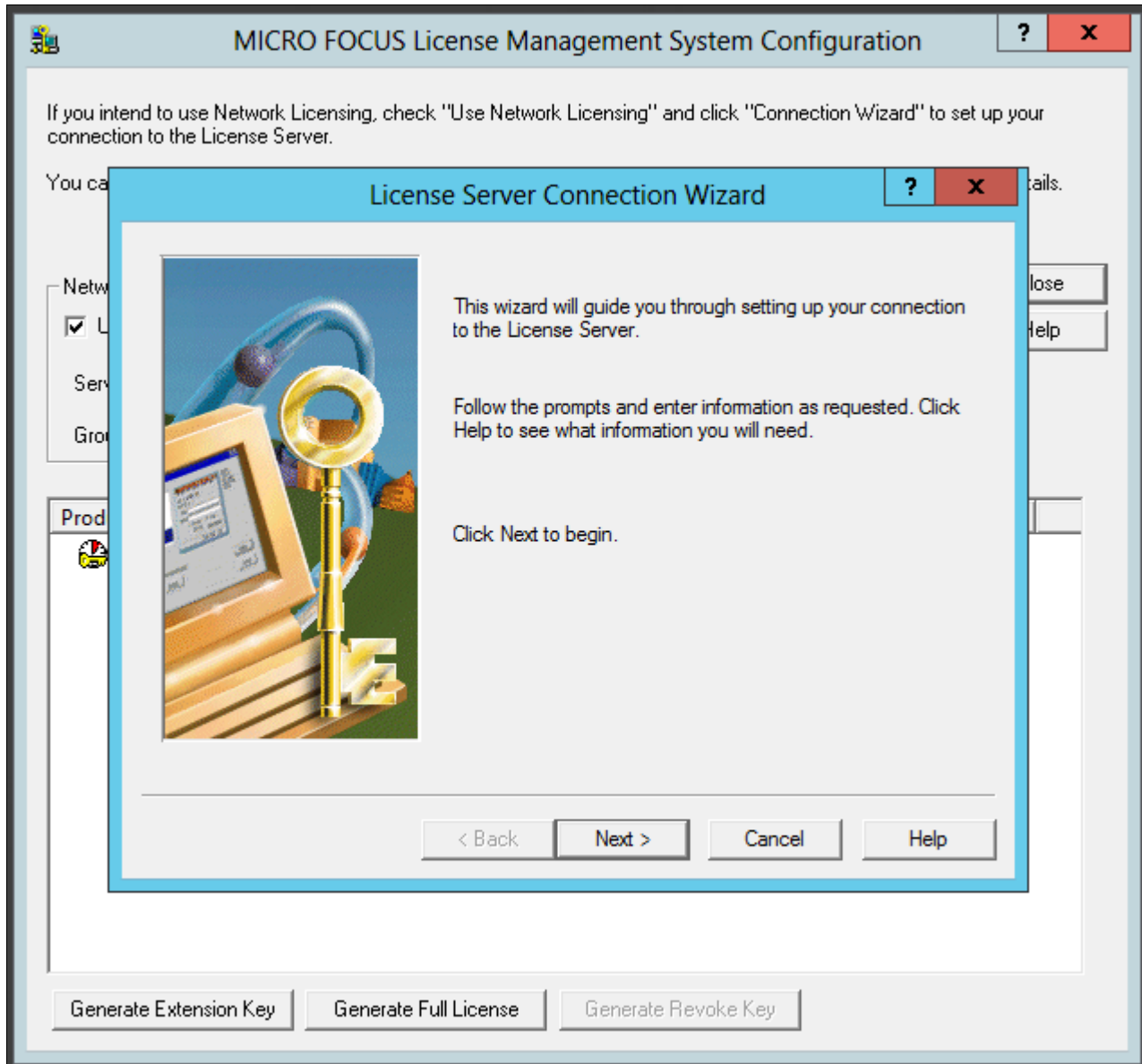
Note. Alternatively, run `NE_HOME\Bin\protcfg.exe`, where `NE_HOME` is the directory where you installed Micro Focus Net Express.

2. Select the option Use Network Licensing, and click Connection Wizard, as shown in this example:



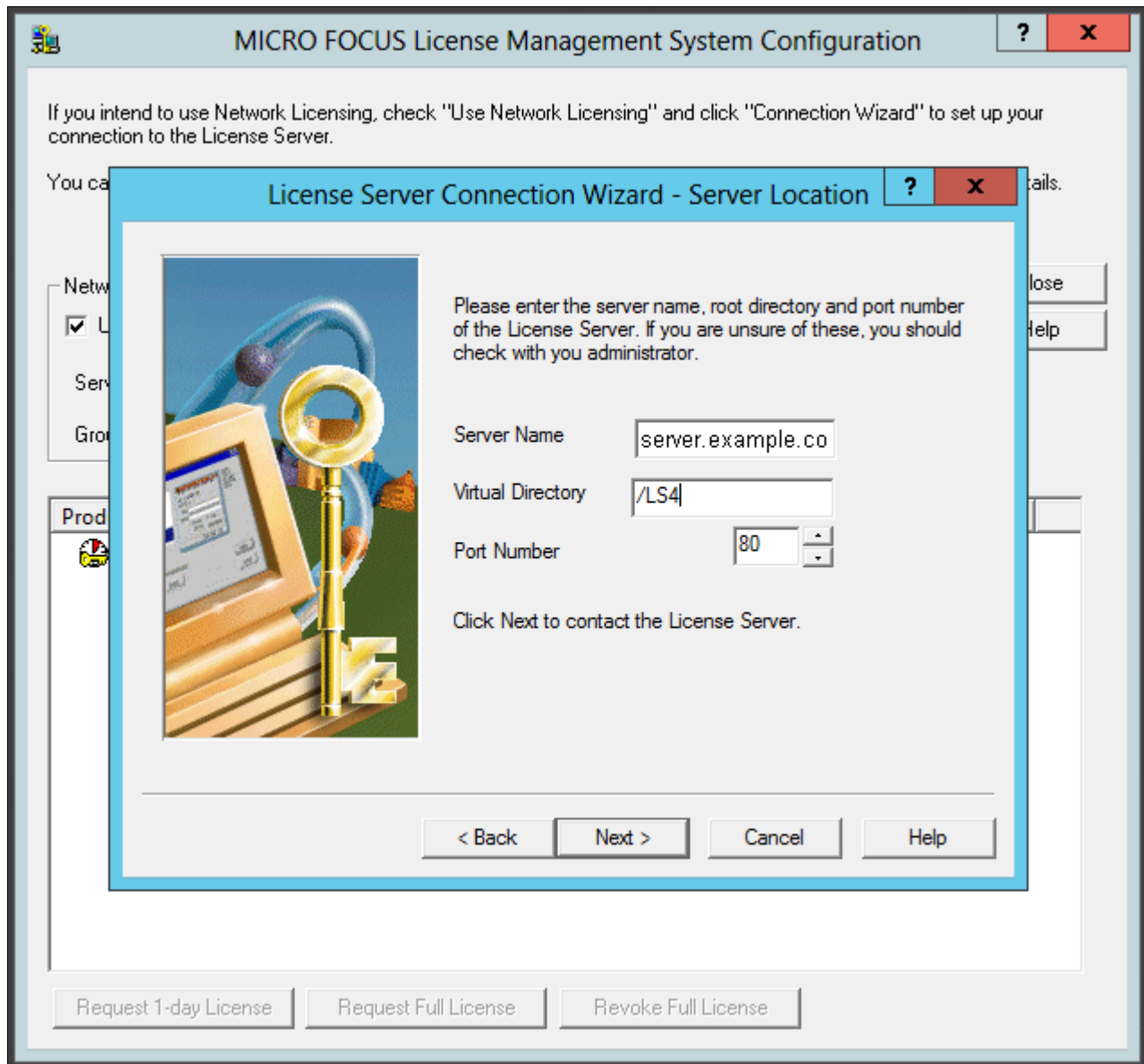
MICRO FOCUS License Management System Configuration window

3. Click Next on the License Server Connection Wizard window, shown in this example:



License Server Connection Wizard window

4. Enter information for the server location, and then click Next.

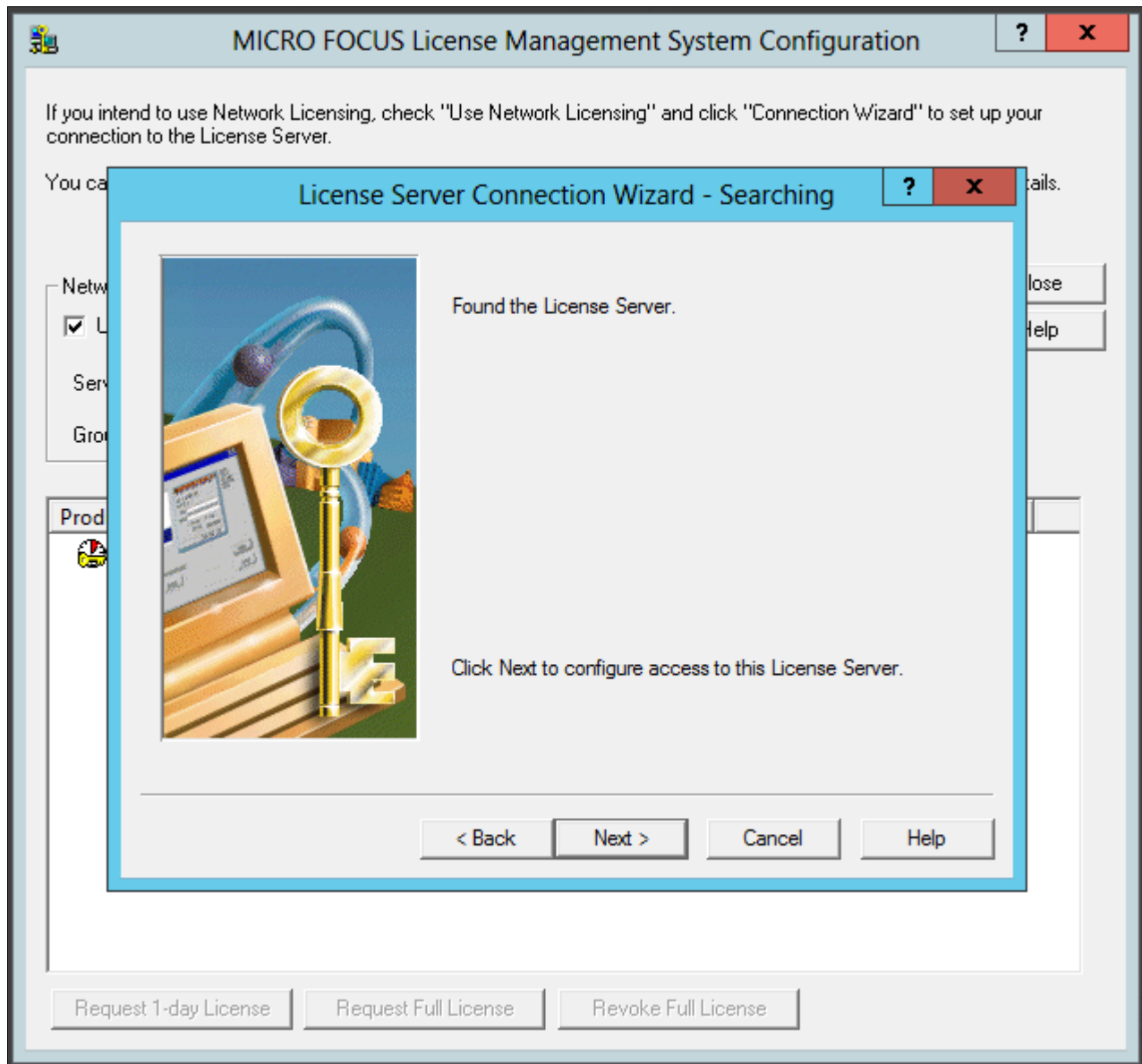


License Server Connection Wizard - Server Location window

- Server Name—Enter the name of the license server; for example, server.example.com.
- Virtual Directory; for example, /LS4.
- Port Number—The default is 80, as shown in the example. Select a port that is not in use by another application.

- 5. You see a message saying the wizard found the server, as in this example.

Click Next.

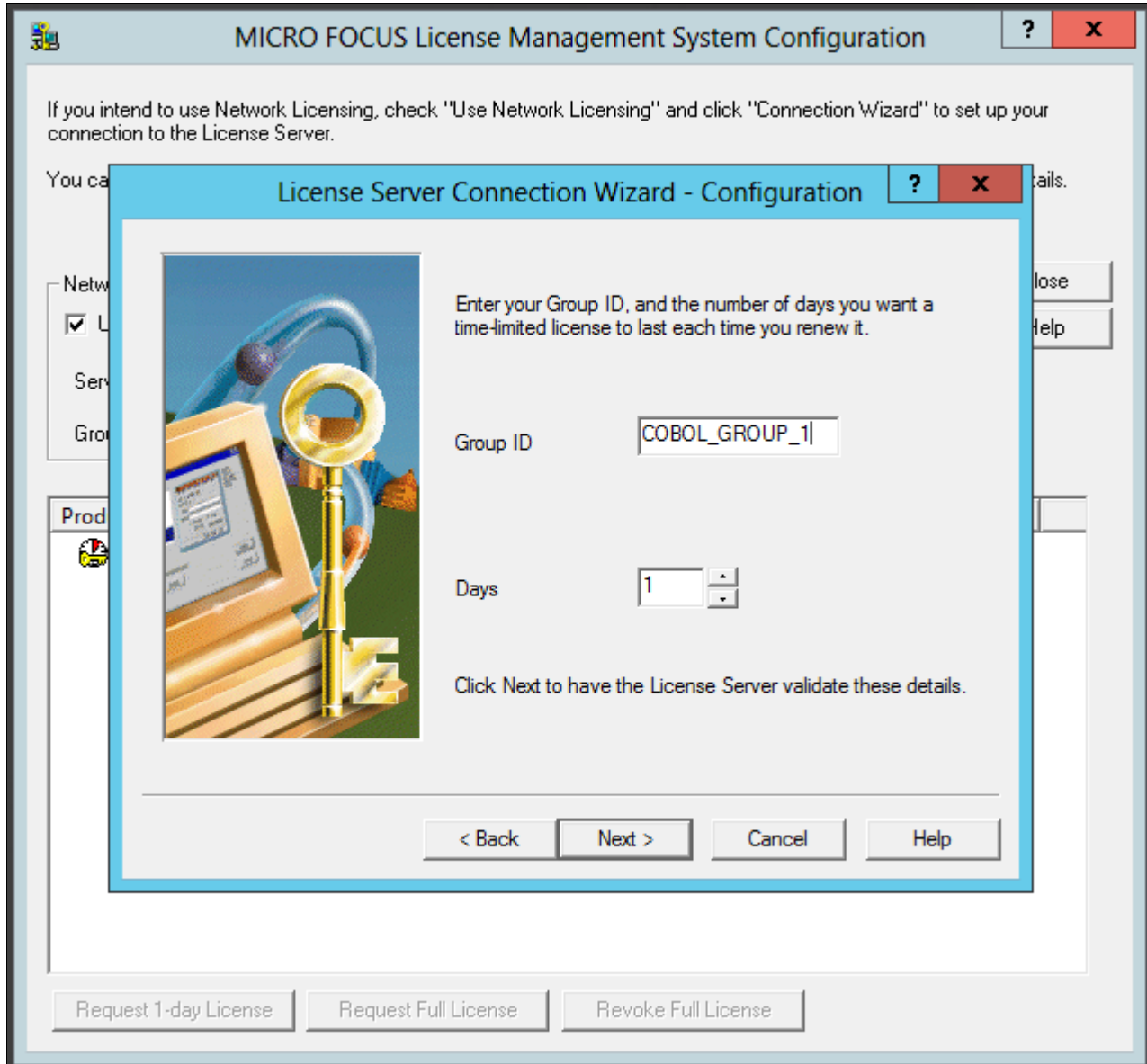


License Server Connection Wizard - Searching window

6. Enter your group ID, which is `COBOL_GROUP_1` in this example, and 1 for the number of days before you have to renew the license.

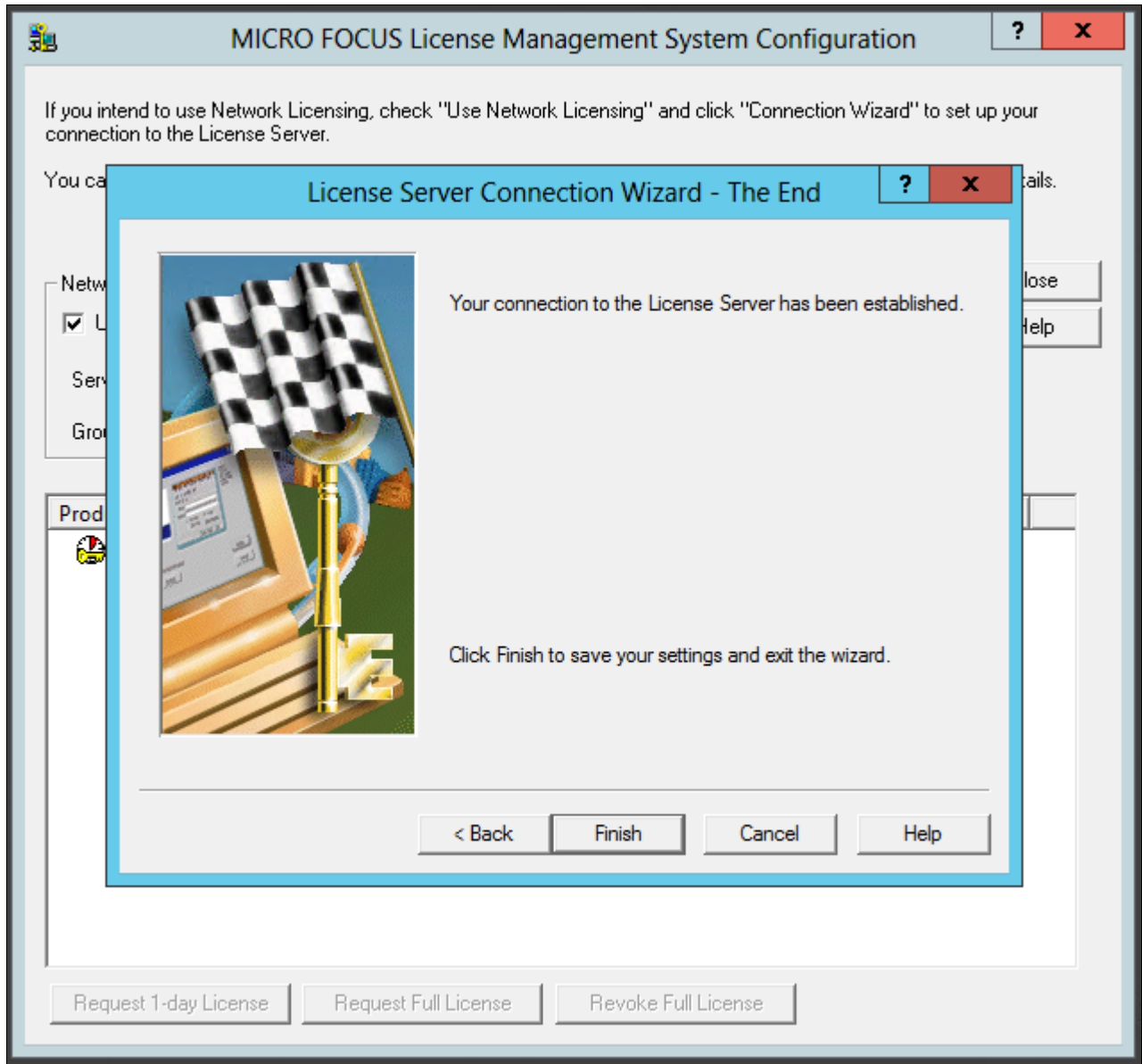
Note. Although you enter one day here, you complete a step later that requests permanent license status.

Click Next.



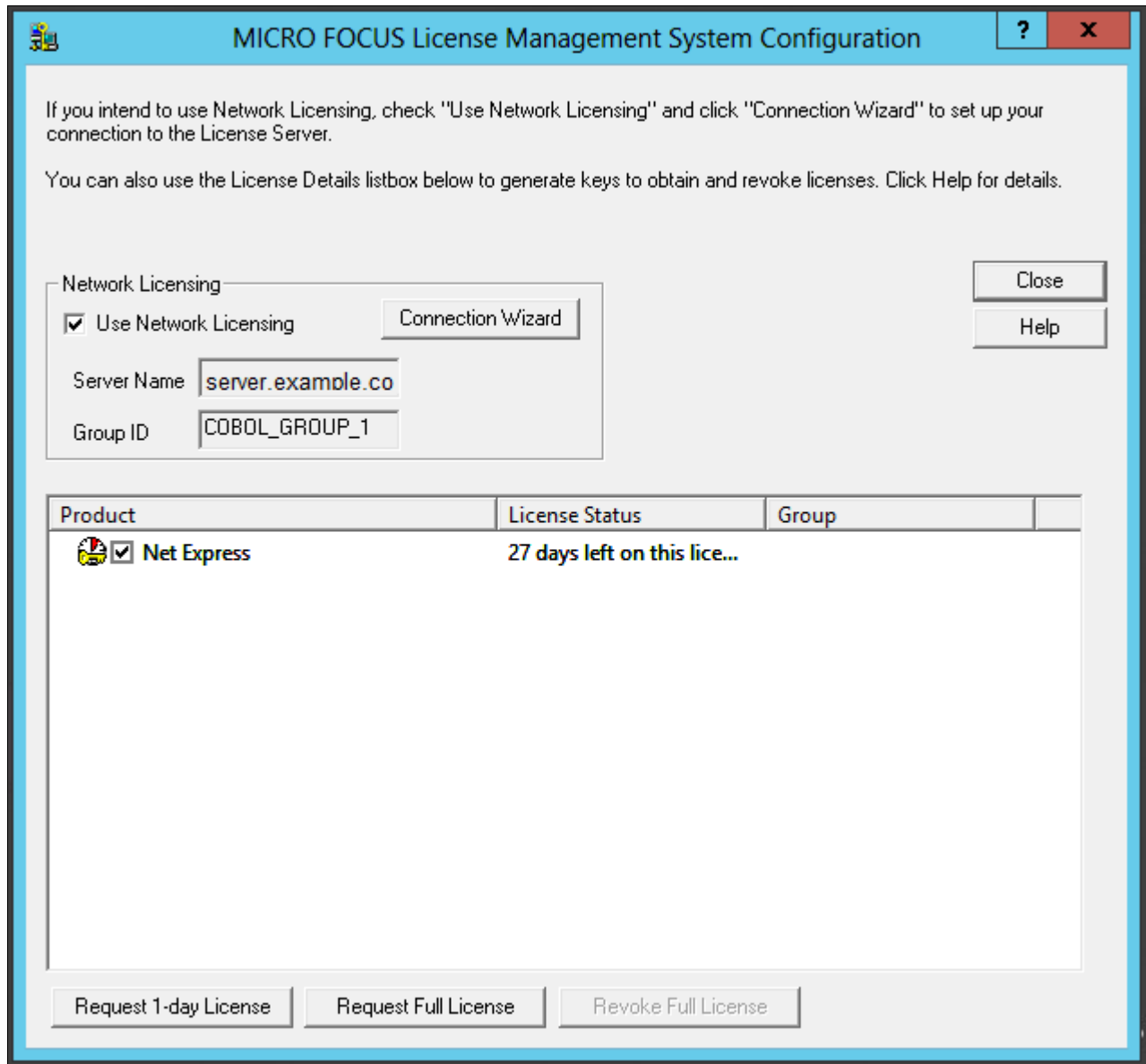
License Server Connection Wizard - Configuration window

7. Click Finish to exit the wizard, as shown in this example:



License Server Connection Wizard - The End window

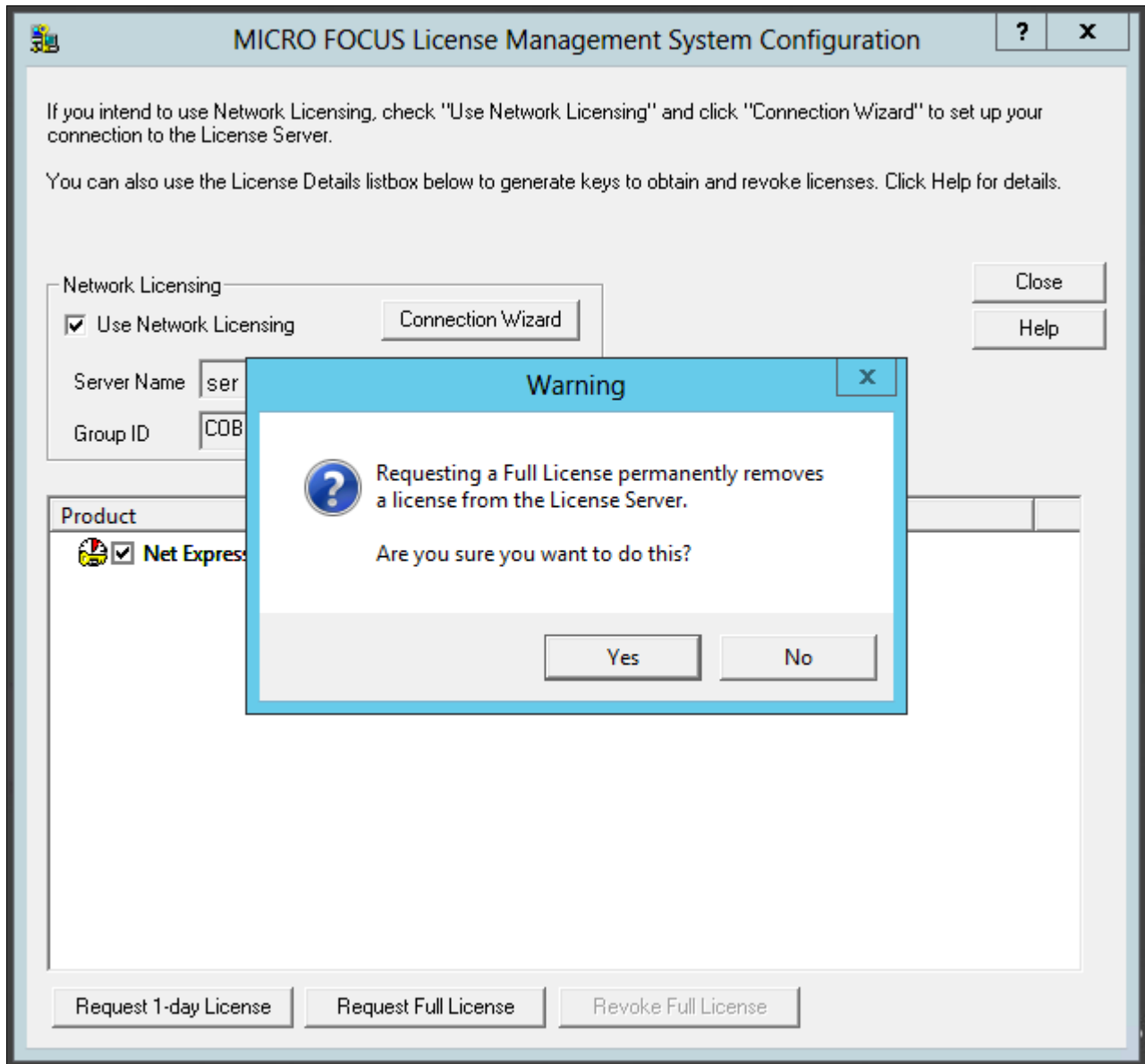
8. In the details list on the MICRO FOCUS License Management System Configuration dialog box, select the check box for Net Express, and then click Request Full License, as shown in this example:



MICRO FOCUS License Management System Configuration window

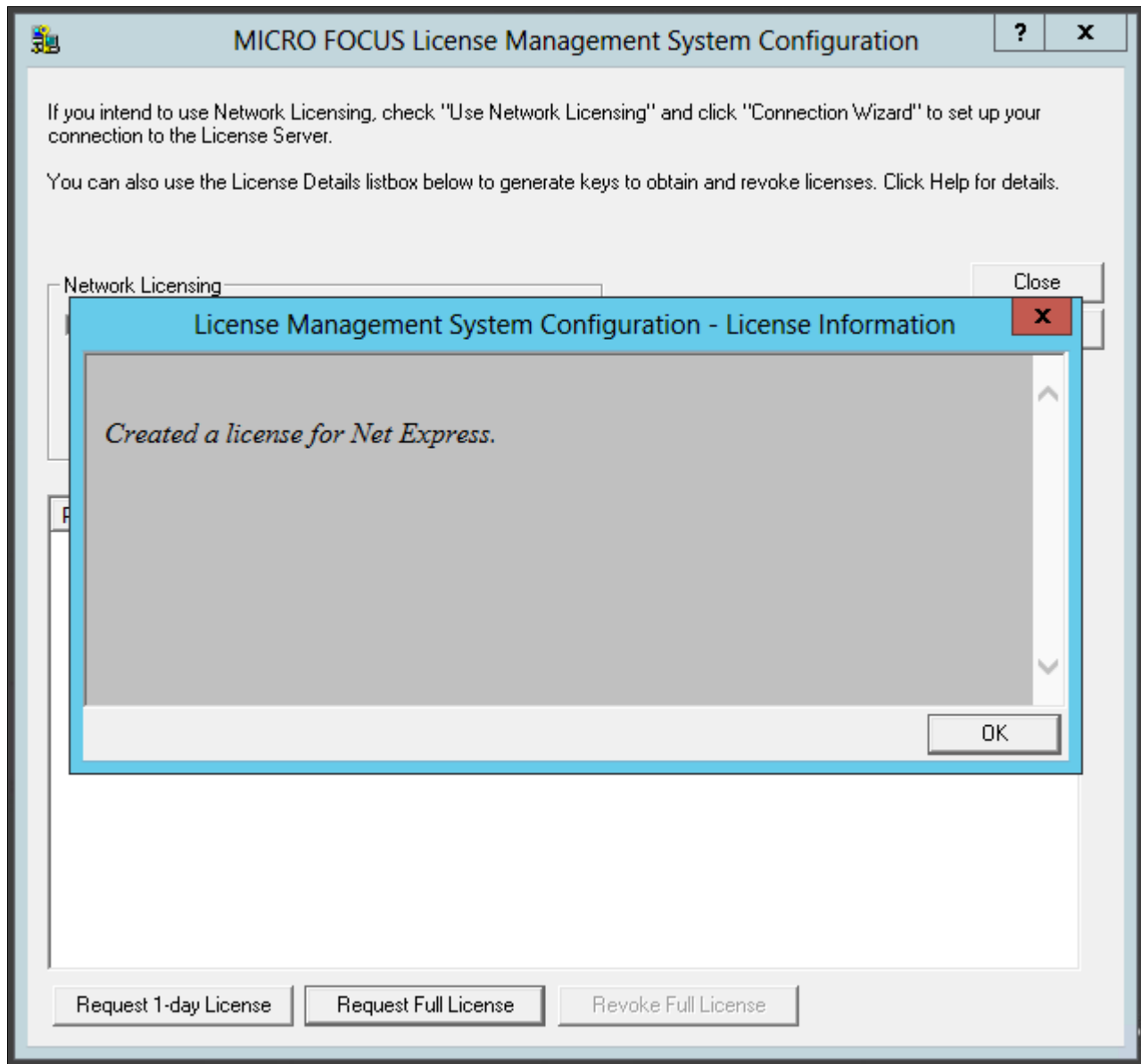
- 9. Click Yes to confirm that you want to request a full license, as shown in this example.

The warning message says that requesting a full license permanently removes a license from the license server.



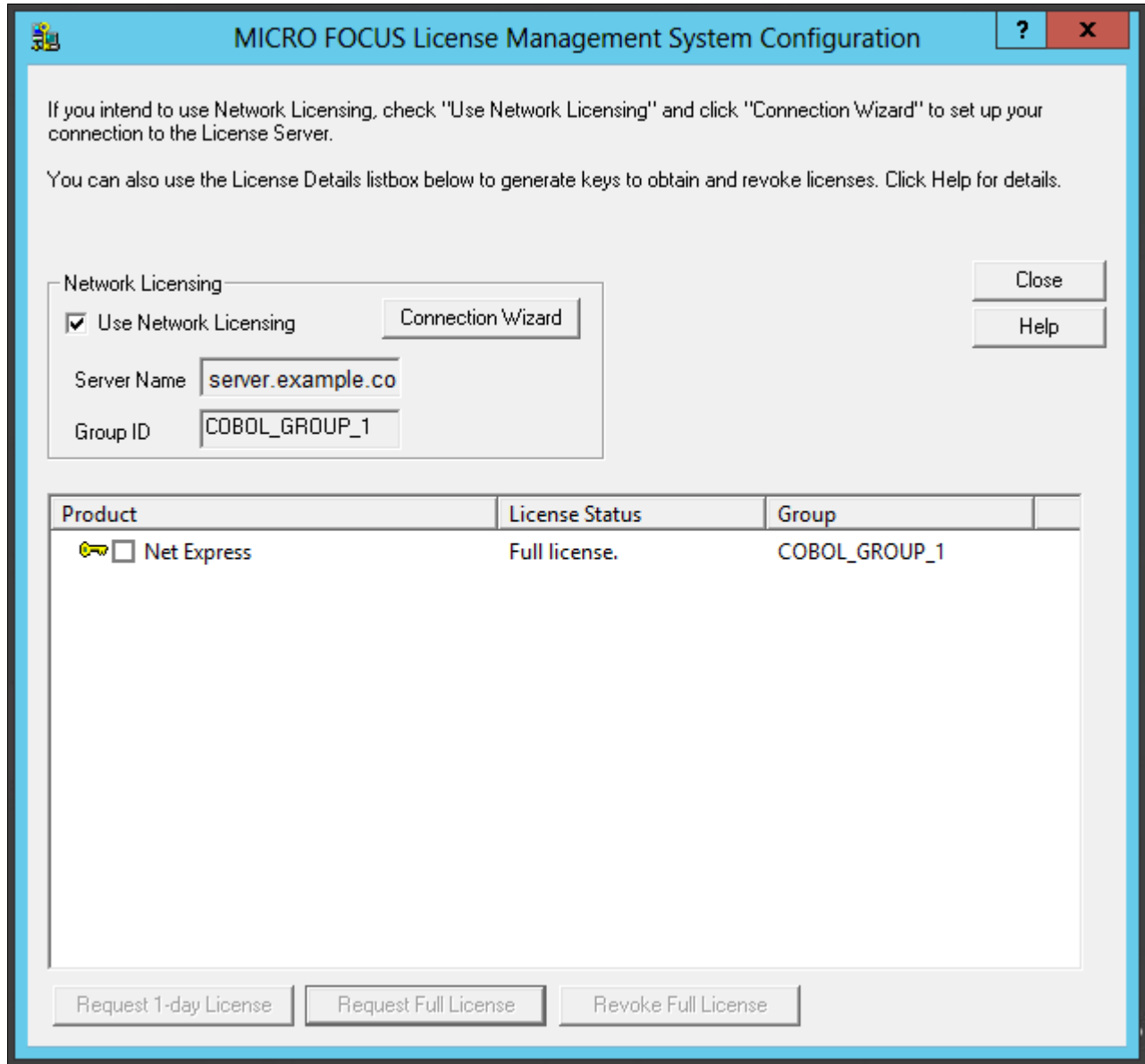
Warning message box when requesting a Full License

10. Click OK on the License Information dialog box.



License Management System Configuration - License Information window

11. Verify that the License Status for Net Express has changed to Full License, as shown in this example, and click Close.



MICRO FOCUS License Management System Configuration window with Full License status

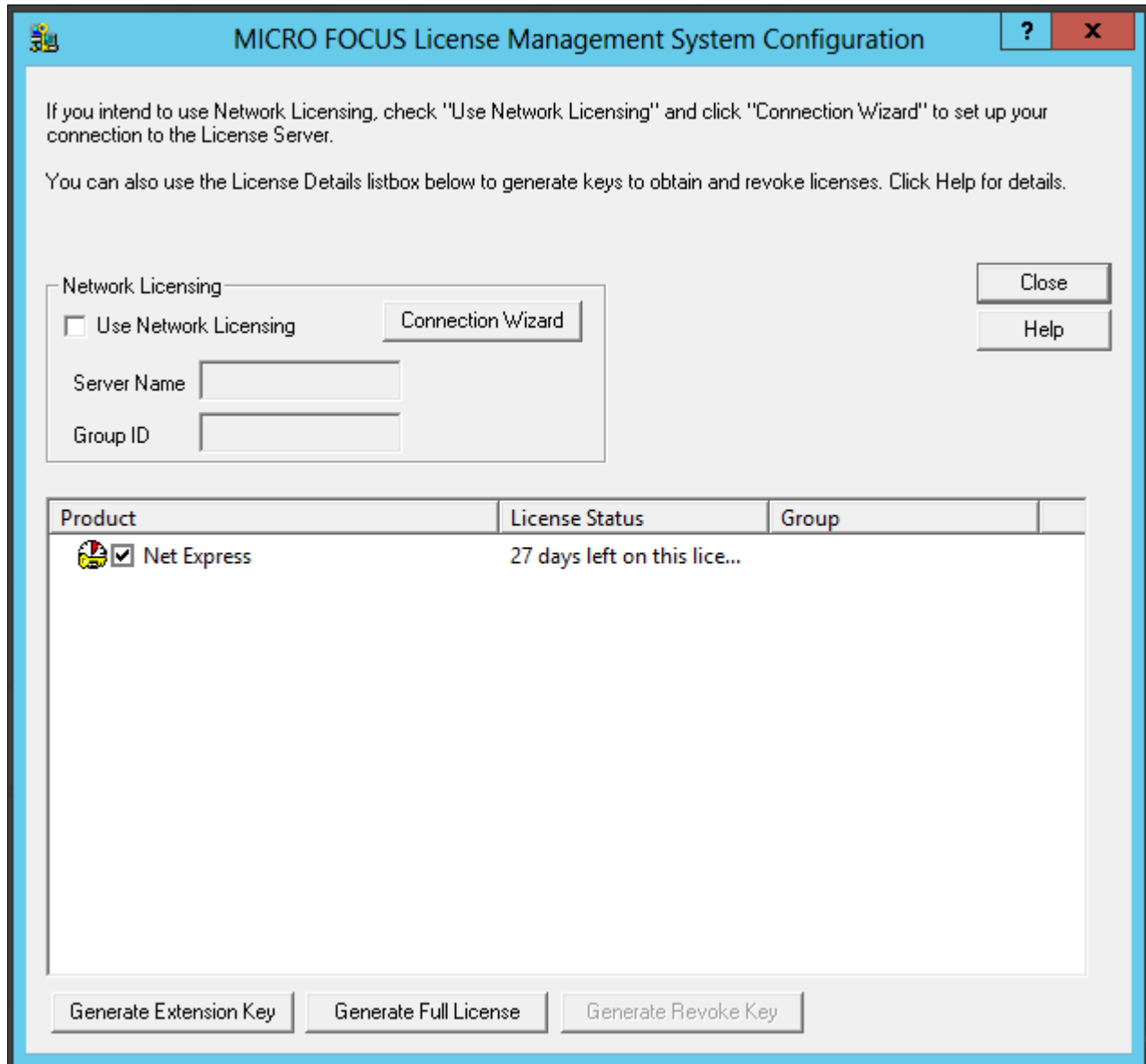
Task 13A-3-2: Configuring a Timed License with the License Server

To configure a Timed License for temporary use:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.

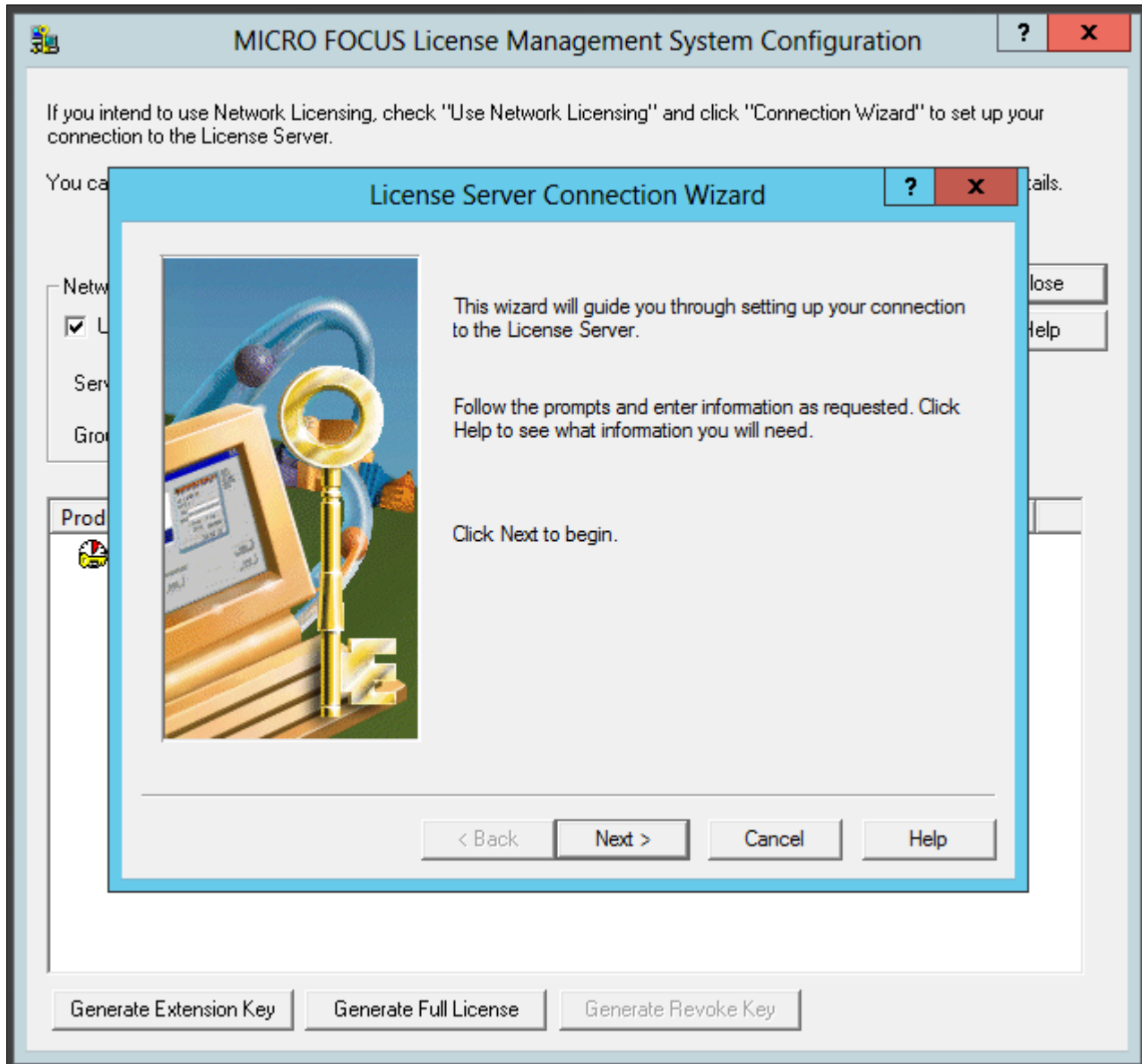
Note. Alternatively, run `NE_HOME\Bin\protcfg.exe`, where `NE_HOME` is the directory where you installed Micro Focus Net Express.

2. Select the option Use Network Licensing, and click Connection Wizard, as shown in this example:



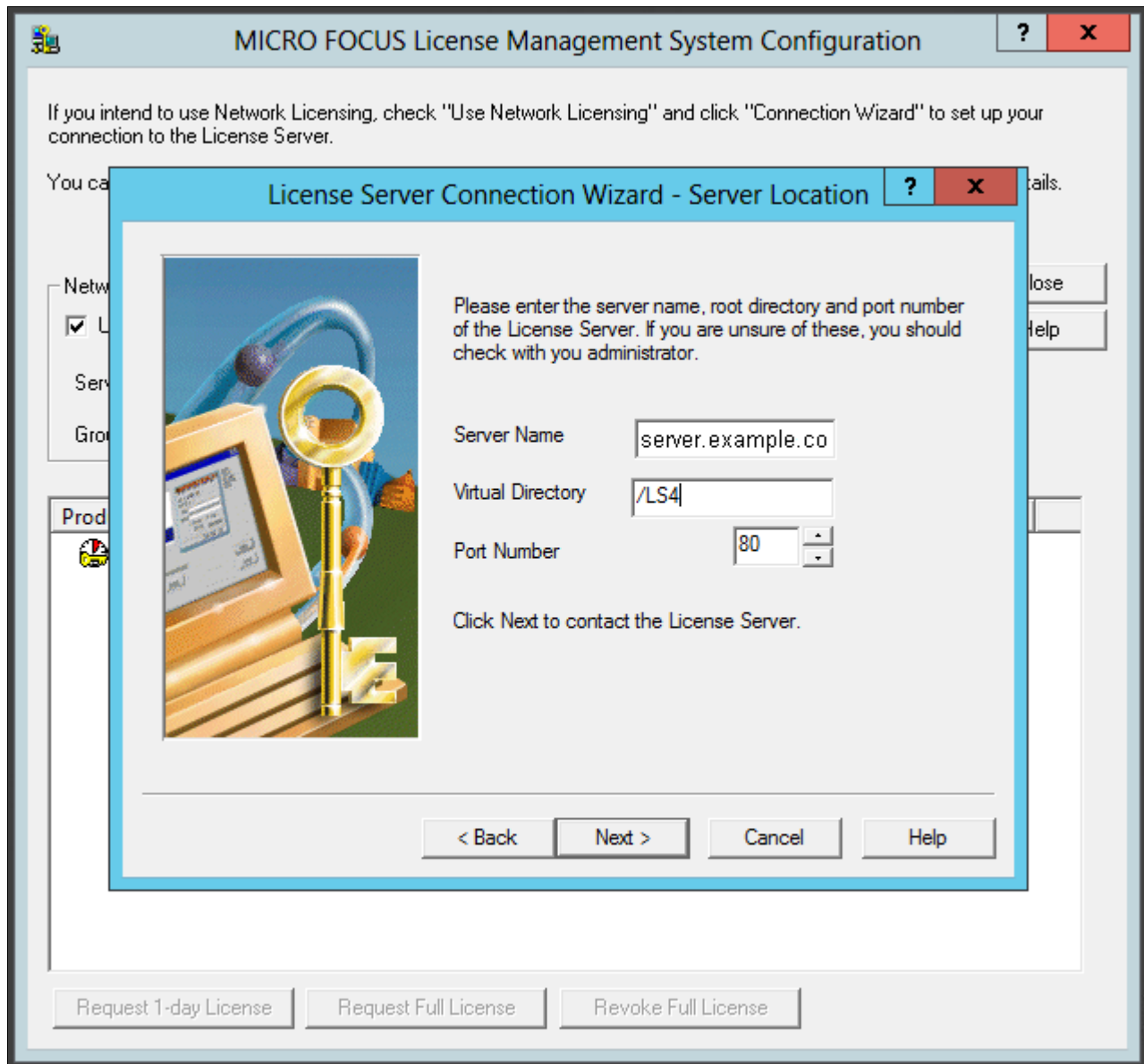
MICRO FOCUS License Management System Configuration window

3. Click Next on the License Server Connection Wizard window, shown in this example:



License Server Connection Wizard window

4. Enter information for the server location, and then click Next.

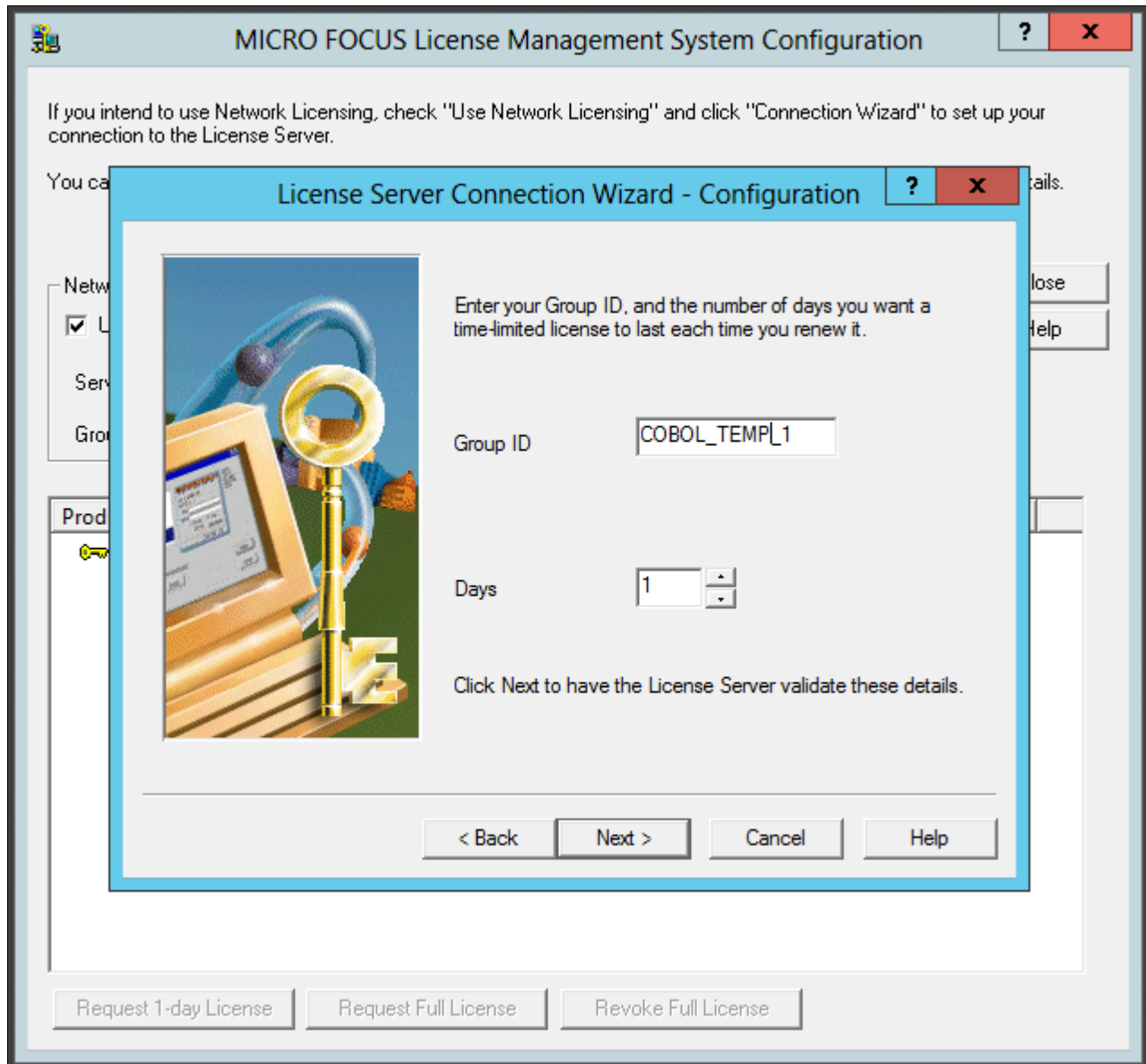


License Server Connection Wizard - Server Location

- Server Name—Enter the name of the license server; for example, server.example.com.
 - Virtual Directory; for example, /LS4.
 - Port Number—The default is 80, as shown in the example.
Select a port that is not in use by another application.
5. You see a message saying the wizard found the server.
Click Next.

6. Enter your group ID, which is `COBOL_TEMP_1` in this example, and specify the number of days before you have to renew the license, which is 1 (one) day in this example.

Click Next.

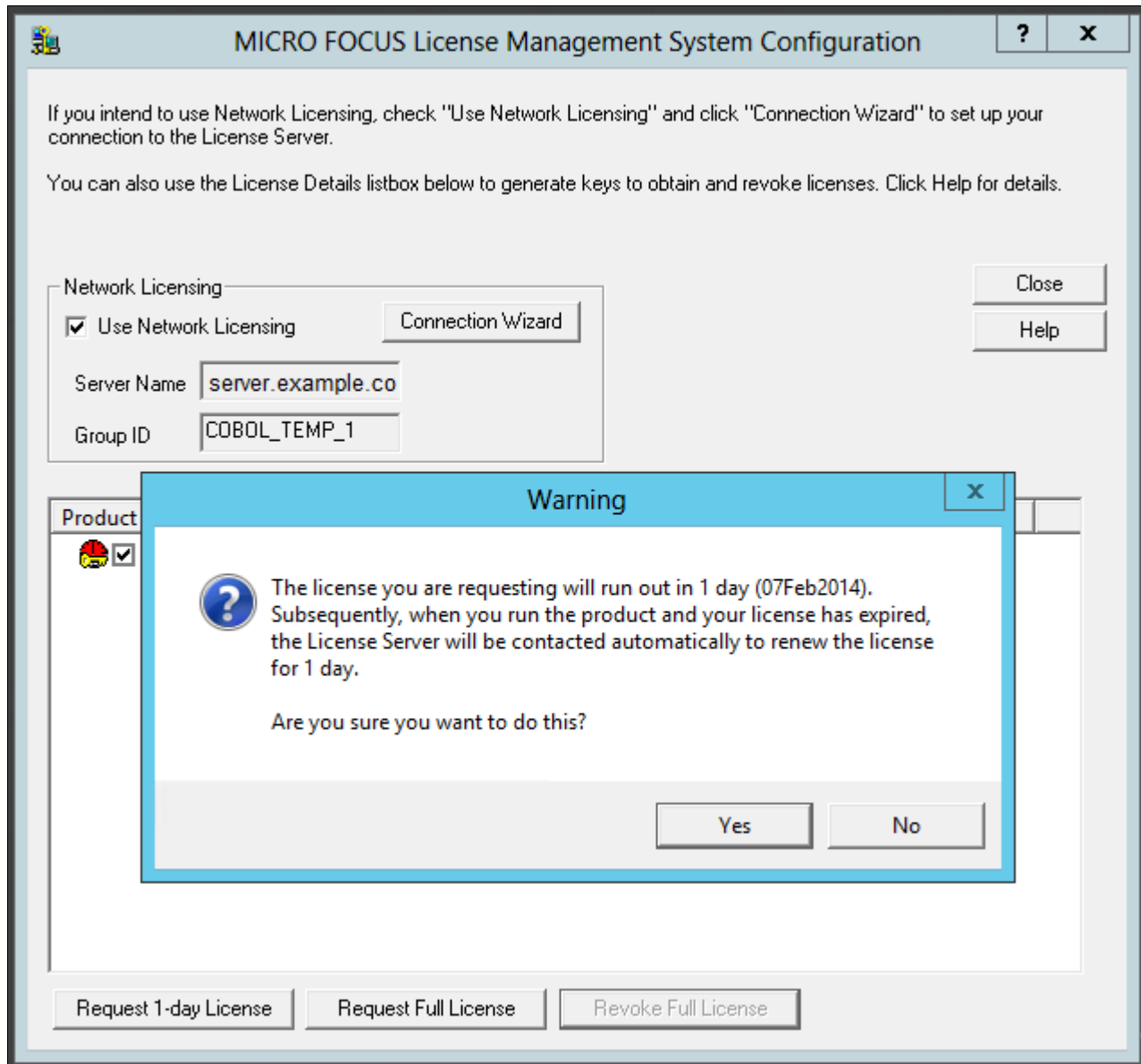


License Server Connection Wizard - Configuration window

7. Click Finish to exit the wizard.
8. In the details list on the MICRO FOCUS License Management System Configuration dialog box, select the check box for Net Express, and then click Request 1-day License.

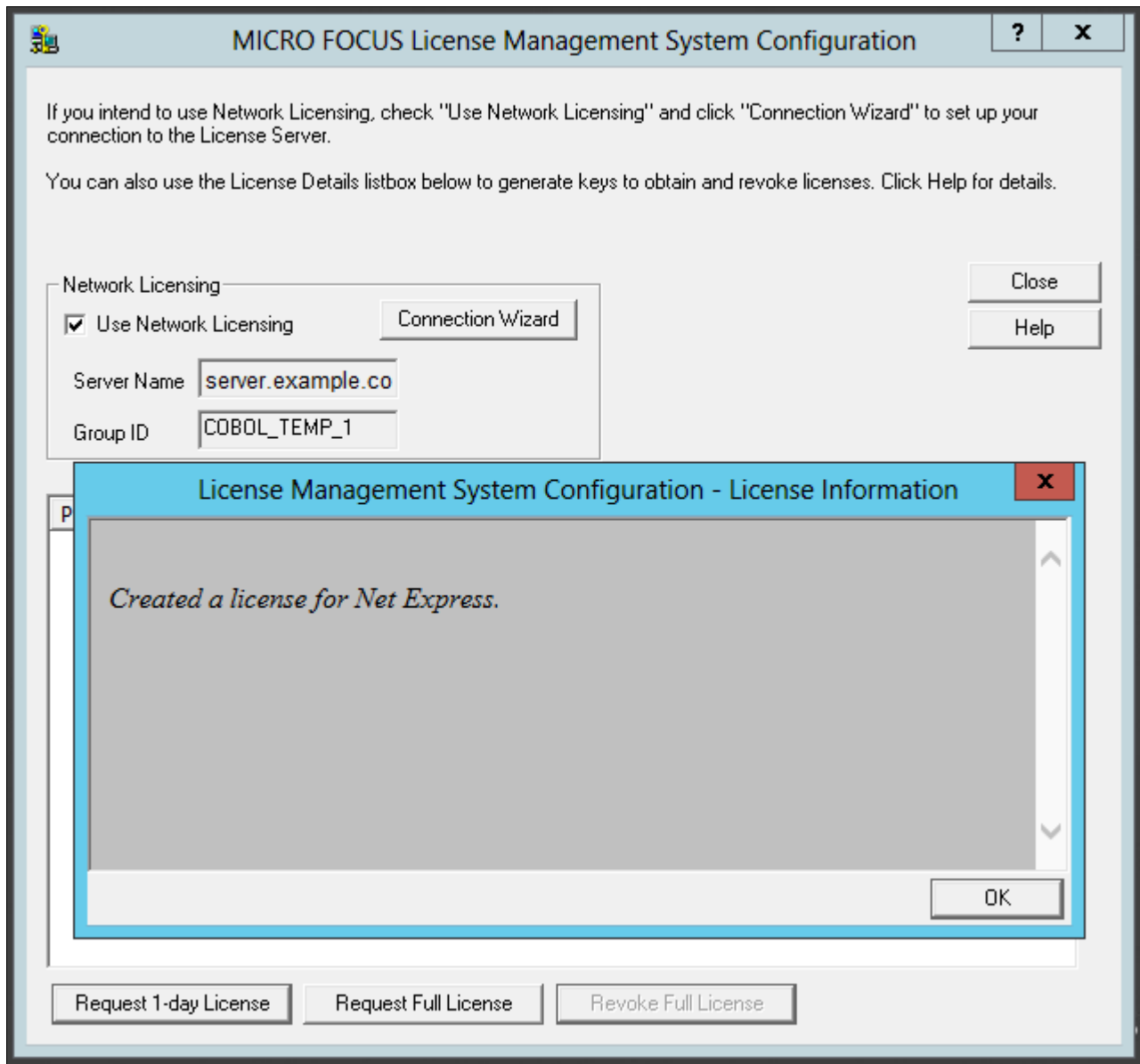
9. Click Yes to confirm that you want to request a timed (temporary) license, as shown in this example.

The warning message says that the license will run out in one day. When you run the product after the license has expired, the License Server will be contacted automatically to renew the license for one day.



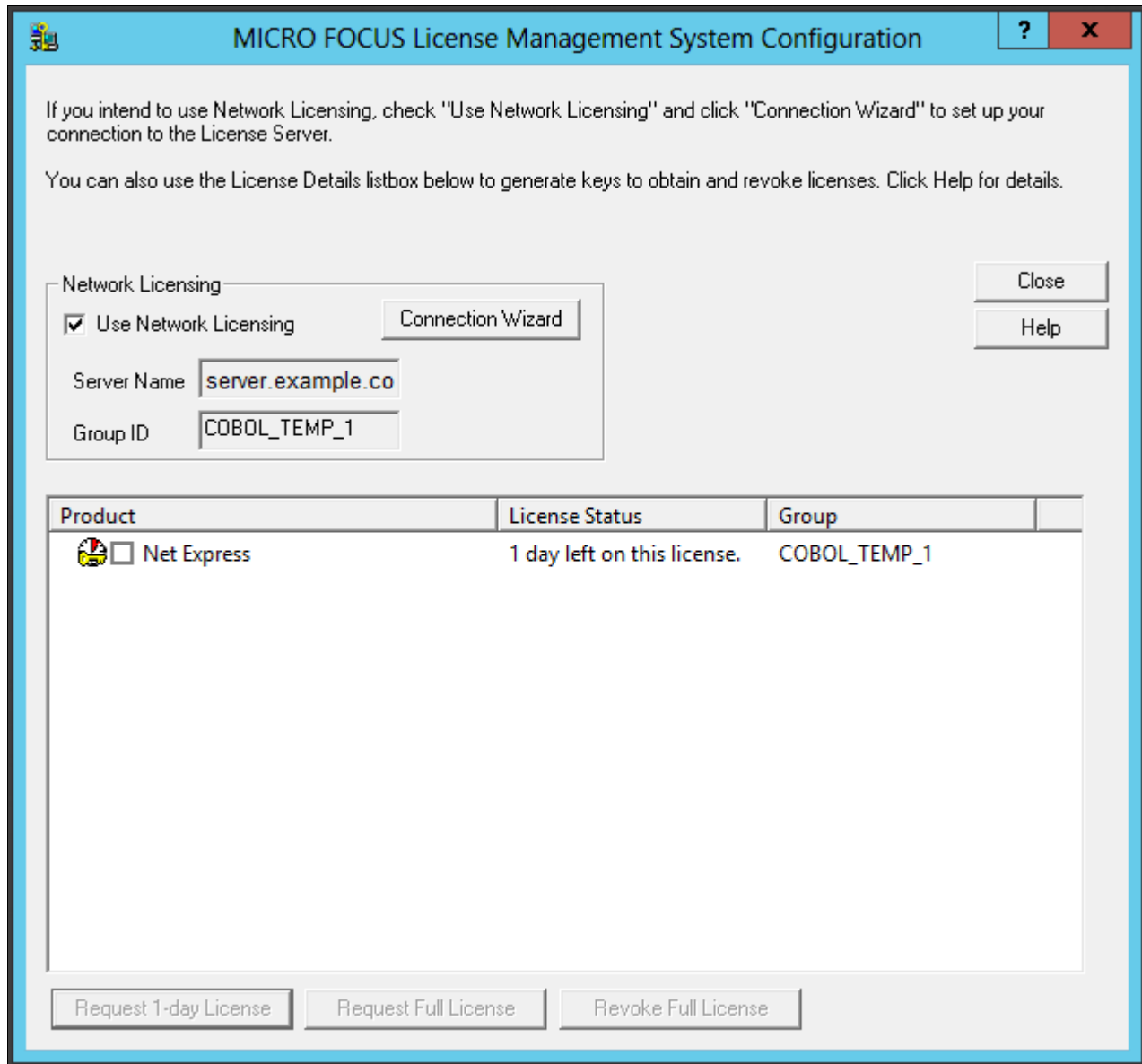
Warning message box when requesting a timed license

10. Click OK on the License Information message box.



License Management System Configuration - License Information window

11. Verify that the license status has changed to "1 day left on this license," as shown in this example, and click Close.



MICRO FOCUS License Management System Configuration window showing Timed License

Task 13A-3-3: Revoking the License Using the License Management System

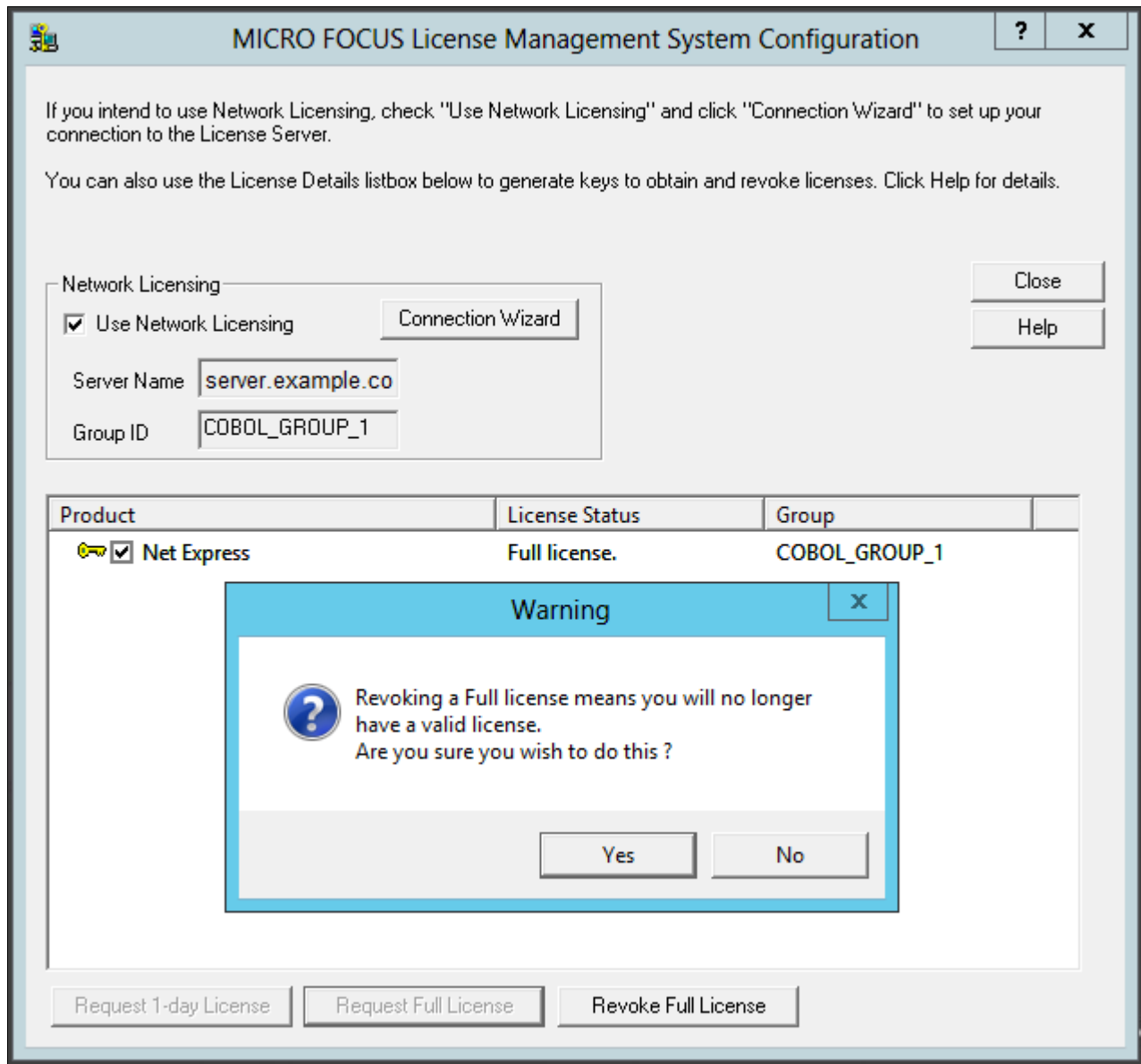
Revoking (deallocating) the compiler license returns it to the license pool, and makes it available for re-use, either by you or another user. This section describes how to use the Micro Focus License Management System to revoke a compiler license. For information on revoking the license by completely removing the Micro Focus Net Express installation, see the following section.

See Revoking the License by Removing the Installation.

To revoke a Full License using the Micro Focus License Management System:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.
2. Select the check box for Net Express under Product in the details list, and click Revoke Full License.
3. Click Yes on the warning message box to confirm that you want to revoke a full license, as shown in this example.

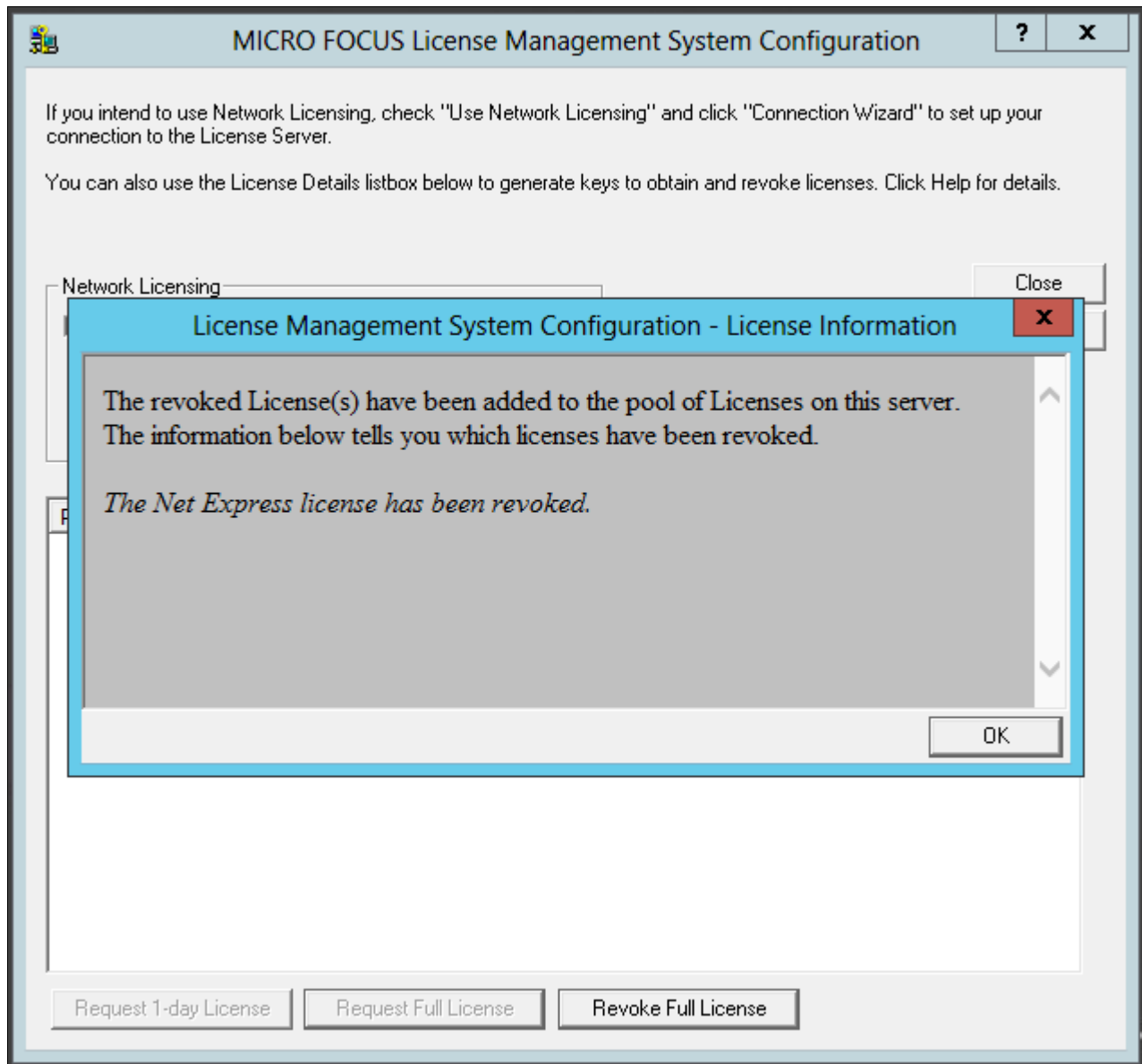
The warning message says that revoking a full license means that you will no longer have a valid license.



Warning message box on Revoking a Full License

4. Click OK.

The License Information message box says that the Net Express license has been revoked.



License Management System Configuration - License Information

5. Verify that the license status has changed to "license has expired" and click Close.

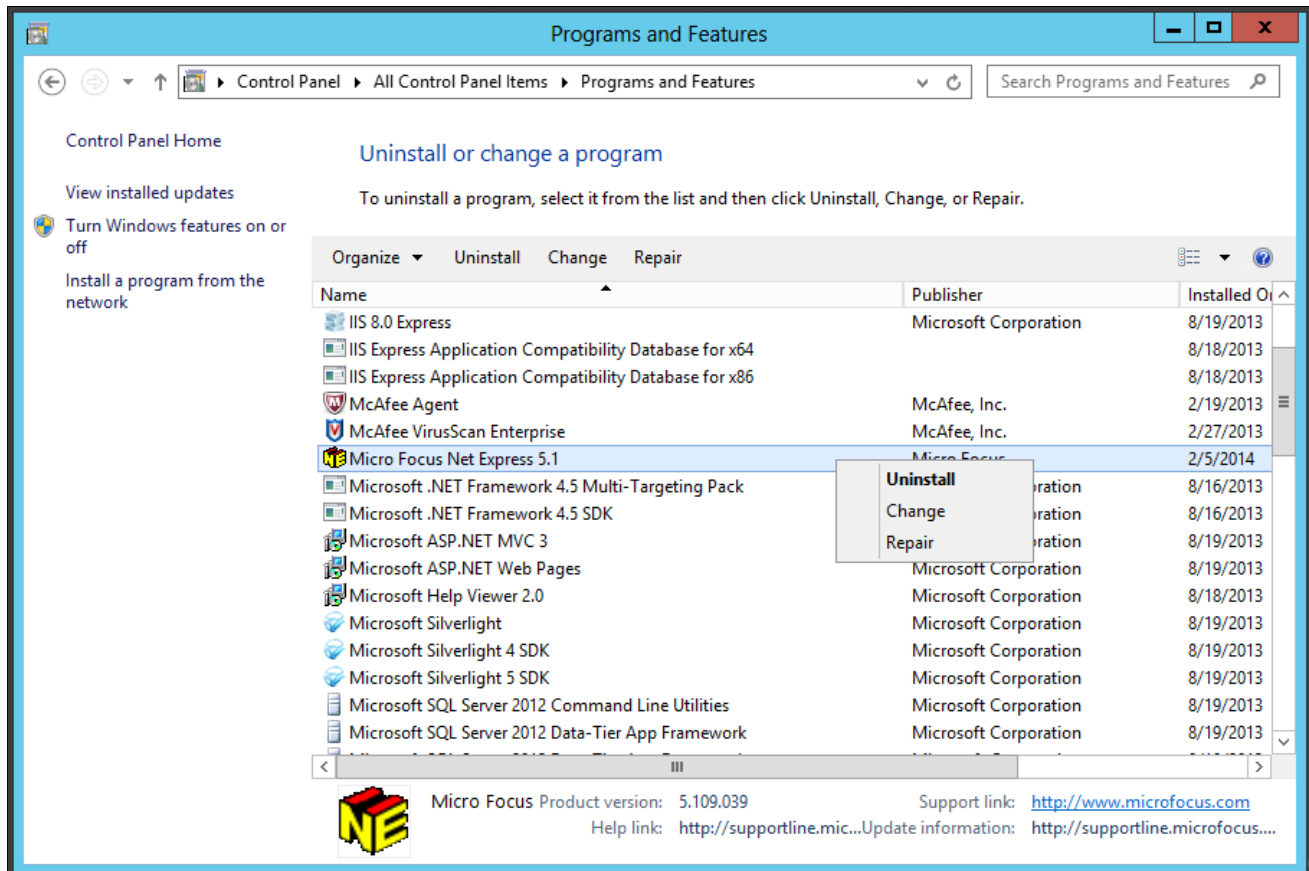
Task 13A-3-4: Revoking the License by Removing the Installation

Revoking (deallocating) the compiler license returns it to the license pool, and makes it available for re-use, either by you or another user. This section describes how to revoke the license by completely removing the Micro Focus Net Express 5.1 installation. For information on using the Micro Focus License Management System to revoke a compiler license, see the previous section.

See Revoking the License Using the License Management System.

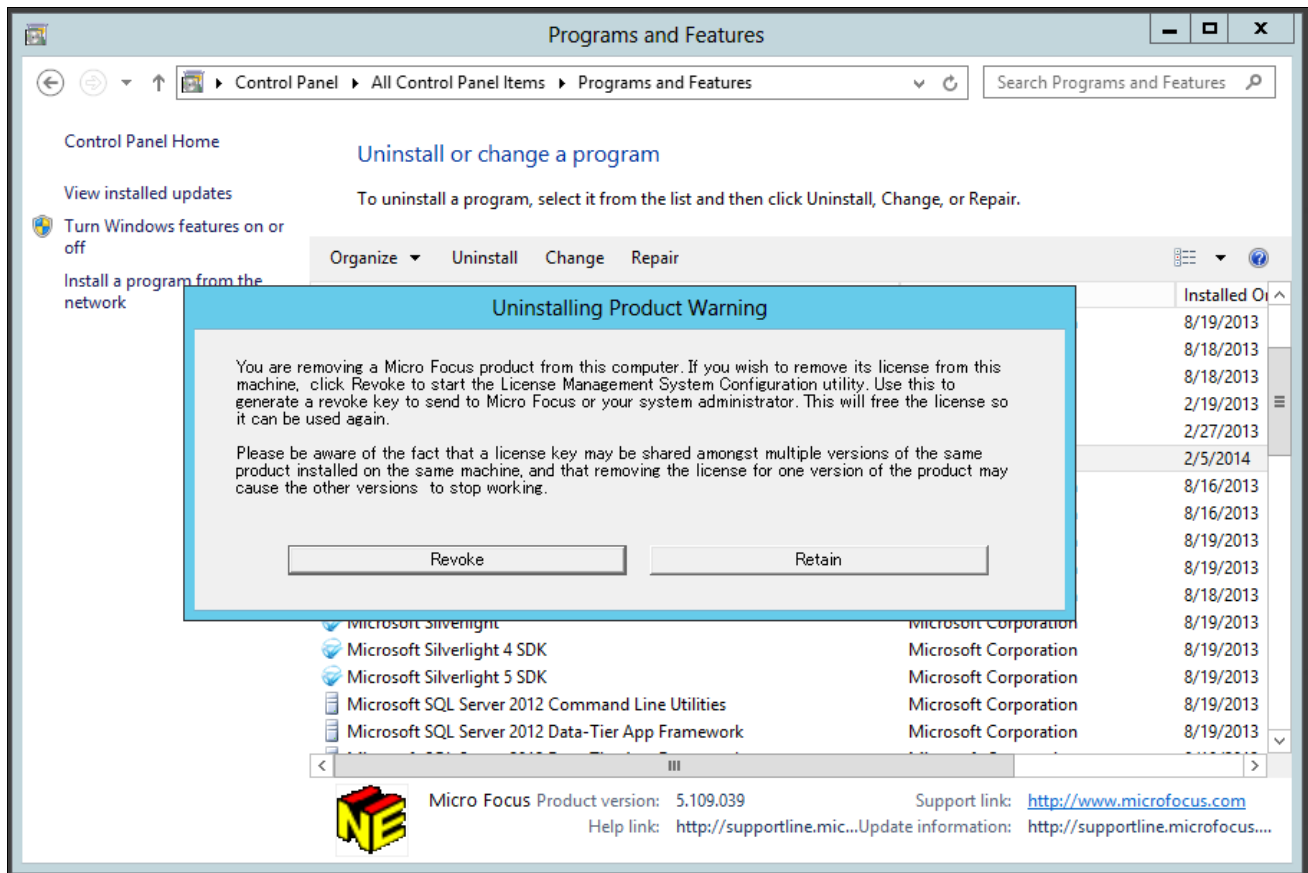
To remove the installation and revoke the license:

1. Select Start, All Programs, All Control Panel Items, Programs and Features.
2. Highlight Micro Focus Net Express 5.1 in the list of programs.
3. Right-click and select Uninstall, as shown in this example:



Microsoft Windows Control Panel Programs and Features

- Click Revoke on the Uninstalling Product Warning message box, as shown in this example:



Uninstalling Product Warning message box

The MICRO FOCUS License Management System Configuration window appears.

- Follow the instructions in the previous section to revoke the license.
See [Revoking the License Using the License Management System](#).
- When the process to revoke the license is complete, close the MICRO FOCUS License Management System Configuration window, and complete the process to remove Micro Focus Net Express 5.1.

Task 13A-4: Using the Micro Focus COBOL Compiler on Microsoft Windows

This section discusses:

- Understanding COBOL Compilation
- Compiling COBOL on Microsoft Windows with a PS_HOME Setup
- Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup
- Recompiling COBOL on Microsoft Windows
- Setting Up the Micro Focus Net Express Runtime
- Defining the GNT and INT Files

- Distributing COBOL Binaries

Understanding COBOL Compilation

With PeopleSoft PeopleTools 8.50 and higher, your COBOL always needs to be compiled on Microsoft Windows. (This is a change from previous versions of PeopleSoft PeopleTools, which delivered compiled COBOL for Microsoft Windows.) 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:

- *PS_HOME Setup*

If you installed the PeopleSoft PeopleTools and PeopleSoft Application software to the *PS_HOME* location, follow the instructions in these sections:

- Compiling COBOL on Microsoft Windows with a *PS_HOME* Setup
- Defining the GNT and INT Files

- *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 your environment includes customized files in a *PS_CUST_HOME* directory, follow the instructions in these sections:

- Compiling COBOL on Microsoft Windows with a *PS_CUST_HOME* Setup
- 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 must install and license the Micro Focus Net Express Runtime.

See Setting Up the Micro Focus Net Express Runtime.

Make certain to check whether you need to apply any late-breaking patches.

See My Oracle Support, Patches & Updates.

See Also

"Preparing for Installation," Defining Installation Locations.

Task 13A-4-1: Compiling COBOL on Microsoft Windows with a *PS_HOME* Setup

This section discusses:

- Prerequisites
- Compiling with CBLBLD.BAT with a *PS_HOME* Setup

- Compiling with CBLMAKE.BAT with a PS_HOME Setup

Prerequisites

This section assumes that you installed both PeopleSoft PeopleTools and PeopleSoft Application software to *PS_HOME*, and that you have not set *PS_CUST_HOME*.

Compiling with CBLBLD.BAT with a PS_HOME Setup

To compile COBOL with CBLBLD.BAT:

1. Set up two environment variables, %PS_HOME% and %COBROOT%, on the machine from which you'll compile COBOL. (This should be either your file server or a machine that has access to your file server.)

You can do this from a command prompt window. This table gives the environment variables and their purposes.

Environment Variable	Purpose
PS_HOME	PeopleSoft home directory—that is, the drive letter and high-level PeopleSoft directory where you installed PeopleTools and the application.
COBROOT	Drive letter and root directory of the COBOL compiler.

For example, you could enter the following in the DOS command prompt:

```
set PS_HOME=C:\HR92
set COBROOT="C:\Program Files\Micro Focus\Net Express 5.1\base"
```

2. Open a command prompt window if you do not have one open already, and change directories to *PS_HOME*\setup.
3. Execute CBLBLD.BAT as follows:

```
cblbld <compile drive> <compile directory> EBCDIC
```

In this command, *<compile drive>* is the drive where the compile takes place, and *<compile directory>* is the temp directory where the compile takes place.

EBCDIC is a parameter for collating sequence comparisons on DB2 z/OS (by default it compiles with ASCII mode)

The CBLBLD.BAT file will create the compile directory for you if it does not already exist.

Note. If the database server is DB2 for z/OS, the EBCDIC parameter is required; it is not needed for other platforms.

Note. *Make sure* to include a space between the *<compile drive>* and *<compile directory>* parameters; they are treated as two different parameters within the CBLBLD.BAT batch program. Also ensure that you have write permission to *<compile drive>* and *<compile directory>* as the compile process will take place there.

For example, the following command will take the COBOL source from *PS_HOME*\src\cbl and do the compile process under c:\temp\compile:

```
cblbld c: \temp\compile
```

Make note of the information that is displayed on the screen while the process is running; it provides the locations of important files that you will need to examine.

4. After you have successfully compiled your source code, all of the executables should have been placed in your `<PS_HOME>\CBLBIN<X>` directory (this directory will be named CBLBINA, CBLBINU, or CBLBINE, depending on whether you are using ANSI, Unicode or EBCDIC). Make sure that all of the files were copied correctly to this directory.
5. If the files were copied correctly, you can delete the entire temporary compile directory to free space on your disk drive.

Note. You may want to keep the files in the compile directory for testing purposes. Make sure that you have enough space on the drive where `<compile directory>` is located. Estimate about three times the amount in the `<PS_HOME>\CBLBIN<X>` directory.

Note. If you chose the Unicode option while running the PeopleSoft Installer, the file UNICODE.CFG was created in the setup directory. UNICODE.CFG automatically triggers the batch file CBL2UNI.BAT when you run CBLBLD.BAT. Another batch file, CBLRTCPY.BAT, copies four DLLs (CBLINTS.DLL, CBLRTSS.DLL, CBLVIOS.DLL, COB32API.DLL) from the Microfocus compiler directory (identified by %COBROOT% setting) into the appropriate CBLBIN directory (CBLBINA, CBLBINU, or CBLBINE) when you run CBLBLD. These files are needed for COBOL to run; they 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 a PS_HOME Setup

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. Unlike CBLBLD.BAT, however, CBLMAKE.BAT does not automatically trigger the batch file CBL2UNI.BAT or CBLRTCPY.BAT.

Here is the basic syntax for CBLMAKE.BAT:

```
CBLMAKE.BAT [] [ALL] [wildcard filename[ALL]] [wildcard filename |⇒
wildcard⇒
filename without extension[INT | GNT | EXE]] [EBCDIC] [LIST]
```

Note. The switches are well documented in the CBLMAKE.BAT file in the form of comments.

Note. If you are running DB2 z/OS, you must use the EBCDIC parameter.

Note. If the change in the COBOL source is a copy member, you must compile all of the COBOL programs using CBLBLD.BAT. You know it is a copy member when the third letter in the file name is a C, as in PTC SQLRT.CBL.

The following table describes the various options for CBLMAKE.BAT.

Option	Purpose
Cblmake	Compiles all source
Cblmake all	Compiles all source

Option	Purpose
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

The LIST option creates a source listing file under *<compile directory>\<filename>.lis*. The LIST option is useful when the compile fails during the debugging phase. The source listing files show exactly where an error occurred. This option is not recommended when the program compiles successfully because the .LIS files can grow to be quite large.

Note. By default, when the program fails to compile, the system will generate a .LIS file.

To compile with CBLMAKE.BAT:

1. Verify that the %PS_HOME% and %COBROOT% environment variables are set up correctly.
2. Open a command prompt window.
3. Make sure the compile directory exists; it may already exist if you've run CBLBLD.BAT. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.

Note. Make sure you have write permission to *<compile directory>* as the compile process will take place there.

4. Change to the *PS_HOME\setup* directory.
5. If the installation is Unicode, run CBL2UNI (with no parameters).
6. 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.


```
cblsrc PS_HOME c:\temp\compile
```

If the COBOL source that will be compiled is different from the one under *PS_HOME*, copy that COBOL source to *<compile directory>*.

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.

7. 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.
8. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate *PS_HOME\CBLBINX* directory (CBLBINA, CBLBINU, or CBLBINE).

```
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.

Task 13A-4-2: Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup

This section discusses:

- Prerequisites
- Compiling with CBLBLD.BAT with a PS_CUST_HOME Setup
- Compiling with CBLMAKE.BAT with a PS_CUST_HOME Setup

Prerequisites

This section assumes that you have set up a *PS_CUST_HOME* environment variable for customized COBOL source files.

Compiling with CBLBLD.BAT with a PS_CUST_HOME Setup

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_CUST_HOME.

Note. The values PS_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 compiled.
- If the option is PS_CUST_HOME, the COBOL source files placed under %PS_CUST_HOME%\src\cbl will be compiled.
- If the option is blank, the COBOL source files under %PS_HOME%\src\cbl and under %PS_CUST_HOME%\src\cbl will be compiled one after the other.

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_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\Net Express 5.1\base"
set PS_CUST_HOME=C:\CUSTcompile
```

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 a PS_CUST_HOME Setup

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_HOME Setup*.

To compile a customized COBOL file with CBLMAKE.BAT:

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, 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).

- 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*.

- 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
```

- 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*.

- Verify that the compiler runtime files (*CBLINTS.DLL*, *CBLRTSM.DLL*, *CBLRTSS.DLL*, *CBLVIOM.DLL*, *CBLVIOS.DLL*, *COB32API.DLL*, *MFLANGDF.lbr*) 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
```

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.

- Open a command prompt window.
- Verify that the *PS_HOME* and *COBROOT* environment variables are set, as previously defined.
See *Compiling with CBLBLD.BAT with a PS_HOME Setup*.
- 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 (CBLINTS.DLL, CBLRTSM.DLL, CBLRTSS.DLL, CBLVIOM.DLL, CBLVIOS.DLL, COB32API.DLL, MFLANGDF.lbr) 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
```

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 13A-4-3: Recompiling 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 a PS_HOME Setup* or *Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup*.

Task 13A-4-4: Setting Up the Micro Focus Net Express Runtime

This section discusses:

- Understanding the Micro Focus Net Express Runtime
- Installing the Runtime Files and Setting Up the License
- Removing the Runtime License
- Troubleshooting

Understanding the Micro Focus Net Express Runtime

The Micro Focus Net Express 5.1 Runtime provides the COBOL runtime environment required for COBOL programs to run. Install and license the runtime on each system that will run PeopleSoft COBOL applications. Typically, PeopleSoft COBOL application programs are run on PeopleSoft application server systems and PeopleSoft batch (Process Scheduler) systems.

The Micro Focus Net Express 5.1 Runtime consists of the following components:

- Six DLLs
 - CBLINTS.DLL
 - CBLRTSM.DLL
 - CBLRTSS.DLL
 - CBLVIOM.DLL
 - CBLVIOS.DLL
 - COB32API.DLL
- A Microsoft Windows registry entry for ASLMF

For 64-bit Microsoft Windows systems, the entry is:

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\MICRO FOCUS\ASLMF

- The directory that contains the runtime license database, C:\psft-mf-nx-as-license, which contains the following files:
 - mfasdb
 - prodfile
 - semfile
- The Application Server License Manager Service

The Micro Focus Net Express 5.1 Runtime DLLs installation is done automatically as part of the COBOL compilation process. When CBLBLD.bat is run, it invokes CBLRTCPY.bat to copy the COBOL runtime DLLs listed above, from the %COBROOT%\bin directory to %PS_HOME%\CBLBINx directory.

CBLBINx is CBLBINA, or CBLBINU, based on the compilation mode of ASCII or Unicode respectively.

If you have already set up the Micro Focus Net Express COBOL compiler on a system, there is no explicit installation necessary for the runtime. For those systems where you only want to run COBOL, but have no need to compile it, use the following instructions in the section Installing the Runtime Files and Setting Up the License.

Installing the Runtime Files and Setting Up the License

The license files are included with the files that you downloaded from Oracle Software Delivery Cloud. The Micro Focus Net Express 5.1 Wrap Pack 14 Runtime Licensing files are contained in the self-extracting zip file, MFLicense_51WP14.exe. This executable provides the COBOL runtime system with unlimited runtime Net Express licenses specifically for PeopleSoft installations.

Always use the runtime files created for the version of the compiler that you used in compiling the COBOL files. For example, use the MFLicense_51WP14.exe runtime license file for the Micro Focus Net Express 5.1 Wrap Pack 14 compiler.

This section assumes that:

- You installed and compiled the PeopleSoft COBOL application files on the runtime system.
- You saved the files from Oracle Software Delivery Cloud in a directory referred to as *NE_INSTALL*.

To set up the runtime license:

1. Set the environment variable PS_HOME to the directory where your PeopleSoft software is installed.

For example, use this command in a command prompt window:

```
set PS_HOME=C:\HR92
```

2. Delete the following Microsoft Windows registry entry if it exists:
 \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF
3. Delete the directory C:\psft-mf-nx-as-license if it exists.
4. Go to *NE_INSTALL*, and run the self-extracting zip file MFLicense_51WP14.exe.
5. Specify the directory to save the files, for example C:\MFLicense-Extract-51WP14.
6. Change directory to C:\MFLicense-Extract-51WP14 and run the script setupMF.bat.

This script makes the following changes:

- Installs the Micro Focus Net Express Application Server License Database.
- Creates the Microsoft Windows registry entry
 \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF, which point to the directory c:\psft-mf-nx-as-license.

- Adds the files mfasdb, prodfile, and semfile to the directory C:\psft-mf-nx-as-license.
7. Run the command MFLMWin with the option to install, as follows:

```
MFLMWin.exe -i
```
 8. To verify that the Micro Focus license manager was installed, run Microsoft Windows Services.
 For example, run the following command in the command prompt window:

```
services.msc
```

You should see the service Micro Focus License Manager with status Started, and the Startup type should be Automatic.

Removing the Runtime License

To uninstall the runtime license:

- Delete the Microsoft Windows registry key:

```
\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF
```
- Delete the C:\psft-mf-nx-as-license directory and its contents.

Troubleshooting

If you install the Micro Focus Net Express 5.1 Runtime License on a system where the Micro Focus Net Express 5.1 compiler is already installed, you see an error message that mentions that Runtime DLL CBLRRSS is not found. Use one of the following solutions:

- If the system where you are installing the license will be used only for running COBOL programs, but not compiling, remove the Micro Focus Net Express 5.1 COBOL compiler installation, and then re-install the Micro Focus Net Express 5.1 Runtime License.
- If the system where you are installing the license will be used for both compiling and running COBOL programs, just ignore the error message. The Net Micro Focus Express 5.1 COBOL compiler is already installed, and has an embedded runtime, which will be used to execute the COBOL programs. Thus there is no need to install and license the Micro Focus Net Express 5.1 Runtime.

If you see an error "ASLM: Erno 1000" it means the runtime license is not installed. Use the instructions in the earlier section to install the license.

See Installing the Runtime Files and Setting Up the License.

Task 13A-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 13A-4-6: Distributing 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* and *PS_CUST_HOME*.

- *PS_HOME* Setup

Copy the contents of *<PS_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) directory into *<PS_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) on your batch and application server machines.

- *PS_CUST_HOME* Setup

If you have customized files in *PS_CUST_HOME*:

1. Copy the contents of *<PS_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) directory into *<PS_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) on your batch and application server machines.
2. Copy the contents of *<PS_CUST_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) directory into *<PS_CUST_HOME>\CBLBIN<X>* (CBLBINA, CBLBINU, or CBLBINE) on your batch and application server machines.

Chapter 13B

Installing and Compiling COBOL on UNIX

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Server Express for UNIX and Linux
- Using the Micro Focus 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 Net Express COBOL compiler, sometimes referred to here as "Micro Focus COBOL", 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 Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, (search for the article name)

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

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 13B-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 Server Express COBOL, recompile and relink all COBOL programs for PeopleSoft PeopleTools and PeopleSoft applications, as described in a later section.

See Using the Micro Focus COBOL Compiler on UNIX.

Task 13B-2: Installing Micro Focus Server Express for UNIX and Linux

This section discusses:

- Understanding Micro Focus Server Express
- Prerequisites
- Obtaining the Installation Files for Micro Focus Server Express from Oracle Software Delivery Cloud
- Installing Micro Focus Server Express

Understanding Micro Focus Server Express

Micro Focus® Server Express™ 5.1 Wrap Pack 14 is the supported COBOL compiler on UNIX and Linux for the current PeopleSoft PeopleTools release. This section provides installation instructions for Micro Focus Server Express 5.1 Wrap Pack 14 COBOL compiler and the License Management Facility used to manage product licenses. These instructions are specifically for installing the Server Express COBOL compiler to use with PeopleSoft software. For more general installation instructions or other supporting documentation concerning Server Express, consult the documentation that comes with the installation software.

Note that Oracle is the exclusive reseller of the Micro Focus COBOL compiler for use with PeopleSoft applications.

See Also

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1

Micro Focus web site: <http://supportline.microfocus.com/>

Server Express Documentation

Using the Micro Focus COBOL Compiler on UNIX

Prerequisites

You must install the Micro Focus Server Express COBOL compiler on any machine that will compile, execute, or run COBOL programs. The Micro Focus Server Express COBOL compiler includes an embedded runtime system. You can compile COBOL programs on those servers for which you have licenses, and copy the compiled programs to other servers, but to run the compiled programs, you must also install the compiler with the runtime system.

In addition, in order to execute COBOL programs that are created using a Server Express product and deployed in a Linux or UNIX environment, the Server Express compiler with the embedded runtime system, must be installed on the target runtime system, and the "Micro Focus Application Server runtime license" must also be installed on the target runtime system.

For information on obtaining licenses for Micro Focus COBOL compilers, see:

- The documentation included with the software on Oracle Software Delivery Cloud.
 - The Micro Focus Server Express Extras Install Documentation for PeopleSoft and Runtime Licenses, includes information on how to add development, Application Server, and unlimited license patch (ULP) licenses
 - The Micro Focus COBOL for PeopleSoft Quick Reference Guide summarizes the delivered software and licensing requirements.
- PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1.

If you have a previous Micro Focus COBOL product installed we recommend that you make a backup of any COBOL systems files that you have changed. Examples include cobkeymp, ADISCTRL, cobopt and cobconfig. After you have installed Server Express you might want to apply to the new COBOL product the changes previously applied to these files.

If you want to maintain more than one COBOL installation, Oracle recommends that you do not install one version over another. Instead, use one of these suggested methods:

- Remove (uninstall) the existing version before installing the new version
- Leave the existing version in its current directory (do not move it) and install the new version in its own, different directory.

If you have installed, or plan to install, Micro Focus Application Server or any other Micro Focus product on the same machine as this product, you must install them in different directories.

This Micro Focus product is managed by a License Management Facility (LMF). This facility helps you keep track of the number of licenses you have for the product. In order to use this product it is necessary for you to install the License Management Facility (which is provided with the Server Express software). This software should not be installed in the same directory as Server Express. The default directory depends upon the operating system; for example:

- /opt/lib/mflmf for HP-UX Itanium
- /usr/lib/mflmf for RS/6000 and PowerPC systems running AIX
- /opt/lib/mflmf on other systems

If /opt/lib does not exist, use /usr/lib/mflmf instead.

Task 13B-2-1: Obtaining the Installation Files for Micro Focus Server Express from Oracle Software Delivery Cloud

The Micro Focus Server Express installation files are available on Oracle Software Delivery Cloud. At this point you should have already downloaded the necessary files. This section includes additional information on finding and using the files for Micro Focus Server Express if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

To obtain the files for the Micro Focus Server Express installation:

1. Log in to Oracle Software Delivery Cloud at <https://edelivery.oracle.com>.
2. Enter Micro Focus in the type-ahead Product field, and select Micro Focus International Ltd. Server Express COBOL for UNIX from the drop-down list.
3. Click Select Platform, select the operating system you are running on, and then click Select.
4. Click Continue.
5. Click Continue.
6. Read the license agreement, select the check box to acknowledge that you accept the terms, and then click Continue.
7. Click one of the file names to download an individual zip file, or click Download All to obtain all of the files listed.

The files include software, wrap packs, and documentation. Save the zip files to a temporary directory on your local system. 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 computer, the stage area files may be corrupt.

Task 13B-2-2: Installing Micro Focus Server Express

The following section is provided as an example installation and illustrates a typical Micro Focus Server Express 5.1 Wrap Pack 14 installation for PeopleSoft application, as outlined in the overview section above.

The answers to the prompts provided in the following example are recommended by Oracle for PeopleSoft installations, with the exception of the installation directory for the Micro Focus License Management Facility. For this step, you can use the default directory names or choose directory names based on your site's naming conventions.

It is recommended by Micro Focus and Oracle to install LMF in its own directory, instead of in a sub-directory of the Server Express install.

Important! Make sure to specify the *correct* bit mode for your UNIX platform. Enter *64* for all UNIX platforms.

The following example was done on a Red Hat Linux x86-64 operating system platform. Installation prompts will vary slightly with respect to specifics of the different UNIX platforms.

1. Log in as root.
2. Create a directory (if it does not exist) where you want to install the Micro Focus Server Express 5.1 Wrap Pack 14. For example:


```
$ mkdir -p /products/mf/svrexpress-5.1_wp14-64bit
```
3. Change directory to the one you created in the previous step.

```
$ cd /products/mf/svrex-5.1_wp14-64bit
```

4. Copy or ftp the Micro Focus Server Express 5.1 Wrap Pack 14 tar file that you obtained from Oracle Software Delivery Cloud to this directory.

In this example, the file name is `sx51_wp14_redhat_x86_64_dev.tar`.

5. List the items in the directory with the following command:

```
$ ls -l /products/mf/svrex-5.1_wp14-64bit
total 409600
-rwxr-xr-x  1 root  root          209295360 Feb 03 19:23 sx51_wp14_redhat_
x86_64_dev.tar
```

6. Extract the tar file:

```
$ tar -xvf sx51_wp14_redhat_x86_64_dev.tar
```

7. List the items in the directory with the following command:

```
$ ls
ADISCTRL  bin      demo     dialog   dynload  es        etc      =>
install  lib     snmp     sx51_ws6_redhat_x86_64_dev.tar  xdb  aslmf    =>
cpylib   deploy docs     dynload64  eslmf-mess  include  lang     lmf =>
src      terminfo
```

8. To begin the installation, type:

```
$sh ./install
```

9. Read the text and follow the instructions to review the `readme.txt` file:

```
This script will install Micro Focus Server Express 5.1 on this=>
computer.
```

```
The readme.txt file included in this delivery contains details of new=>
features, enhancements and any restrictions of which you should be=>
aware. This file is located in :
```

```
/products/mf/svrex-5.1_wp14-64bit/docs
```

```
We strongly recommend you read this file once the installation is=>
complete.
```

```
Do you wish to continue (y/n): y
```

10. Read the following License Agreement and type `y` (yes) to accept it:

```
Before installing and using this software product you must agree to be=>
bound by the terms and conditions of the end user license agreement =>
("License Agreement") which accompanies this product. Please take=>
this time to read the License Agreement. If you are not in agreement=>
with the terms and conditions of the License Agreement, please return=>
the product to your Account Representative and your money will be=>
refunded. If you require a replacement copy of the License Agreement,=>
please contact your Account Representative before proceeding with the=>
```

install process.

Do you agree to the terms of the License Agreement? (y/n): **y**

11. If you are installing on an operating system platform that Micro Focus has not built the product on, you see the following message. Type y (yes) at the prompt:

```
Micro Focus Install
```

```
This product was not built or tested on this version of the Operating⇒
System.
```

```
This product was built on Operating System:
```

```
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
```

```
Red Hat Enterprise Linux Server release 5.9 (Tikanga)
```

```
and you are installing it on Operating System:
```

```
Linux 3.8.13-16.2.1.el6uek.x86_64
```

```
Any product issues you report will only be corrected if they can be⇒
reproduced on one of our systems running:
```

```
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
```

```
Red Hat Enterprise Linux Server release 5.9 (Tikanga)
```

```
OracleServer 3.8.13-35.3.5.el6uek.x86_64 x86_64
```

```
Red Hat Enterprise Linux Server release 6.5 (Santiago)
```

```
RedHatEnterpriseServer 2.6.18-398.el5 x86_64
```

```
Red Hat Enterprise Linux Server release 5.11 (Tikanga)
```

```
RedHatEnterpriseServer 2.6.32-504.el6.x86_64 x86_64
```

```
Red Hat Enterprise Linux Server release 6.6 (Santiago)
```

```
Please confirm that you want to continue with this installation (y/n): y
```

12. After reading the following information press ENTER to continue:

```
When you press return you will be shown details of the reference⇒
environment (and any compatibility environments).
```

```
Please press return when you are ready:
```

13. Type y (yes) to continue after reading the listing of the reference environment. For the sake of brevity, the text has been truncated, as indicated by [...].

```
This product is certified on the following reference environment:
```

```
The command(s) used to gather the information is given following each⇒
entry.
```

```
Operating System
```

```
-----
```

```
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
```

```
Red Hat Enterprise Linux Server release 5.9 (Tikanga)
```

```
lsb_release -si
```

```
uname -r
```

```
uname -m
```

```
cat /etc/redhat-release
```

```
C Compiler
```

```
-----
```

```
cc gcc version 4.1.2 20080704 (Red Hat 4.1.2-54)
```



```
gcc -v 2>&1 | tail -1
```

```
C++ Compiler
```

```
-----
```

```
/usr/bin/g++ gcc version 4.1.2 20080704 (Red Hat 4.1.2-54)
```

```
g++ -v 2>&1 | tail -1
```

```
Assembler
```

```
-----
```

```
as GNU assembler version 2.17.50.0.6-20.el5_8.3 (x86_64-redhat-linux)⇒  
  using BFD version 2.17.50.0.6-20.el5_8.3 20061020
```

```
as -v 2>&1 < /dev/null
```

```
Linker
```

```
-----
```

```
ld GNU ld version 2.17.50.0.6-20.el5_8.3 20061020
```

```
ld -V 2>&1 | head -1
```

```
Supported versions of Java
```

```
-----
```

```
Java version = 1.6.0_15  
Java vendor = Sun Microsystems Inc.  
Java OS name = Linux  
Java OS arch = amd64  
Java OS version = 2.6.18-348.el5
```

```
Java version = 1.6.0_15  
Java vendor = Sun Microsystems Inc.
```

```
Java OS name = Linux  
Java OS arch = amd64  
Java OS version = 2.6.18-348.el5
```

```
Java version = 1.7.0_05  
Java vendor = Oracle Corporation  
Java OS name = Linux  
Java OS arch = i386  
Java OS version = 2.6.18-348.el5
```

```
Java version = 1.7.0_05  
Java vendor = Oracle Corporation  
Java OS name = Linux  
Java OS arch = amd64  
Java OS version = 2.6.18-348.el5
```

```
$JAVA_HOME/bin/java -classpath $COBDIR/lib WhatJava
```

```
Unicode
```

```
-----
```

```
Unicode mapping tables must be installed for J2EE and Web Services to
```

function correctly. These tables are required for converting between any combination of UTF-16/UCS-2, UTF-8 and other installed locales.

[...]

Please confirm your understanding of the above reference environment⇒ details (y/n): **y**

If you require this support, you will need to install the TCP/IP⇒ Development System libraries prior to installation of your COBOL⇒ system.

14. Answer *n* (no) to the following prompt:

Do you want to make use of COBOL and Java working together? (y/n): **n**
Skipping Java setup

Should you want to use Java with COBOL later on as super user, run the⇒ command /products/mf/svrex-5.1_wp14-64bit/bin/java_setup to select⇒ the version of Java you want to use.

Note. PeopleSoft COBOL implementations do not require COBOL and Java to work together.

15. Answer *y* (yes) to the following prompt concerning the License Management Facility:

This product is protected using the Micro Focus License Management⇒ Facility (LMF). Please refer to the Development System Licensing Guide⇒ for information relating to the installation of the licensing system⇒ and licenses.

If you do not have LMF installed or want to upgrade to the latest⇒ version, we recommend that you install it now.

Would you like to install LMF now? (y/n): **y**

16. At the following prompt, enter the directory name where you want to install License Manager.

Note. Micro Focus and Oracle recommend that you install LMF in its own directory, instead of a sub-directory of the Server Express installation.

Enter the directory name where you wish to install License Manager.
(Press Enter for default directory /opt/microfocus/mflmf)

/products/mf/mflmf-svrex-5.1_wp14-64bit

17. Enter *y* (yes) to restrict access to the License Admin System to the superuser account:

Do you want only superuser to be able to access the License Admin⇒ System? (y/n) **y**

18. Enter *y* (yes) to start license manager automatically at boot time:

It is recommended that you let license manager autostart at boot time.

Do you want license manager to be automatically started at boot time? ⇒ (y/n) **y**

LMF installation complete.

19. If you want to consult the documentation on how to install licenses, follow the instructions in this prompt:

```
Please consult the Development Licensing Guide for detailed information⇒
on how to install licenses.
```

```
This may be done by running the mflicense tool.
```

```
-----
To run your applications you need a deployment license installed using⇒
Apptrack.
```

```
See your Deployment Licensing Guide for details.
Installing Apptrack...
```

```
Access permissions on directory /var/mfaslmf have changed on this⇒
release
```

```
Write access permission has been removed except for superuser use
Apptrack installation complete
```

20. Enter *64* for the system default bit mode:

```
This product can be used in either 32-bit or 64-bit modes.
Please enter either 32 or 64 to set the system default mode: 64
System default COBMODE has been set to 64.
```

21. Wait for the documentation to be installed:

```
Installing documentation. Please wait...
```

22. Enter *n* (no) at the following prompt:

```
Enterprise Server provides a scalable, managed, and high-performance⇒
transactional environment for the deployment of COBOL applications and⇒
services, COBOL/J2EE applications and direct COBOL Web Services.
```

```
Your Enterprise Server requires configuration. You can either do it now⇒
or later. To do it now, you need to know the alphanumeric user ID of⇒
the Enterprise Server System Administrator.
```

```
To do it later, enter the following commands whilst logged in as root:
```

```
/products/mf/svrex-5.1_wp14-64bit/bin/eslminstall
/products/mf/svrex-5.1_wp14-64bit/bin/casperm
```

```
Do you wish to configure Enterprise Server now? (y/n): n
```

23. Review the information concerning setting the COBDIR, LD_LIBRARY_PATH, and PATH environment variables in the concluding prompt:

```
(Remember to set COBDIR to /products/mf/svrex-5.1_wp14-64bit, include ⇒
/products/mf/svrex-5.1_wp14-64bit/lib in LD_LIBRARY_PATH, and include ⇒
/products/mf/svrex-5.1_wp14-64bit/bin on your PATH.)
```

```
WARNING: Any executables (whether a Run-Time System or an application)⇒
must be relinked using this new release. Otherwise, the results of⇒
running the older executables with this new release are undefined.
```

```
Installation completed successfully.
```

The COBOL system is ready to use.

Task 13B-3: Using the Micro Focus COBOL Compiler on UNIX

This section discusses:

- Understanding COBOL Compilation
- Modifying the Liblist64 File (IBM AIX)
- Compiling COBOL on UNIX with a PS_HOME Setup
- Compiling COBOL on UNIX with a PS_CUST_HOME Setup
- Linking COBOL
- Recompiling COBOL on UNIX

Understanding COBOL Compilation

On UNIX and Linux operating systems, 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.

The Micro Focus Server Express COBOL compiler includes an embedded runtime system, so the compiler must be installed on machines that will compile the COBOL programs and also on any machine where COBOL programs are to be executed or run.

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 from your file server to this designated server before carrying out the compile. You would also need to install the Server Express compiler on all servers, in order to have the embedded runtime system present.
- 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 from the file server to all of these servers before carrying out the compile.

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:

- *PS_HOME Setup*

If you installed the PeopleSoft PeopleTools and PeopleSoft Application software to a *PS_HOME* location, follow the instructions in the section *Compiling COBOL on UNIX 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 your environment includes customized files in a *PS_CUST_HOME* directory, follow the instructions in the section *Compiling COBOL on UNIX with a PS_CUST_HOME Setup*.

See Also

"Preparing for Installation," *Defining Installation Locations*.

Task 13B-3-1: Modifying the Liblist64 File (IBM AIX)

Understanding Liblist Modifications

If you are compiling 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 COBOL.

See My Oracle Support, *Certifications*.

Modifying the Liblist64 File for AIX

To modify the *liblist64* file for AIX:

1. `cd` to `$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 13B-3-2: Compiling COBOL on UNIX with a PS_HOME Setup

This section assumes that you installed the PeopleSoft PeopleTools and PeopleSoft Application software to a *PS_HOME* directory. It also assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

To compile COBOL on UNIX:

1. If you haven't already done so, download all required patches to your file server, and from there FTP the contents of `src\cbl\base` and `src\cbl\unix` over to `src/cbl` on the relevant application or batch server.

Note. When you copy patches over from the file server, the files need to have a lowercase `cbl` extension and an uppercase program name, as in `PATCH.cbl`.

2. Source the script `psconfig.sh` from *PS_HOME* to set up environment variables correctly on your application or batch server.

```
. ./psconfig.sh
```

3. Change to the *PS_HOME*/setup directory:

```
cd $PS_HOME/setup
```

4. To compile all the COBOL source dynamically, issue the command:

```
./pscb1.mak
```

The dynamic compile creates INT, LST, and GNT files, which are copied to these locations:

File	Location
INT	<i>PS_HOME</i> /src/cbl/int
LST	<i>PS_HOME</i> /src/cbl/lst
GNT	<i>PS_HOME</i> /cblbin

Warning! Proposed ISO 2000 COBOL features are enabled. Please refer to documentation for details, and do not rely on these features being supported in future products from Micro Focus due to changes in the proposed COBOL standard.

Note. For Server Express, PeopleSoft sets the COBOL directive INTLEVEL to 4. Setting this directive to this value enables you to raise the significant digits of numeric fields from 18 to 31. This is in accordance with the ISO 2000 COBOL standard. During the compilation of each program, the vendor of Server Express will display a warning. This should not be considered a compilation error.

Task 13B-3-3: Compiling COBOL on UNIX with a PS_CUST_HOME Setup

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_CUST_HOME* environment variable with this command:

```
PS_CUST_HOME=/home/<user>/CUSTcompile; export PS_CUST_HOME
```

3. 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 13B-3-4: Linking COBOL

This section discusses:

- Understanding COBOL Linking
- Linking COBOL Components on UNIX

Understanding 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 COBOL Components on UNIX

To link 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

If you are running on an Oracle 11.2.0.4 database platform, you may see the following error when you attempt to compile:

```
"Undefined symbol nzosSCSP_SetCertSelectionParams referenced in file /products/oracle/11.2.0.4.0-64bit/lib/libclntsh.so.11.1"
```

To resolve this problem:

1. Edit the LD_LIBRARY_PATH environment variable so that \$ORACLE_HOME/lib comes before \$TUXDIR/lib.
2. Execute psrun.mak again.
3. Reverse the change you made in step 1.

Task 13B-3-5: Recompiling 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:

```
./pscbl.mak <PROGRAM NAME WITHOUT "cbl" EXTENSION>
```

For example, the following command compiles the lone file PTPDBTST.

```
./pscbl.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 a PS_HOME Setup](#) or [Compiling COBOL on UNIX with a PS_CUST_HOME Setup](#).

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 PS_HOME Setup: *PS_HOME/src/cbl/int*, *PS_HOME/src/cbl/lst*, and *PS_HOME/cblbin*
 - For PS_CUST_HOME Setup: *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 13B-4: Installing IBM COBOL on IBM AIX

This section discusses:

- Understanding the IBM COBOL for AIX Installation
- Prerequisites
- Installing IBM COBOL for AIX v4.1.1.1

Understanding the IBM COBOL for AIX Installation

The IBM COBOL for AIX compiler version 4.1.1.1 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 4.1.1.1, 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 4.1.1.1.

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 installation instructions assume that you have the IBM installation files and installation documentation. Review the information on planning your installation, but use the instructions in this document to carry out the installation. Contact your IBM representative to obtain the software.

See <http://www-01.ibm.com/software/awdtools/cobol/aix/>

See <http://www-01.ibm.com/software/awdtools/cobol/aix/library/>

- 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.

- Documentation for IBM System Prerequisites

Refer to the "System Prerequisites" section in the IBM Installation guide for COBOL for AIX 4.1, before installing and running the software.

Task 13B-4-1: Installing IBM COBOL for AIX v4.1.1.1

This procedure assumes that you obtained the installation file from your IBM vendor and saved the compressed installation file in a local directory, referred to here as *CBL_INSTALL*. The compressed installation file includes several filesets. All of the filesets listed must be installed. This table lists the filesets for IBM COBOL for AIX compiler v4.1.1.1, and the locations where they will be installed:

Fileset Name	Fileset Description	Installation Locations*	Required Fileset Level
cobol.cmp	IBM COBOL for AIX compiler	/usr/lpp/cobol/ /usr/lpp/cobol/bin/ /usr/lpp/cobol/samples/ /usr/lpp/cobol/include/ /usr/bin/	4.1.1.1
cobol.dbg	IBM COBOL for AIX debugger	/usr/lpp/cobol/lib /usr/lib/	4.1.1.1
cobol.lic	IBM COBOL for AIX license files	/usr/lpp/cobol/lib/	4.1.1.0

Fileset Name	Fileset Description	Installation Locations*	Required Fileset Level
cobol.license	IBM COBOL for AIX license	NONE	4.1.1.0
cobol.man	IBM COBOL for AIX compiler manual pages	/usr/share/man/ /usr/lpp/cobol/man/	4.1.1.1
cobol.msg.LANG	IBM COBOL for AIX compiler messages	/usr/lpp/cobol/lib/nls/msg/ LANG/ LANG = [en_US, ja_JP, Ja_JP]	4.1.1.0
cobol.rte	IBM COBOL for AIX Runtime	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0
cobol.rte.msg.LANG	IBM COBOL for AIX runtime messages	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0
cobol.tools	IBM COBOL for AIX tools	/usr/lpp/cobol/	4.1.1.1

* If more than one location is listed, the fileset is copied into all the locations.

To extract and install:

1. Go to the location where you saved the compressed installation file:

```
cd CBL_INSTALL
```

2. Uncompress and unpack the downloaded file with this command:

```
zcat cobol.411.aix.GM.tar.Z | tar -xvf
```

Note: The name of the compressed file you downloaded may be different than what is mentioned above.

3. Change directory to `CBL_INSTALL/usr/sys/inst.images`, and use the `inutoc` command to generate a list of the files in this directory:

```
cd usr/sys/inst.images
inutoc .
```

4. Use the AIX command `installp` to install.

For information on using the options for `installp`, see the IBM COBOL for AIX documentation. For example:

- To install all available filesets to the locations specified in the table at the beginning of this procedure, and write an installation log, use this command:

```
installp -aXYgd <CBL_INSTALL>/usr/sys/inst.images -e <LOG_DIR/logfile_>
```

```
name> all
```

- To install a specific fileset, and write an installation log, use this command:

```
installp -aXYgd <CBL_INSTALL>/usr/sys/inst.images -e <LOG_DIR/logfile_>
name> <fileset_name>
```

5. Download the required maintenance packs for IBM COBOL 4.1.1.1 from the IBM web site:
 - a. Go the IBM Support Fix Central web site: <http://www-933.ibm.com/support/fixcentral/>
 - b. Select the Product Group as Rational, Product as COBOL for AIX, Installed Version as 4.1.1.0 and Platform as AIX. Click Continue.
 - c. Select the Browse for fixes radio button. Click Continue.
 - d. Select the fix pack 4.1.1.1 or higher. Click Continue.
 - e. Download the fix pack using one of the download options available.
6. Install the filesets included in the fix pack using the `installp` command as described above.
 - You must install all the available filesets for 4.1.1.1.
 - For the fileset `cobol.msg.LANG` (where `LANG = [en_US, ja_JP, Ja_JP]`), choose to install only the filesets relevant to your desired language and location.

Note. The `LANG` environment variable determines which message catalogs are used. The `en_US` (English) message catalogs are installed by default. If `LANG` is not defined or is assigned an unsupported locale, `en_US` message catalogs are used.

7. Use the `lslpp` command to check the status of the installed COBOL filesets:

```
lslpp -L cobol*
```

Task 13B-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 13B-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

```
psclibm.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

```
psclibm.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:

```
./psclibm.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)	<code>PS_HOME/sdk/cobol/psclpt/src</code>
Human Capital Management	hcm	<code>PS_HOME/sdk/cobol/psclhrms/src</code>
Financials/Supply Chain Management	fscm	<code>PS_HOME/sdk/cobol/psclfscm/src</code>

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 13B-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:

```
./pscblibm.mak : Error : Critical program PTPPSRUN did not compile
./pscblibm.mak : Error : This error must be fixed prior to running any⇒
cobol programs...

./pscblibm.mak : Error : Critical program PTPPSRMT did not compile
./pscblibm.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 pscblibm.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:

```
./pscblibm.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
./pscblibm.mak : The list of file(s) that failed to compile/link can be⇒
  found at /data1/home/easa/pt854/setup/erroribm.lst
./pscblibm.mak : The compilation log is generated at /data1/home/easa⇒
  /pt854/sdk/cobol/psclpt/src/LISTOUT.lst
./pscblibm.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/Sd⇒
  U/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/pscbl<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:

```

pscblibm.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 13B-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 install the runtime filesets for IBM COBOL for AIX. You do not need to install the compiler. You must also configure the PeopleSoft Application Server and Process Scheduler domains.

This procedure assumes that you have downloaded the runtime filesets to *CBL_INSTALL*, and have set the environment variables as described earlier.

See Setting Environment Variables for IBM COBOL.

The runtime filesets will be installed into the locations as specified in this table:

Fileset Name	Fileset Description	Installation Locations	Fileset Level Required
cobol.rte	IBM COBOL for AIX runtime libraries	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0

Fileset Name	Fileset Description	Installation Locations	Fileset Level Required
cobol.msg.LANG	IBM COBOL for AIX runtime messages <i>LANG</i> = [en_US, ja_JP, Ja_JP]	/usr/lib/nls/msg/LANG	4.1.1.0

To install the runtime filesets:

1. Use the AIX command `installp` to install these filesets. For example:

```
installp -aYg -d CBL_INSTALL/usr/sys/inst.images cobol.rte cobol.msg.en_⇒
US
```

2. Download the required maintenance packs for IBM COBOL 4.1.1.1 from the IBM support web site.
<http://www-933.ibm.com/support/fixcentral/>
3. Install the filesets included in the maintenance packs using the `installp` command as described above.

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:

1. Go to the *PS_HOME/appserv* directory and run `psadmin`.
2. When the menu appears, specify *1* for Application Server and press ENTER.
3. Enter *2* for Create a Domain, and press ENTER.
4. 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.

5. On the Quick-configure menu, select *16*, Edit environment settings.
6. 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.

- a. On the PeopleSoft Domain Environment Settings, select *2* to add environment variable.
- b. 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.

7. Specify *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* 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 *l* to boot the domain.

Task 13B-5-4: Removing the IBM COBOL Installation

Keep the following information in mind before removing the IBM COBOL compiler on IBM AIX:

- You must have root user access to uninstall this product.
- Some filesets may not be uninstalled if they are required by other installed products.
- As uninstalling dependent packages automatically may introduce problems, it is recommended that you preview uninstallation to ensure that all dependent filesets are no longer required.

See the IBM COBOL compiler documentation for more information.

To remove the IBM COBOL compiler:

1. Run the following command:

```
installp -u cobol*
```

Here are typical responses:

```
$ installp -u cobol*
```

```
+-----+
-----+
```

```
Pre-deinstall Verification...
```

```
+-----+
-----+
```

```
Verifying selections...done
```

```
Verifying requisites...done
```

```
Results...
```

```
WARNINGS
```

```
-----
```

```
Problems described in this section are not likely to be the source of=>
any
immediate or serious failures, but further actions may be necessary or
desired.
```

```
Not Installed
```

```
-----
```

```
No software could be found on the system that could be deinstalled=>
for the
```

```
following requests:
```

```
cobol.msg.Ja_JP
```

```
cobol.msg.ja_JP
```

```
(The fileset may not be currently installed, or you may have made a
typographical error.)
```

```
<< End of Warning Section >>
```

```
SUCSESSES
```

```
-----
```

```
Filesets listed in this section passed pre-deinstall verification
and will be removed.
```

```
Selected Filesets
```

```
-----
```

```
cobol.cmp 4.1.1.0
```

```
# IBM COBOL for AIX=>
```

```
Compiler
```

```

    cobol.dbg 4.1.1.0          # IBM COBOL for AIX⇒
Debugger
    cobol.lic 4.1.1.0          # COBOL for AIX Licence⇒
Files
    cobol.license 4.1.1.0     # COBOL for AIX License⇒
Agreem...
    cobol.man 4.1.1.0         # IBM COBOL Set for AIX⇒
Man Pages
    cobol.msg.en_US 4.1.1.0   # IBM COBOL for AIX⇒
Runtime Me...
    cobol.rte 4.1.1.0         # IBM COBOL for AIX⇒
Runtime
<< End of Success Section >>
FILESET STATISTICS
-----
    9  Selected to be deinstalled, of which:
        7  Passed pre-deinstall verification
        2  FAILED pre-deinstall verification
    ----
    7  Total to be deinstalled
+-----+----->
-----+
                                Deinstalling Software...
+-----+----->
-----+
installp:  DEINSTALLING software for:
            cobol.lic 4.1.1.0
Filesets processed:  1 of 7  (Total time:  0 secs).
installp:  DEINSTALLING software for:
            cobol.license 4.1.1.0
Filesets processed:  2 of 7  (Total time:  0 secs).
installp:  DEINSTALLING software for:
            cobol.dbg 4.1.1.0
Filesets processed:  3 of 7  (Total time:  1 secs).
installp:  DEINSTALLING software for:
            cobol.man 4.1.1.0
Filesets processed:
    4 of 7  (Total time:  1 secs).
installp:  DEINSTALLING software for:
            cobol.msg.en_US 4.1.1.0
Filesets processed:  5 of 7  (Total time:  2 secs).
installp:  DEINSTALLING software for:
            cobol.cmp 4.1.1.0
Filesets processed:  6 of 7  (Total time:  3 secs).
installp:  DEINSTALLING software for:
            cobol.rte 4.1.1.0
Finished processing all filesets.  (Total time:  5 secs).
+-----+----->
-----+
                                Summaries:
+-----+----->

```

```

-----+
Pre-installation Failure/Warning Summary
-----
Name                      Level                Pre-installation Failure=>
/Warning
----->
-----
cobol.msg.Ja_JP
  deinstall                Nothing by this name to=>
cobol.msg.ja_JP
  deinstall                Nothing by this name to=>

```

```

Installation Summary
-----
Name                      Level                Part      Event      =>
Result
----->
-----
cobol.lic                 4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.license             4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.dbg                 4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.man                 4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.msg.en_US          4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.cmp                 4.1.1.0             ROOT      DEINSTALL =>
  SUCCESS
cobol.cmp                 4.1.1.0             USR       DEINSTALL =>
  SUCCESS
cobol.rte                 4.1.1.0             USR       DEINSTALL =>
  SUCCESS

```

2. To remove any currently unused modules in kernel and library memory, enter the following on the command line:

```
slibclean
```


Chapter 14

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:

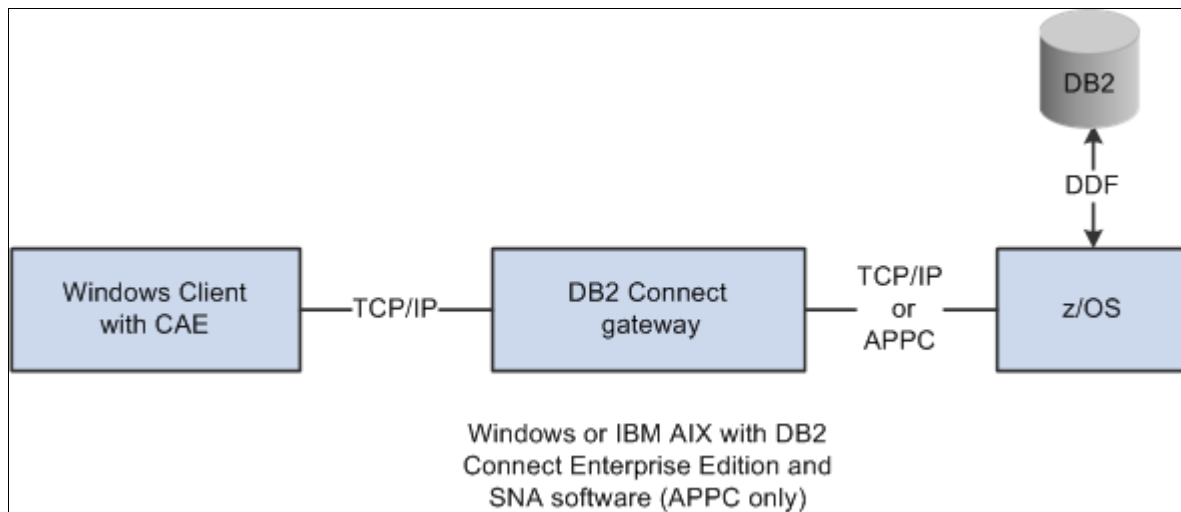
- Provides a control point for client connections.
- Performs the proper character conversions when receiving data from DB2.
- Responds to the connect requests from PeopleSoft client computers and creates corresponding TCP/IP conversations with DDF.
- Sends requests and replies between client computers 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:

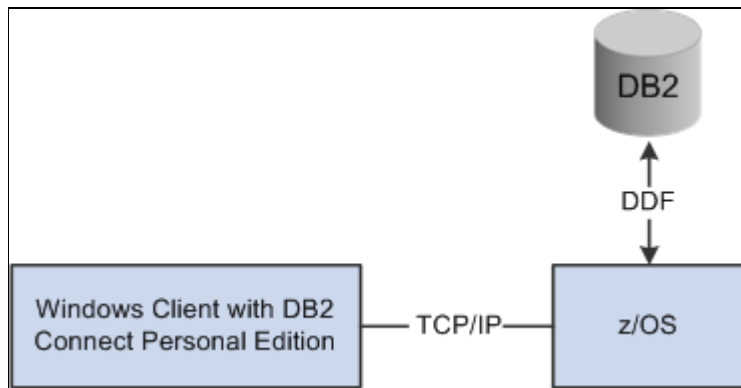


DB2 Connect Enterprise Edition architecture

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

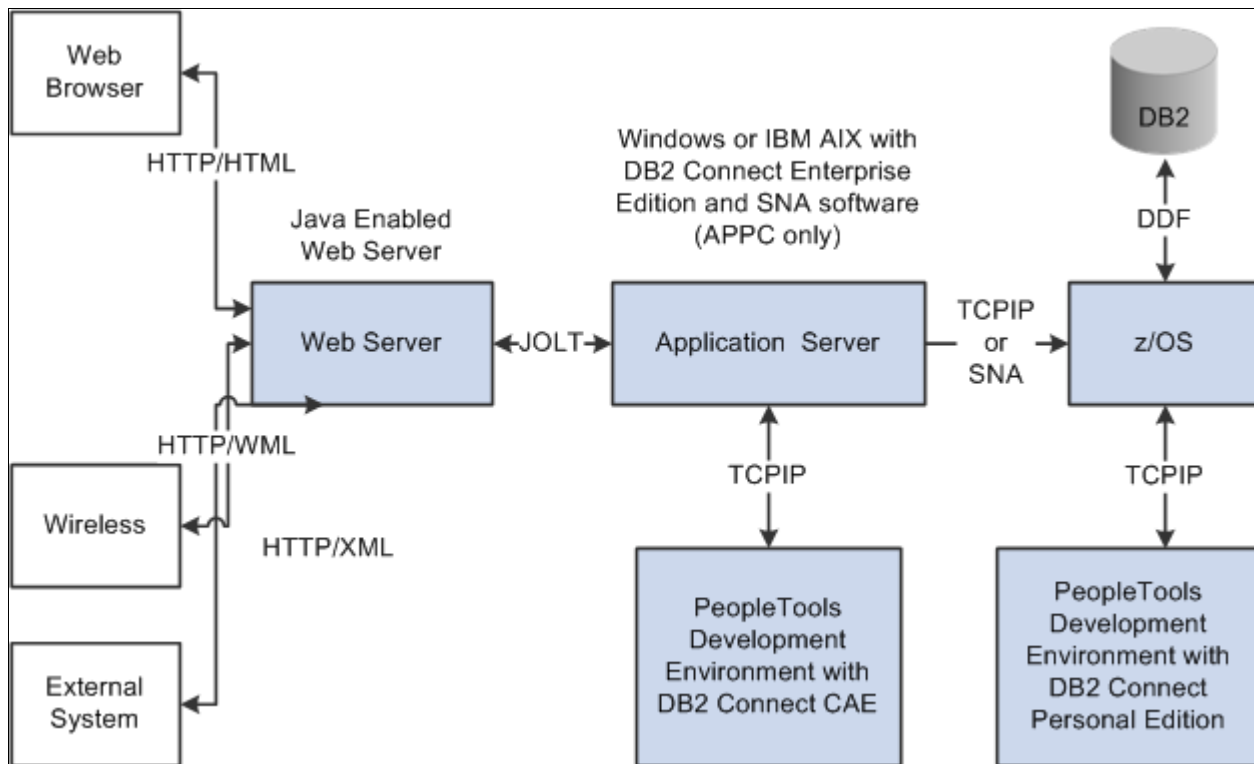
DB2 Connect Personal Edition allows direct TCP/IP connection to the host with no gateway requirement.

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 14-1: 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 14-2: 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 mvspstown
PING mvspstown.peoplesoft.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 DDCS, 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 14-3: 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 14-3-1: Configuring Database Connectivity on Clients with DB2 Connect Version 9.x or Earlier

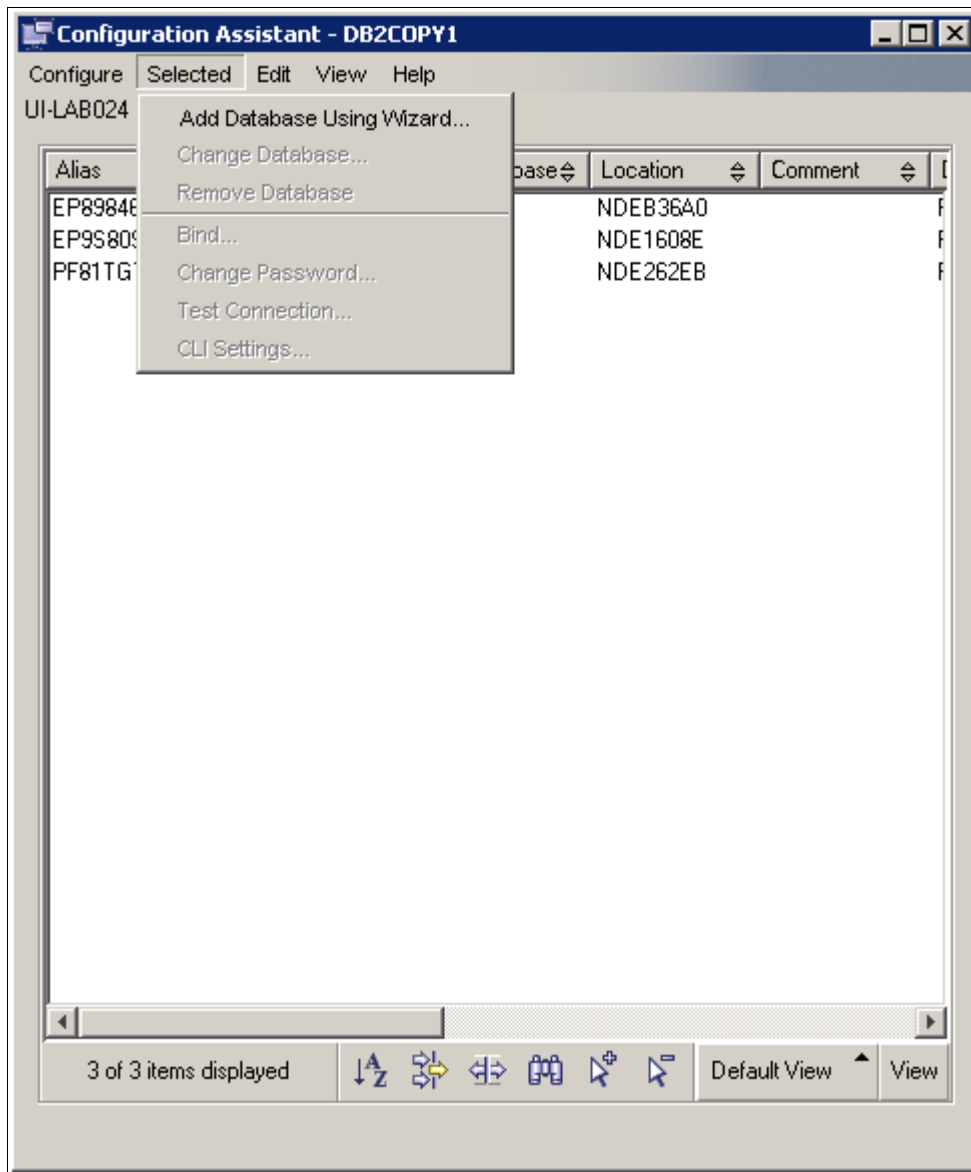
Use the information in this section if you are using DB2 Connect version 9.x or earlier, where x refers to the version number. To install the DB2 Connect Gateway to run properly with PeopleSoft applications, configure the DB2 Database in Client Configuration Assistant.

See *DB2 Connect Enterprise Edition Quick Beginnings manual*.

See My Oracle Support, Certifications, for information on supported versions.

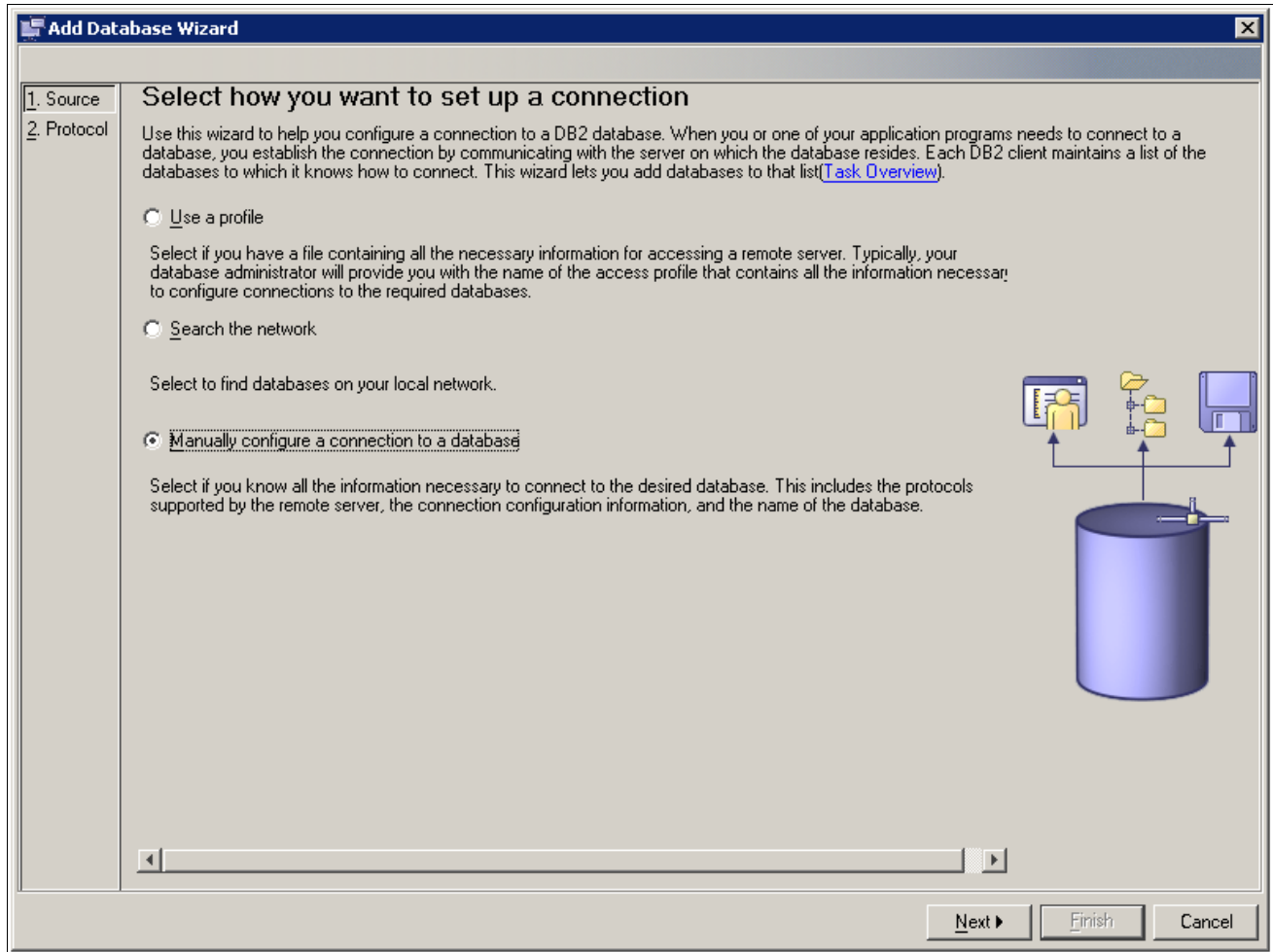
1. Open Configuration Assistant.

On the Selected menu, select Add Database Using Wizard. The Add Database Wizard window opens.



Using the Selected menu on the Configuration Assistant window

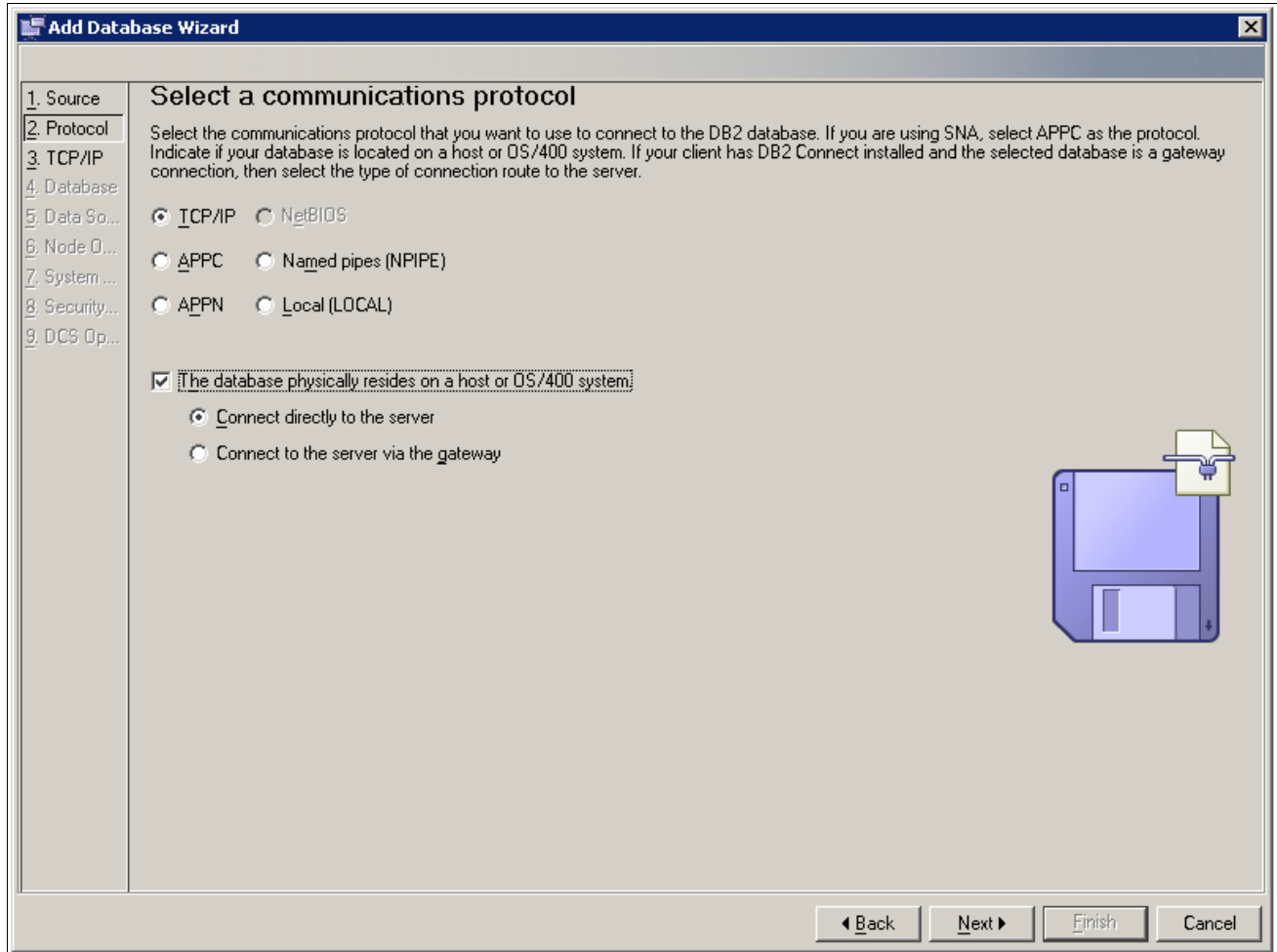
- 2. Select the radio button **Manually configure a connection to a database**, as shown in this example, and then click **Next** to continue.



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.

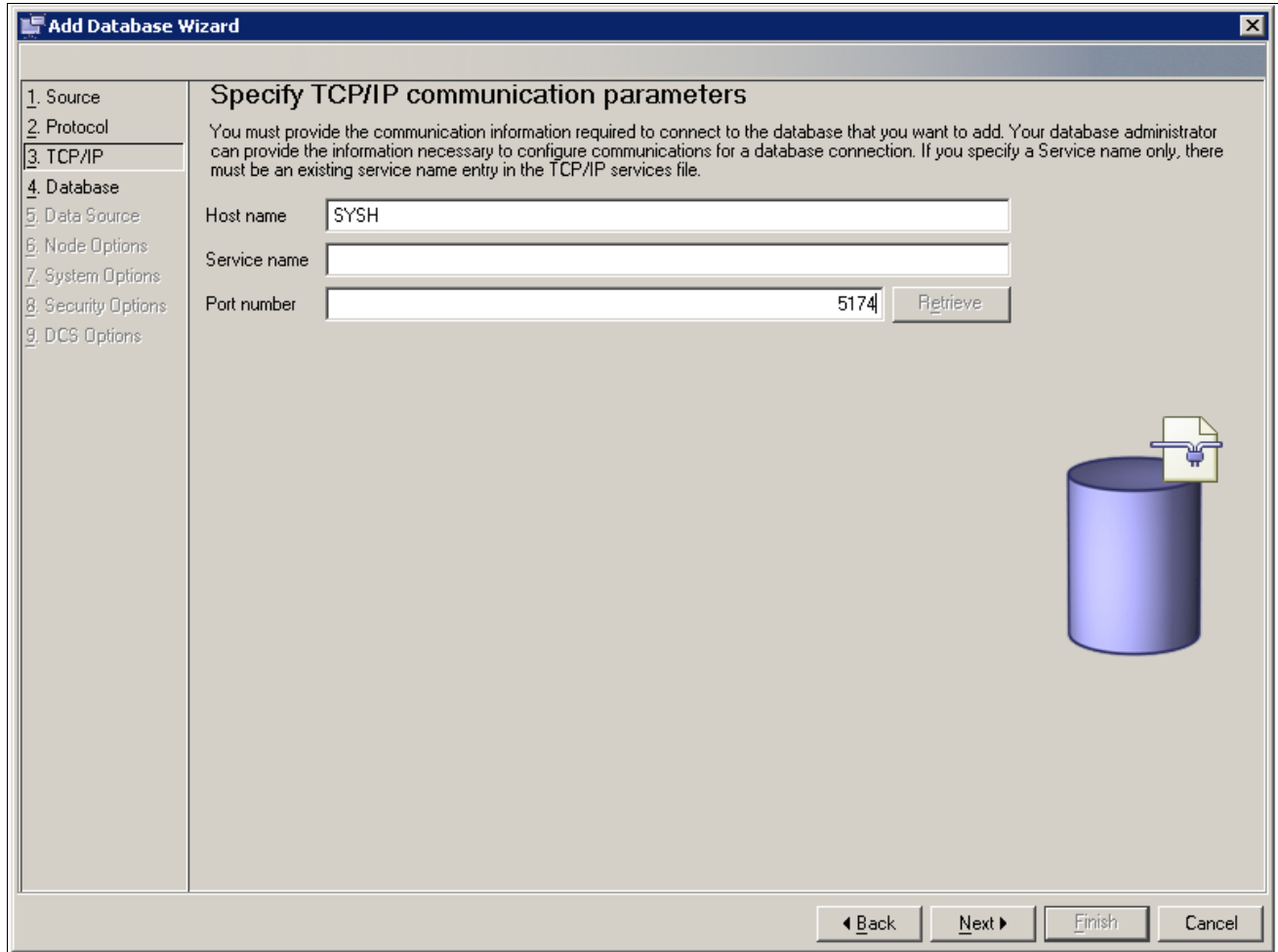
The Connect directly to the server option is selected by default. Leave this option selected and click the Next button.



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.



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.

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

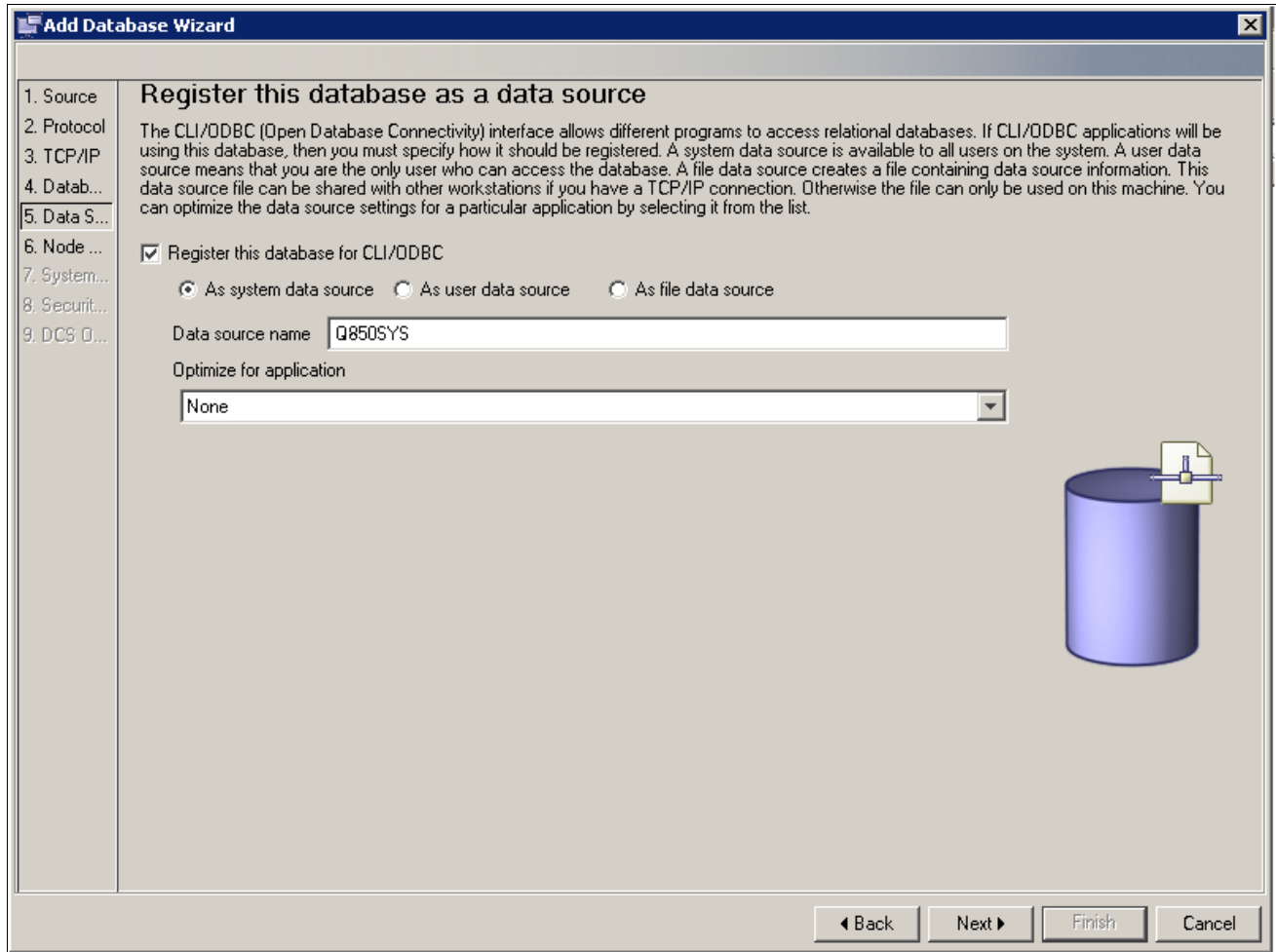
Comment:

Back Next Finish Cancel

Specifying database parameters on the Change Database Wizard window

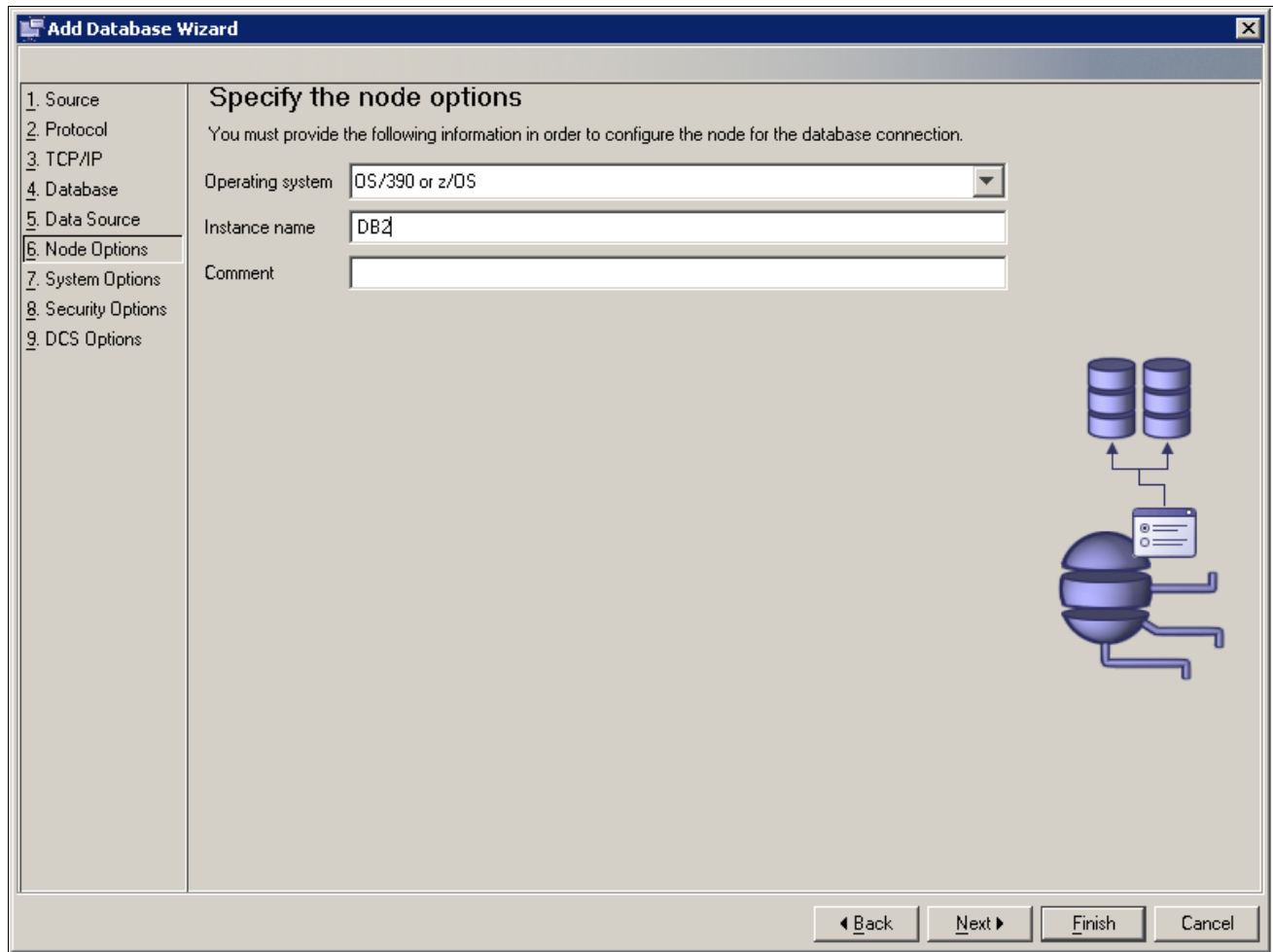
- 6. Verify that the check box Register this database for CLI/ODBC and the radio button As system data source are selected, as shown in this example.

Click Next.



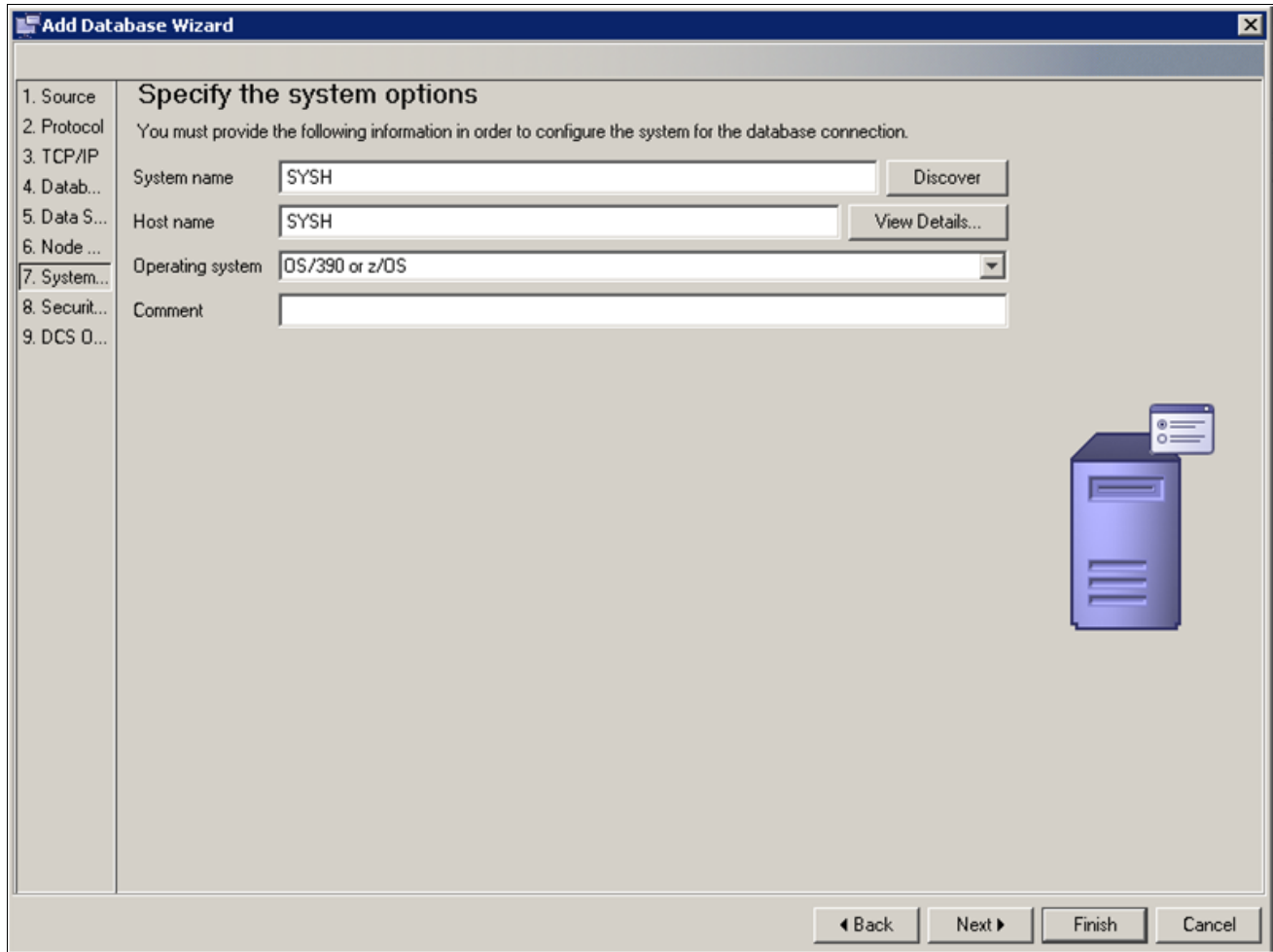
Registering the database on the Change Database Wizard window

7. Select *OS/390 or z/OS* in the Operating system drop-down list box, and then click Next.



Specifying the node options on the Change Database Wizard window

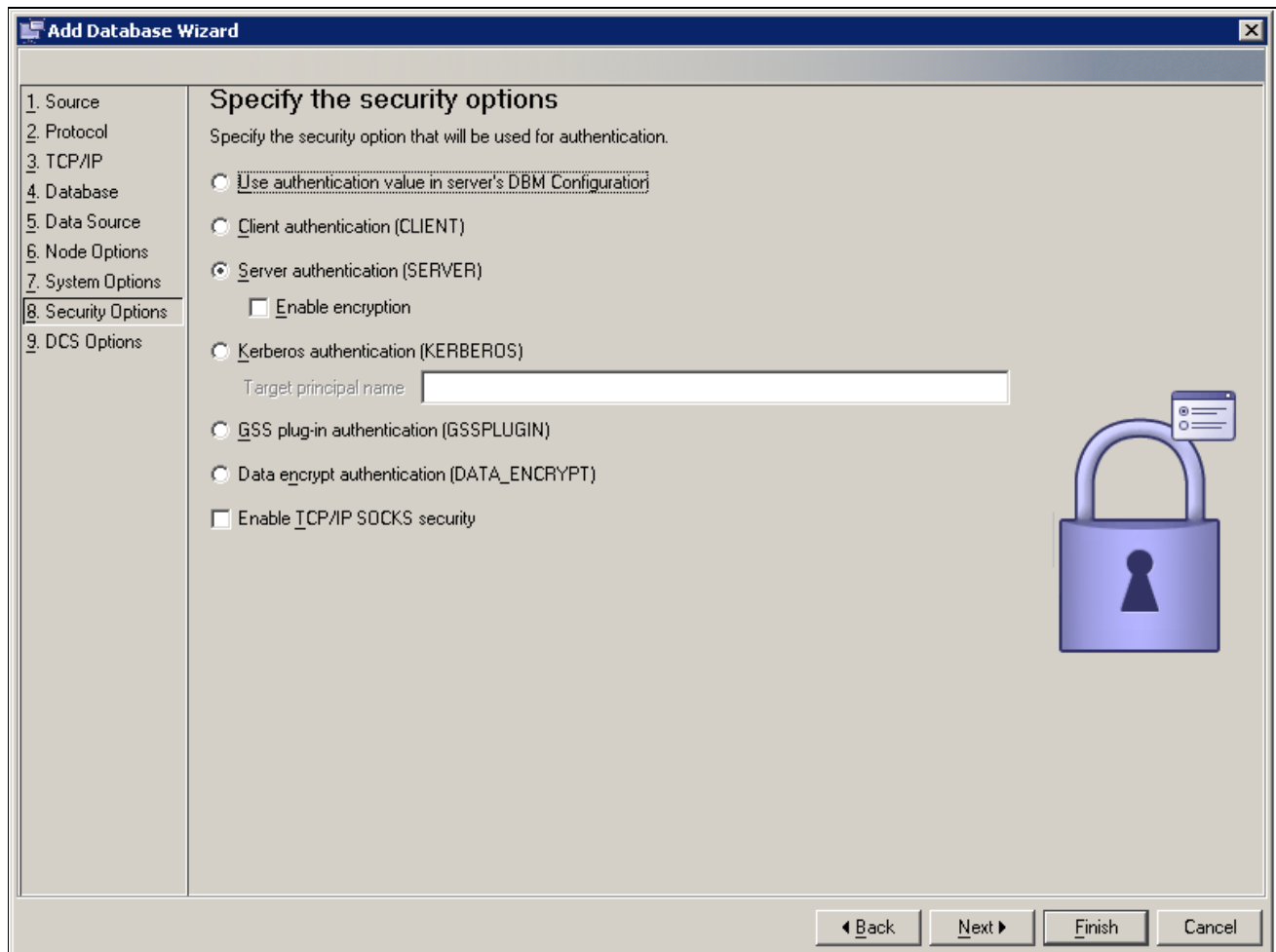
- 8. Verify that the information in the System name and Host name text boxes is correct, as shown in this example, and then click Next.



Verifying System name and Host name in the Change Database Wizard window

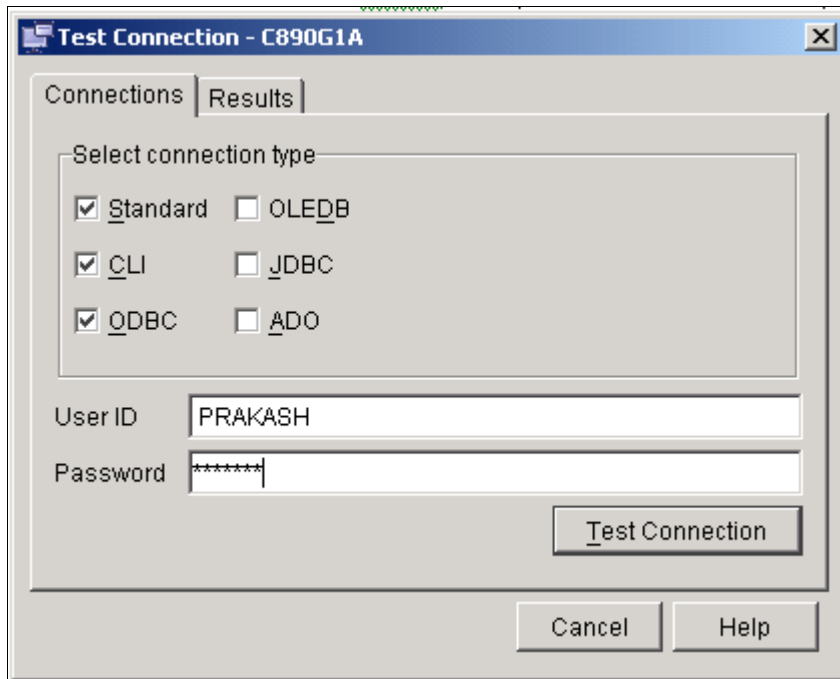
9. Make sure that the radio button Server authentication (SERVER) is selected and click Finish.

Note. No changes are required on the DCS Options page.



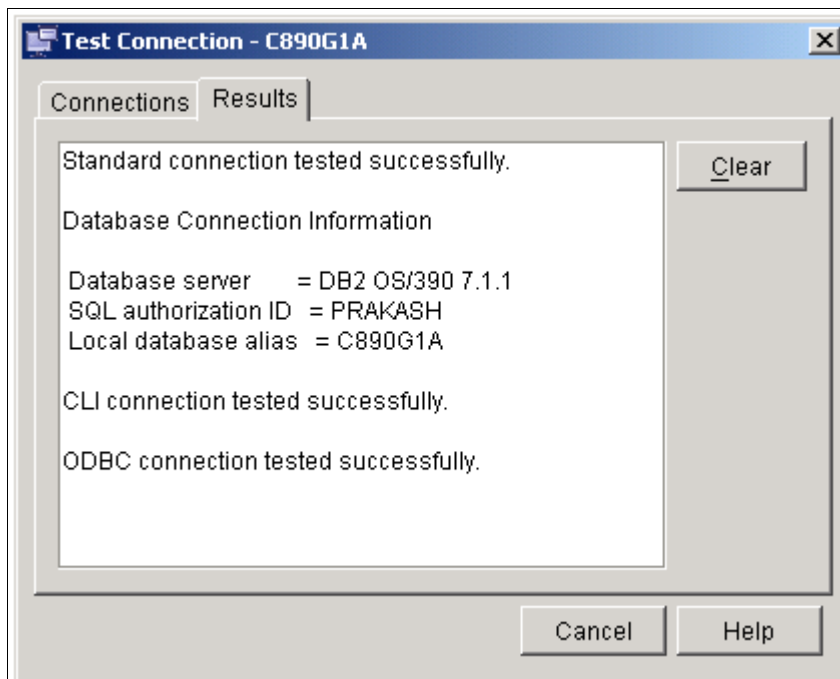
Specifying security options on the Change Database Wizard window

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 14-3-2: 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 14-3-3: 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
```

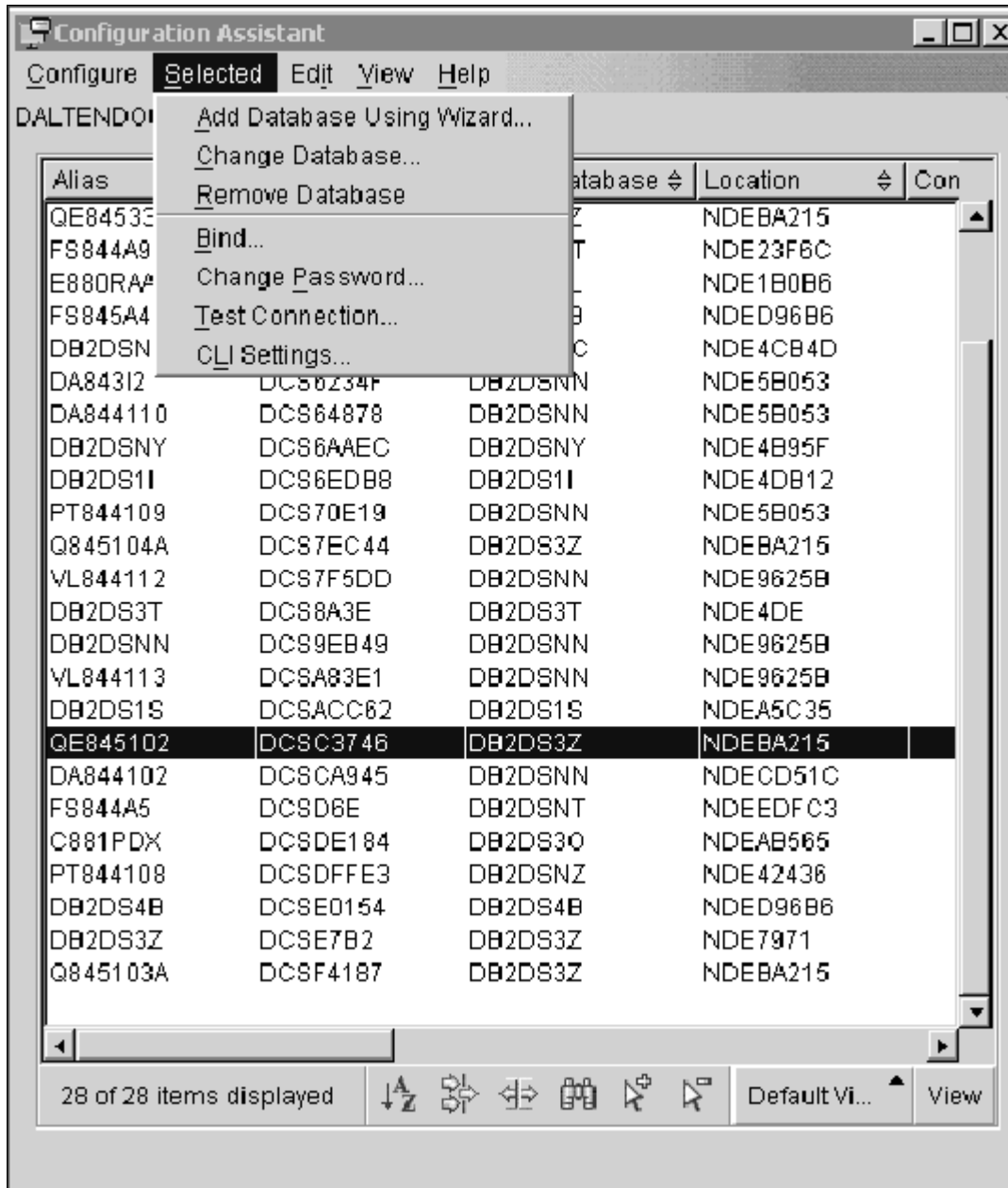
```
PSADMIN.3992 (0) [12/30/11 00:23:11](0) End boot attempt on domain=>
Q8533I1E
```

Task 14-4: 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.

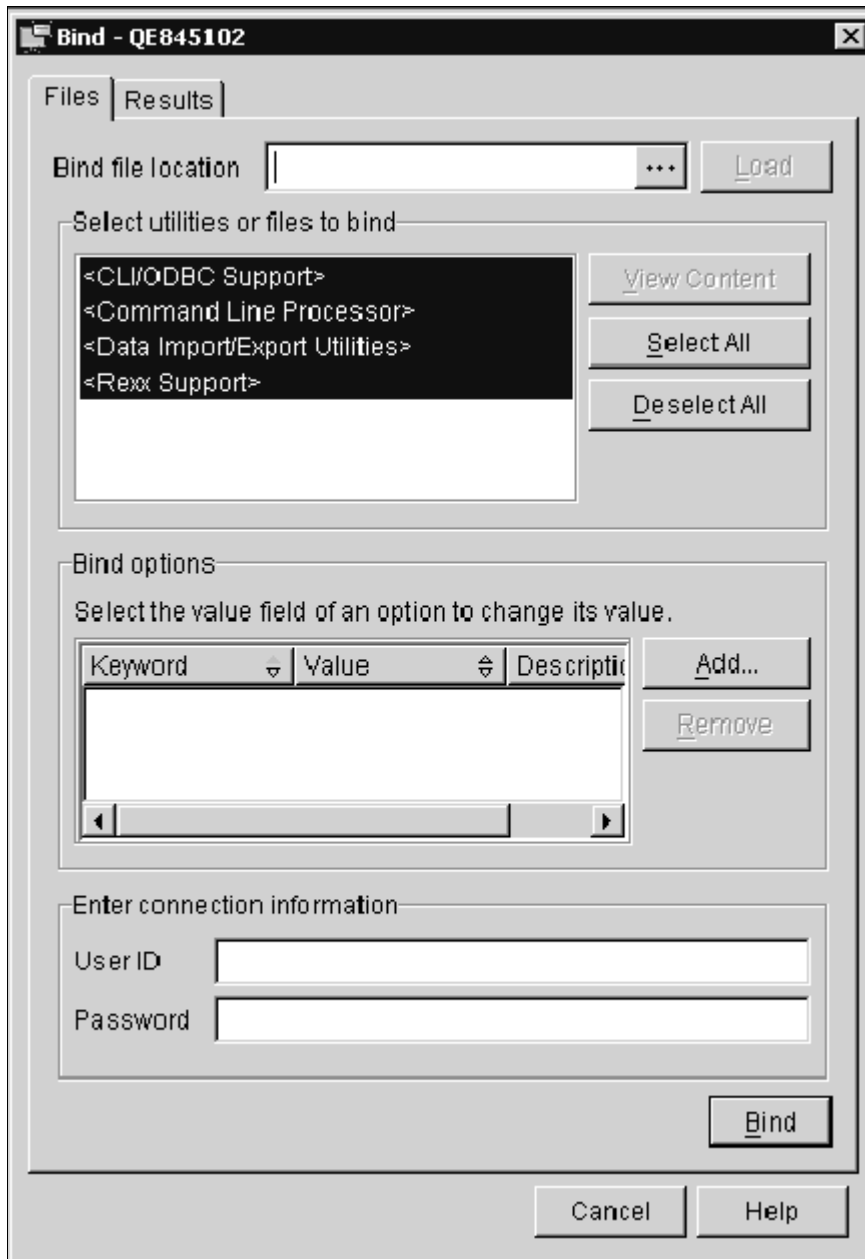
1. Open the Configuration Assistant.

Highlight your database name and select Bind from the Selected menu. The Bind window appears.



Selecting Bind on the Configuration Assistant window

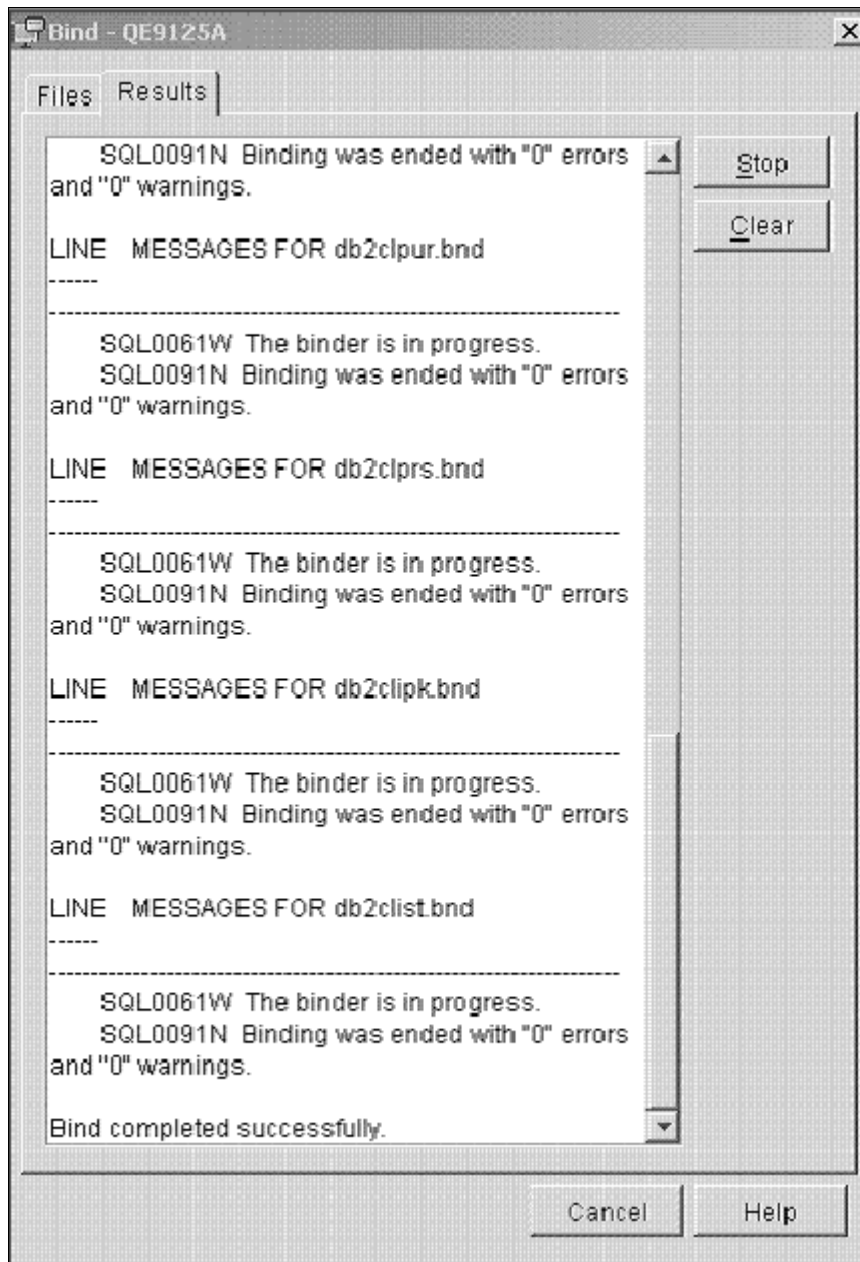
2. Click Select All in the Select utilities or files to bind area, and enter your User ID and password in the Enter connection information area, seen in this example:



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:



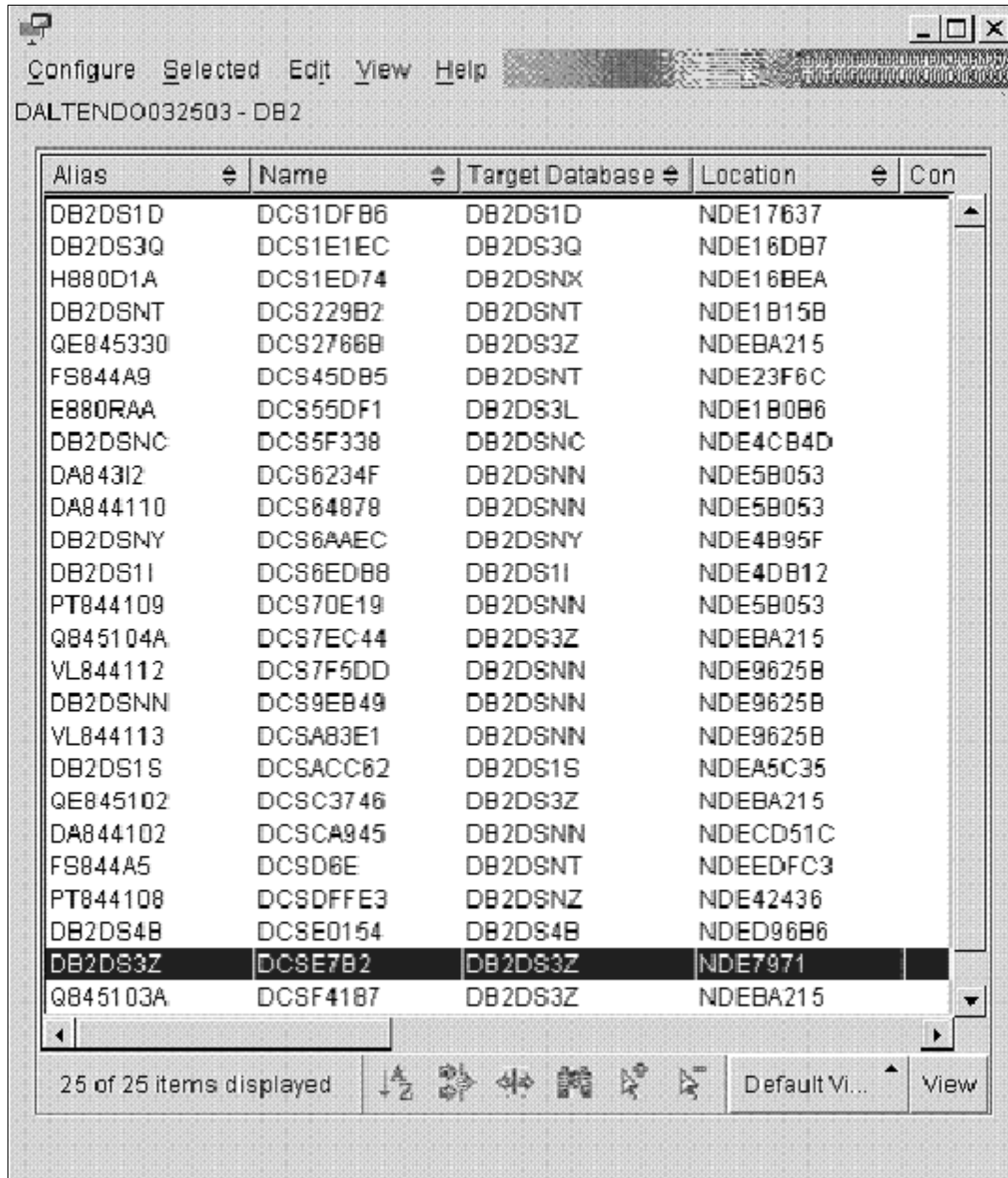
Results tab on the Bind window

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 14-5: Binding DB2 Connect Packages for a Unicode Installation

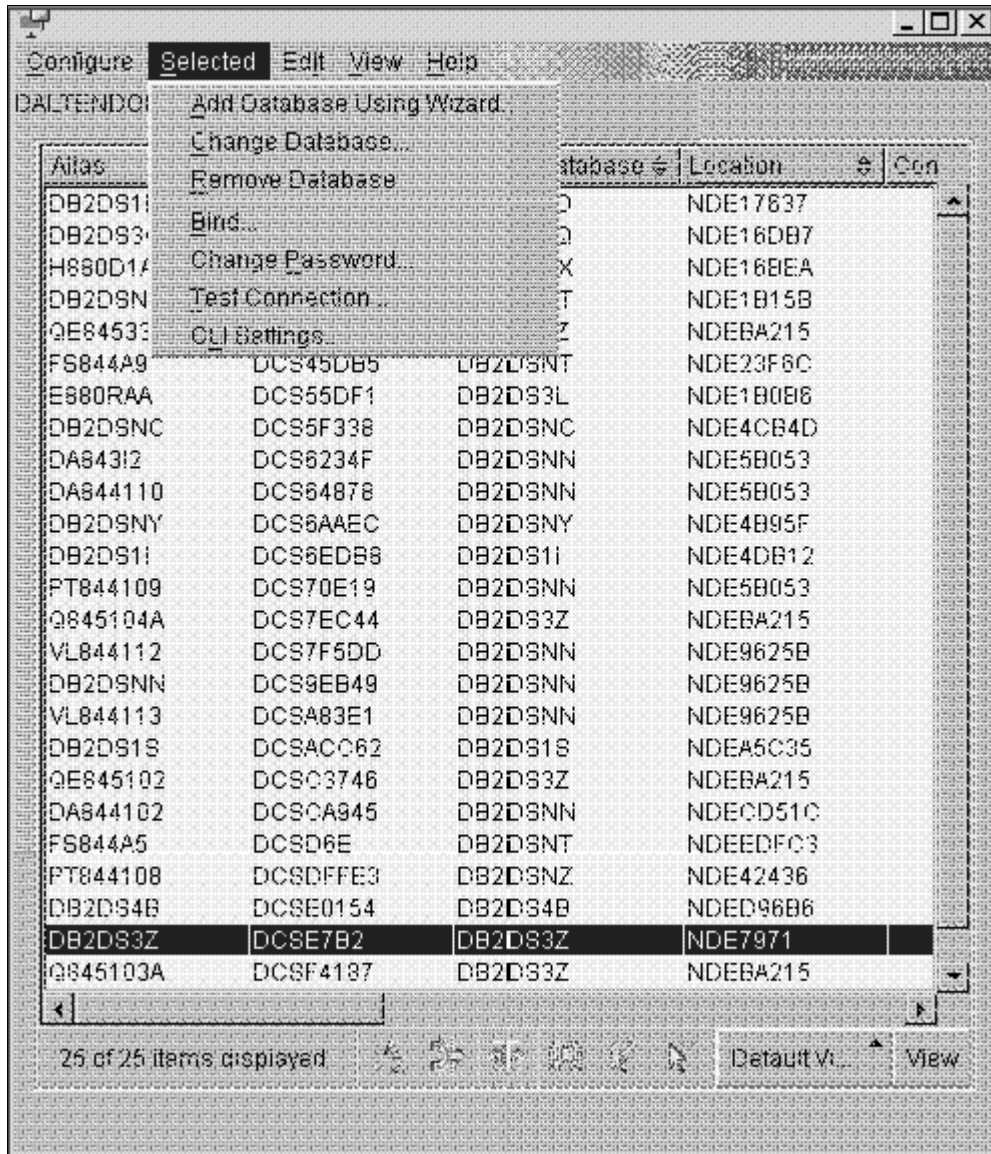
Use the instructions in this task if you have to bind the packages for DB2 Connect for a Unicode installation.

1. Open the Configuration Assistant.



Configuration Assistant window

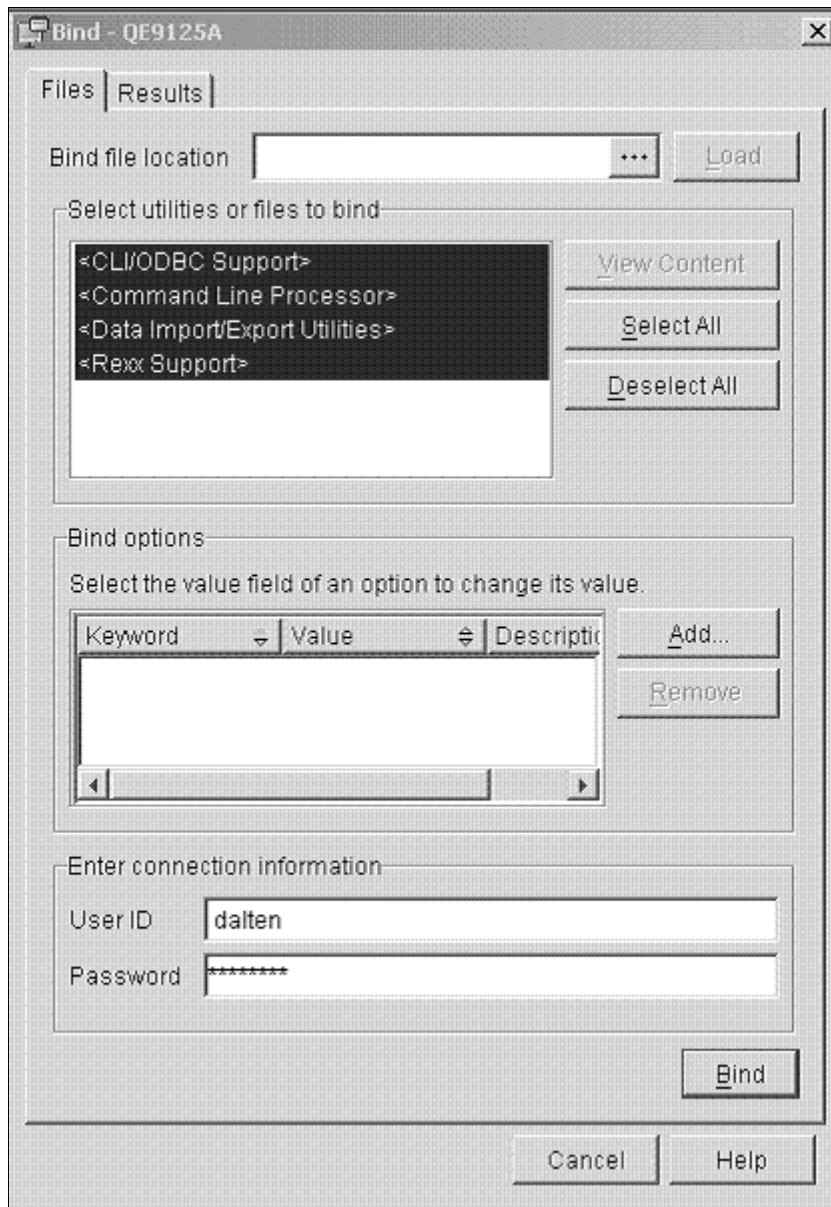
- Highlight the database and on the Selected menu, select Bind.



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.

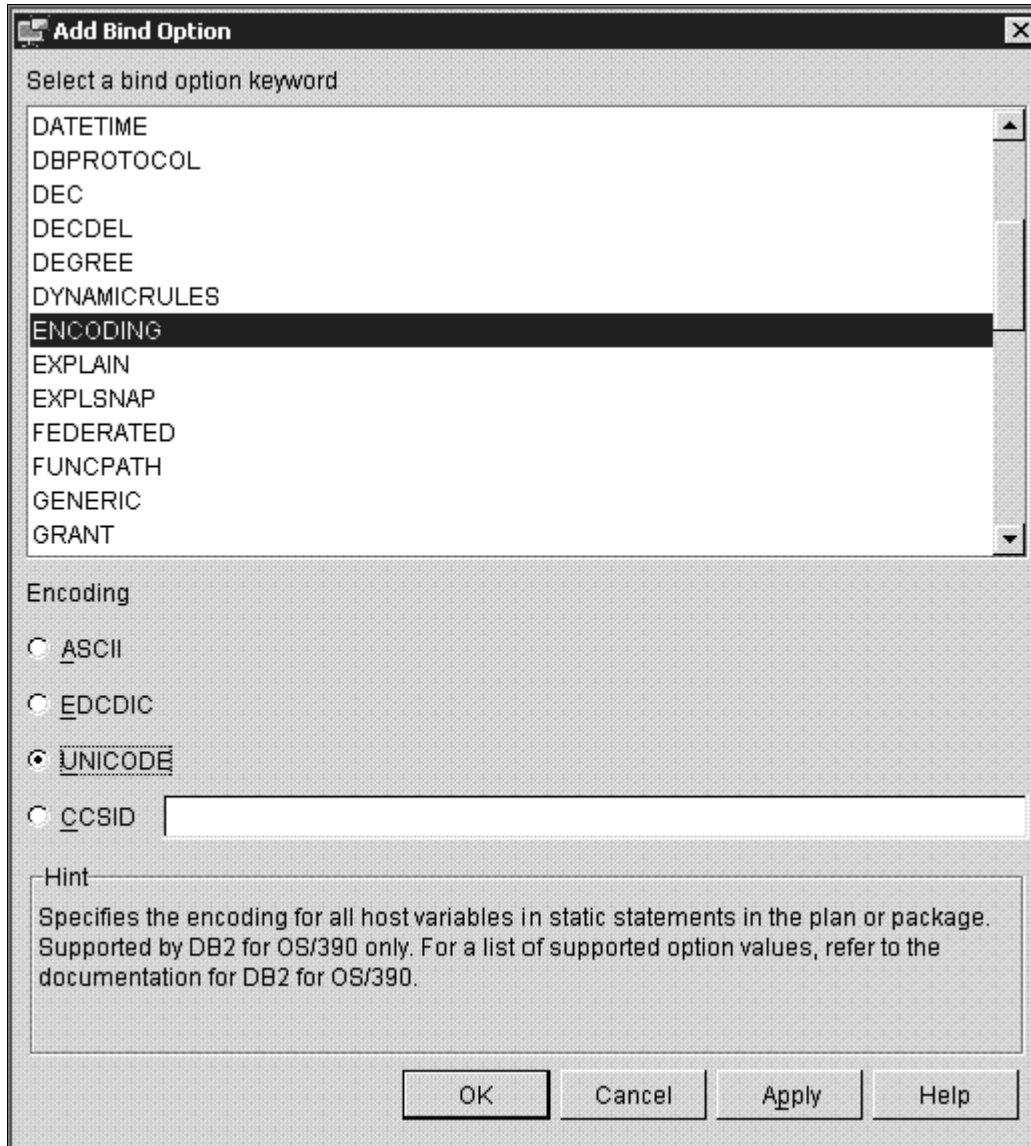


Files tab on the Bind window

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.

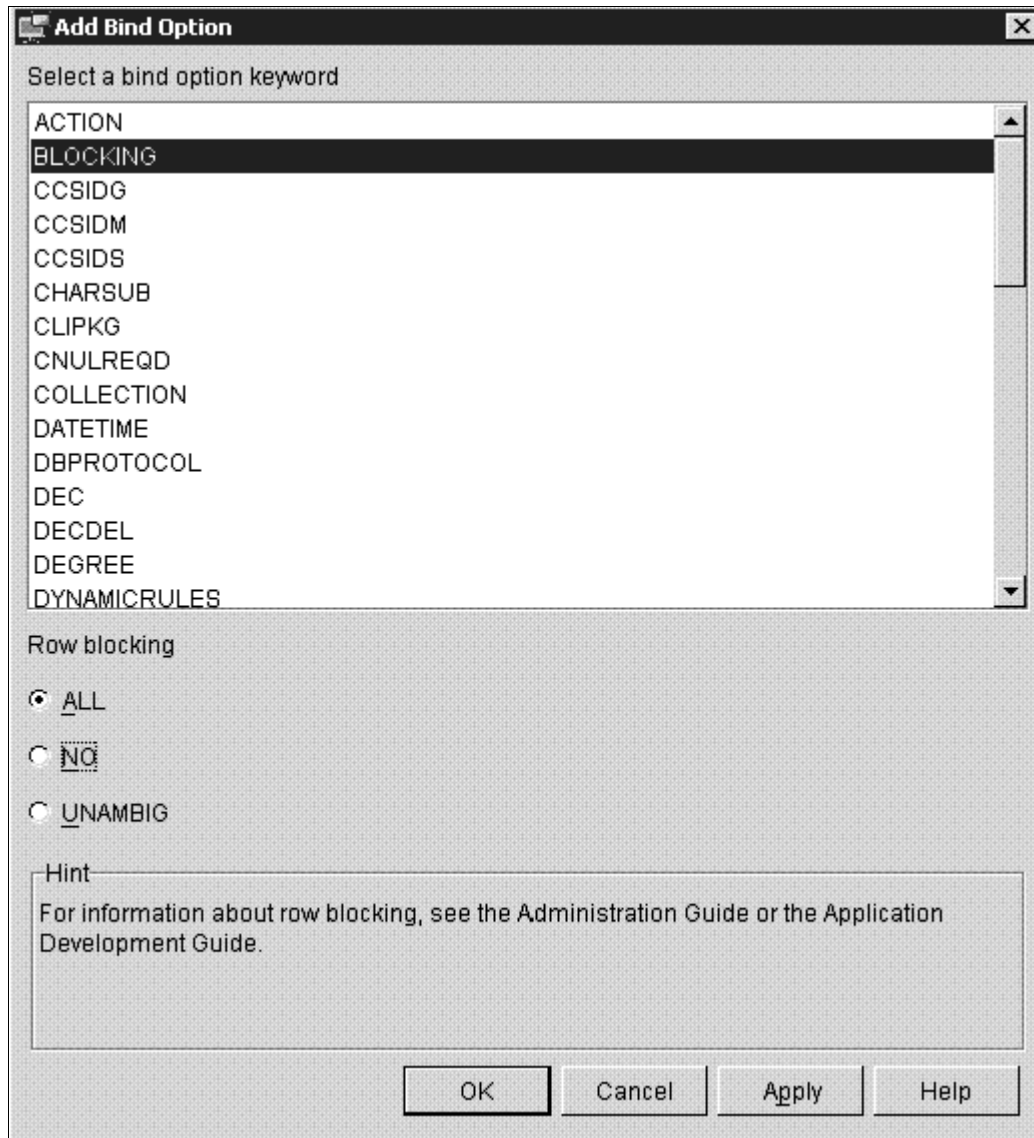
Click Apply.



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.

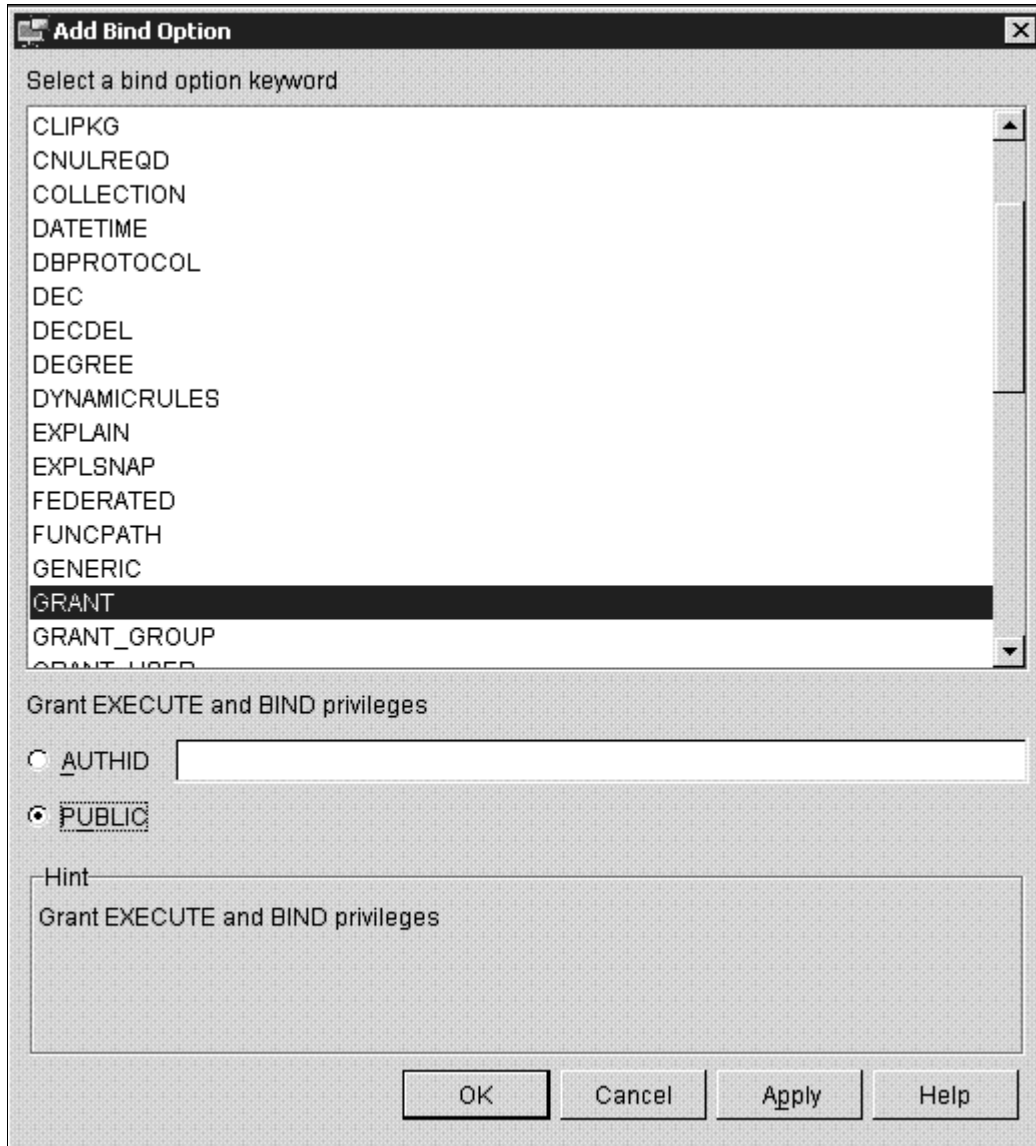
Click Apply.



Specifying row blocking on the Add Bind Option window

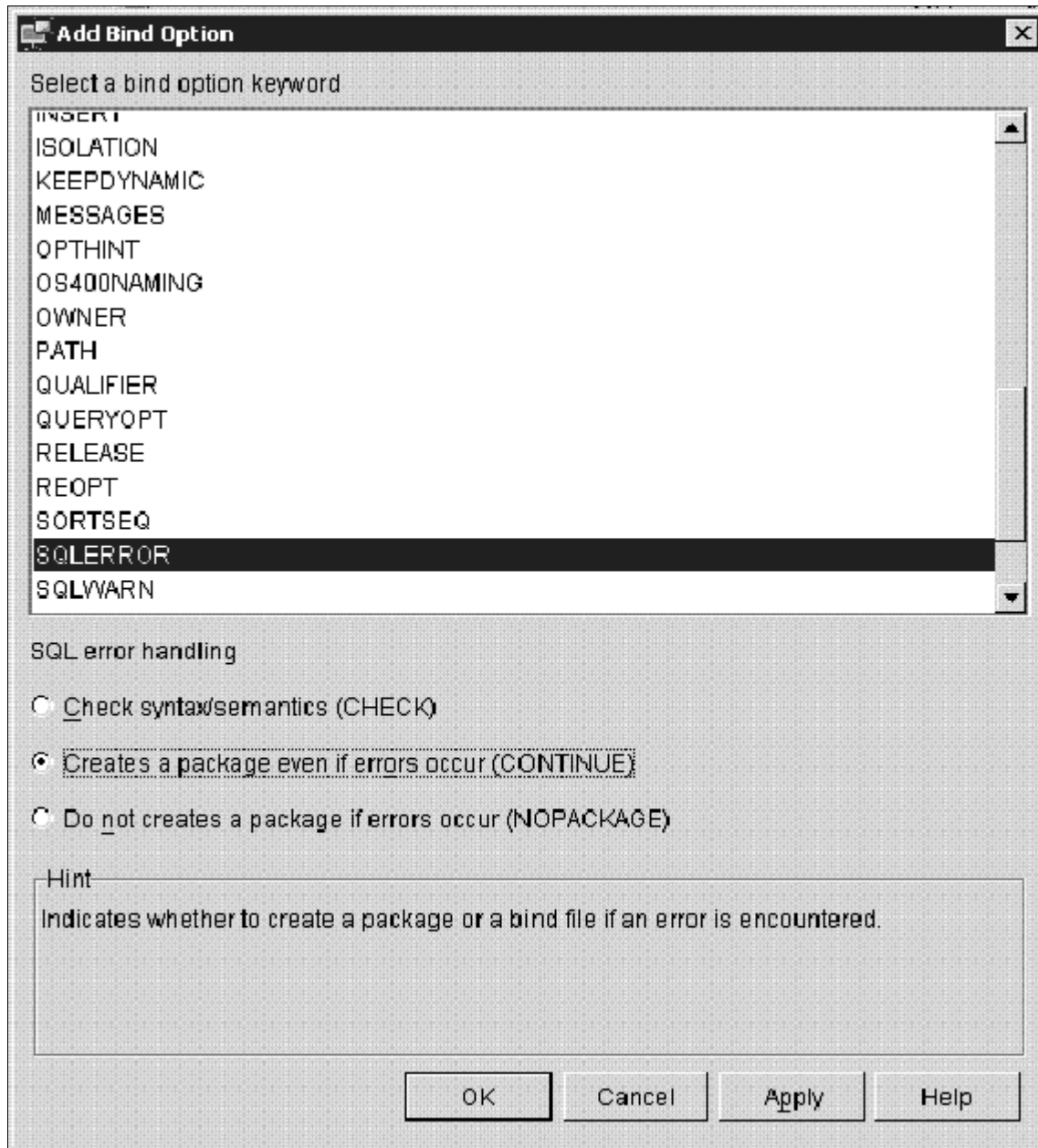
- 6. Highlight *GRANT* from the list, and select the PUBLIC radio button from the Grant EXECUTE and BIND privileges area, as shown in the example.

Click Apply.



Specifying granting privileges on the Add Bind Option window

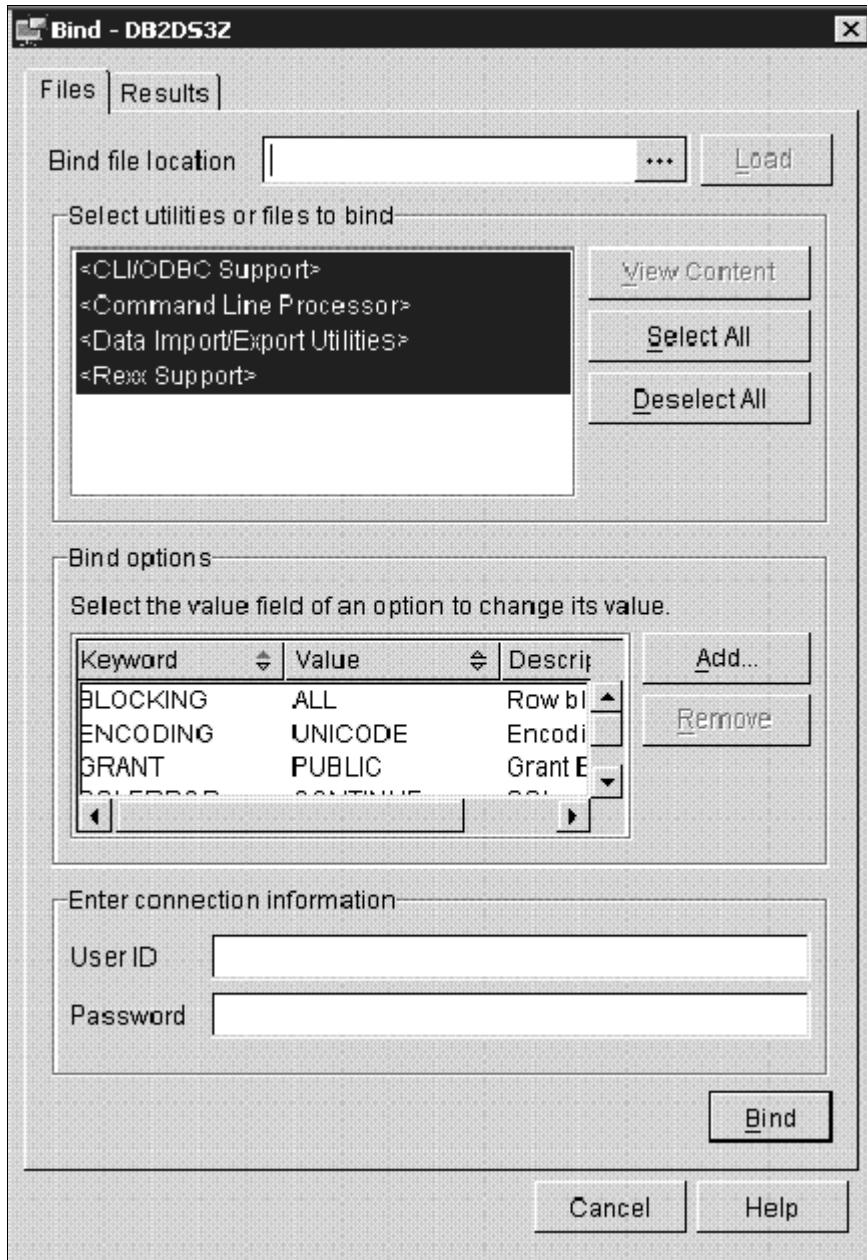
7. Highlight *SQLERROR* in the list, and select the Creates a package even if errors occur (CONTINUE) radio button, as shown in this example:



Specifying SQL error handling on the Add Bind Option window

Click Apply, and then click OK to return to the Bind window.

- Verify that the Bind options list includes the options you added in the previous steps.



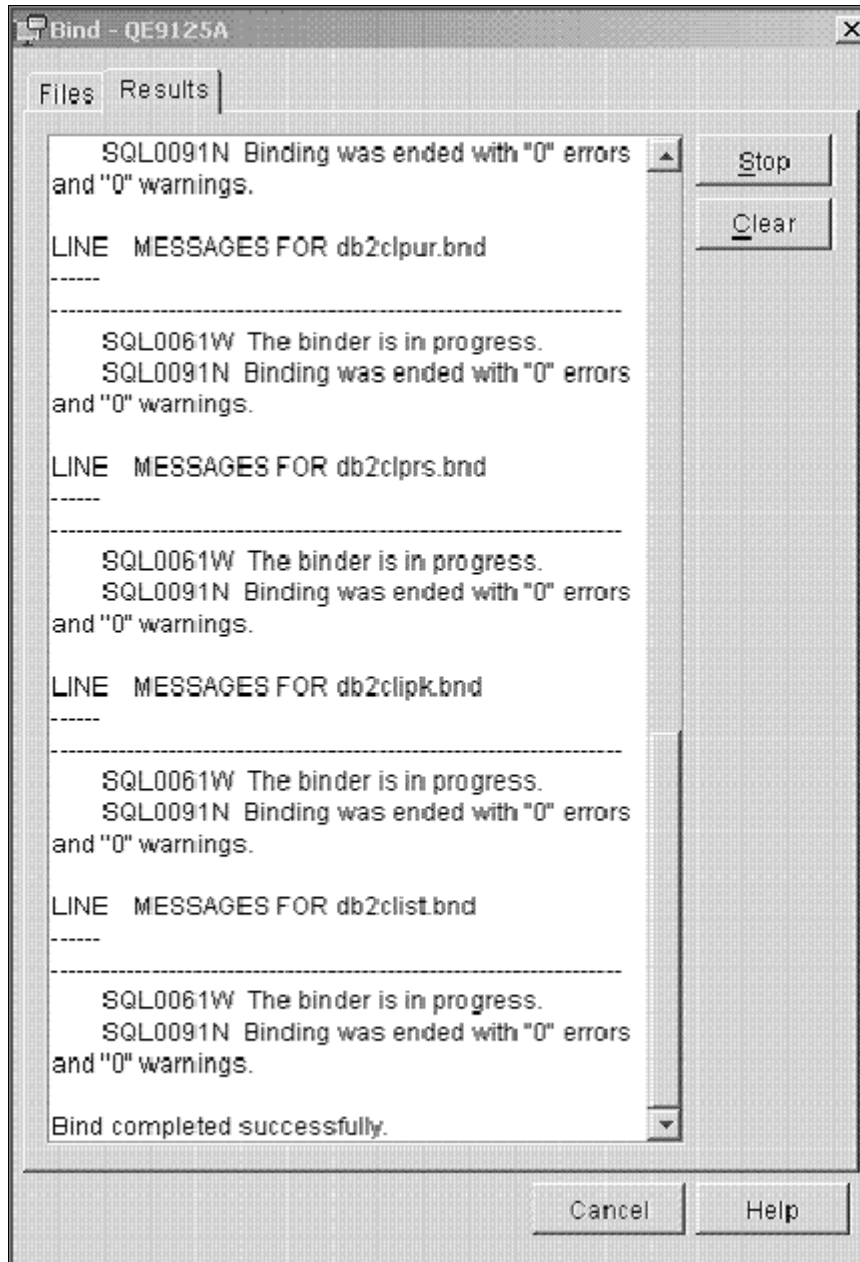
Verifying bind options on the Bind window

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 14-6: 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 14-7: 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 14-8: 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 14-9: 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
```

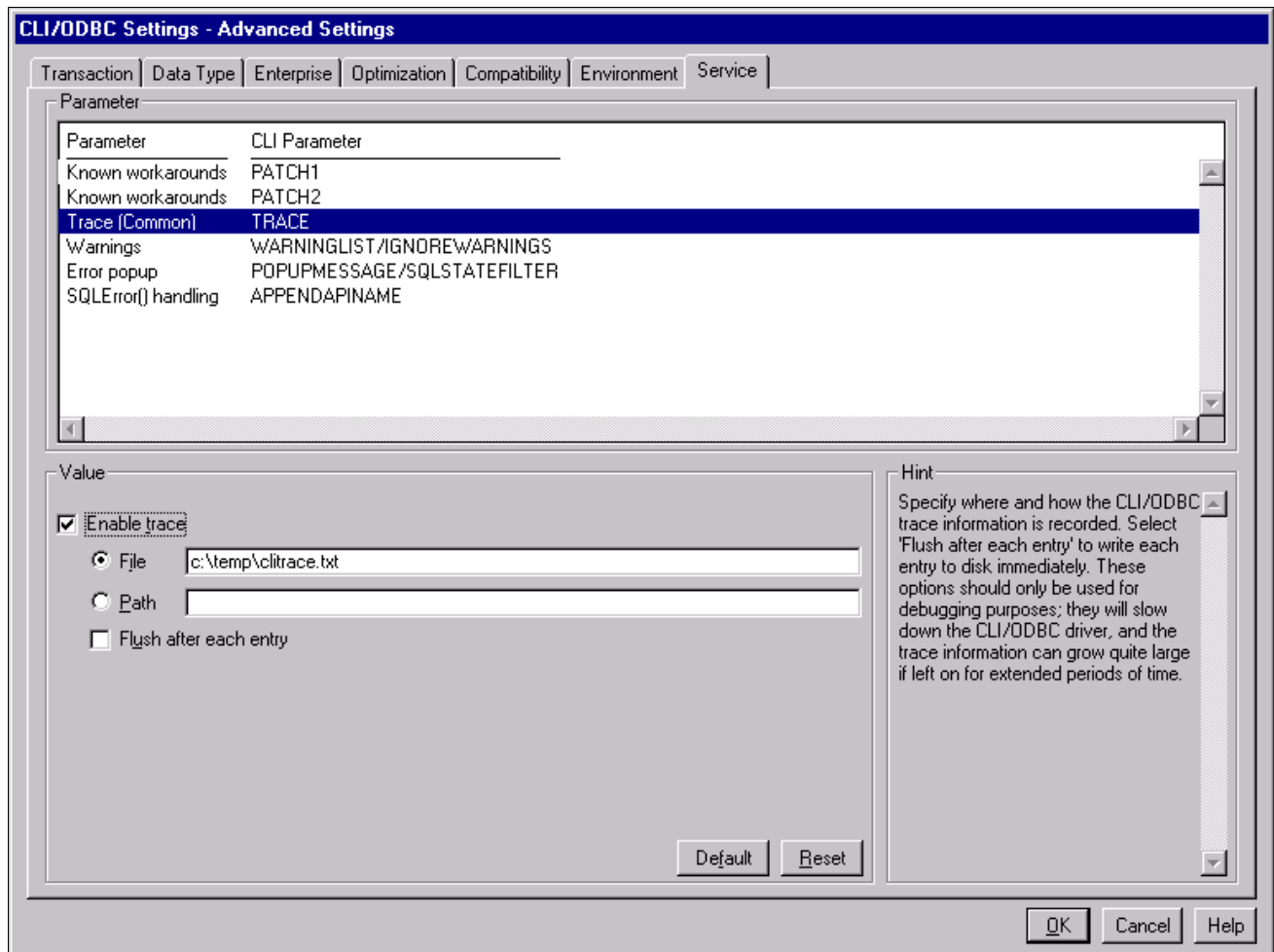
Task 14-10: Setting CLI/ODBC Trace with the Client Configuration Assistant

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 15

Installing PeopleSoft Online Help

This chapter discusses:

- Understanding PeopleSoft Online Help (PeopleBooks)
- Using the PeopleSoft Online Help Web Site for Context-Sensitive Help
- Configuring Context-Sensitive Help with Local Installations

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 Web site, 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 with PeopleSoft PeopleTools and every PeopleSoft application. You have several options for deploying PeopleSoft Online Help to benefit your organization. This chapter describes the methods for accessing, installing, and configuring PeopleSoft Online Help.

- *Hosted PeopleSoft Online Help Web site:* Use PeopleSoft Online Help over the Internet with the hosted content on the hosted PeopleSoft Online Help Web site.
- *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.

- *PDF format:* You can download a PDF version of PeopleSoft Online Help, organized in the traditional PeopleBooks format, from the Oracle Technology Network (OTN).

See Also

Oracle Documentation, Oracle Technology Network,
<http://www.oracle.com/technetwork/documentation/index.html>

"Preparing for Installation," Planning Multilingual Strategy

PeopleTools: Applications User's Guide, "Accessing Embedded Help"

Task 15-1: Using the PeopleSoft Online Help Web Site for Context-Sensitive Help

This section discusses:

- Understanding the PeopleSoft Online Help Web Site
- Setting Up Context-Sensitive Help with the PeopleSoft Online Help Web Site
- Setting Up F1 Help with the PeopleSoft Online Help Web Site

Understanding the PeopleSoft Online Help Web Site

PeopleSoft Online Help is immediately available for use over the Internet at the PeopleSoft Online Help Web site. To configure context-sensitive help with the PeopleSoft Online Help web site, you must have an Internet connection available to your server where PeopleSoft PeopleTools is installed.

See PeopleSoft Online Help, www.peoplesoftonlinehelp.com.

Alternatively, you can install PeopleSoft Online Help to a file server hosting web server software, as described in the section Installing the PeopleSoft Online Help Locally.

Task 15-1-1: Setting Up Context-Sensitive Help with the PeopleSoft Online Help Web Site

You can configure your PeopleSoft server to use the hosted documentation from the PeopleSoft Online Help Web site for context-sensitive help. Each page in your PeopleSoft applications includes a Help icon that, when clicked, opens a new browser window displaying help topics that discuss that page. To enable the Help link from application pages:

1. Log in to your PeopleSoft application in a browser.
2. Select PeopleTools, Web Profile, Web Profile Configuration.
3. Click Search and select the Profile Name you specified during your PeopleSoft Pure Internet Architecture installation, for example, PROD.

4. On the General page in the Help URL field, enter the URL for one or more products.

You can access the URLs from the PeopleSoft Online Help Web site. Under Setting Up Context-Sensitive Help, select the link Enabling the Help Link from the Application Pages.

See PeopleSoft Online Help,

http://docs.oracle.com/cd/E17566_01/epm91pbr0/eng/psbooks/EnablingtheHelpLinkfromApplicationPages.pdf.

The URLs have the following format, where UlinkID1, UlinkID2, ...UlinkID n refer to universal linking product line codes:

[http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=UlinkID1&ctx=UlinkID2....&ctx=UlinkID \$n\$](http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=UlinkID1&ctx=UlinkID2....&ctx=UlinkIDn)

The URL for the PeopleTools documentation must come before the URLs for PeopleSoft application documentation, as in this example:

http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=pt855pbr0&ctx=hcm92pbr7

This example shows the Web Profile Configuration page with a sample help URL for PeopleSoft PeopleTools 8.55 and PeopleSoft HCM 9.2:

Web Profile Configuration

General Security Authorized Site Virtual Addressing Cookie Rules Caching Debugging

Profile Name: PROD Save As ... View History

Description: Installation Defaults

Authentication Domain: .us.oracle.com ?

Help URL: oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&cbx=pt855pbr0&cbx=hom92pbr7 ?

Compress Responses ?

Compress Response References ?

Compress Mime Types: application/x-javascript,text/javascript,text/css,text/html ?

Compress Query ?

Save Confirmation Display Time: 3,000 Milliseconds ?

Enable Processing Message ?

Enable New Window ?

Enable Print ?

Enable PPM Agent ?

PPM Monitor Buffer Size: 51,200 KB ?

Single Thread Netscape ?

Single Thread Delay: 1,000 Milliseconds ?

Non-standard Base Path: ?

Reports

Enable Report Repository ?

Report Repository Path: ?

Compress Report Output

All Browsers ?

Exclude NetScape ?

Do Not Compress ?

Save Return to Search Notify Previous tab Next tab Add Update/Display

Web Profile Configuration General page with a sample PeopleSoft Hosted Documentation URL

5. Save and exit the Web Profile Configuration page.
6. Restart the following servers:
 - If your PeopleSoft Pure Internet Architecture (PIA) is running on Oracle WebLogic, restart the PIA and admin web servers.
 - If your PIA is running on IBM WebSphere, restart the PIA server.
 - If the Help link does not appear in the next step, it may be necessary to also stop and restart the application server.

7. Test the help functionality by clicking the Help icon on a PeopleSoft application page.

Task 15-1-2: Setting Up F1 Help with the PeopleSoft Online Help Web Site

PeopleTools Application Designer also has context-sensitive help available through the user's F1 key. To enable this help functionality, the PeopleTools Options must be configured to access the hosted content on the PeopleSoft Online Help Web site as follows:

1. In your PeopleSoft application, select PeopleTools, Utilities, Administration, PeopleTools Options.
2. Scroll down to the Help Options group.
3. Enter the value for the F1 URL field.

Specify the URL for the PeopleSoft PeopleTools online help for your release. The URL should be similar to the following:

http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=pt855pbr0

You can access the URL from the PeopleSoft Online Help Web site. Under Setting Up Context-Sensitive Help, select the link Enabling the Help Link from the Application Pages.

See PeopleSoft Online Help,

http://docs.oracle.com/cd/E17566_01/epm91pbr0/eng/psbooks/EnablingtheHelpLinkfromApplicationPages.pdf.

4. Save and exit the PeopleTools Options page.
5. Stop and restart the application server each time you update the help URL.
6. Open Application Designer. Press F1 to display the online help content.
7. For context-sensitive help, open an object, such as a panel or PeopleCode, then press F1.

Task 15-2: Configuring Context-Sensitive Help with Local Installations

This section discusses:

- Enabling the Help Link from the Application Pages with Local Installations
- Enabling F1 Help with Local Installations
- Creating the Help Index for Multi-Product Installations

Task 15-2-1: Enabling the Help Link from the Application Pages with Local Installations

You can configure your PeopleSoft installation so that each page in your PeopleSoft software applications includes a Help link. Clicking the Help link opens a new browser window displaying help topics that discuss that page. Use the instructions in this section to enable the Help link for locally-installed PeopleSoft Online Help only.

To enable the Help link from application pages:

1. In your PeopleSoft application, navigate to the PeopleTools, Web Profile, Web Profile Configuration page.
2. Click Search and select the Profile Name you specified during your PeopleSoft Pure Internet Architecture installation.
3. Specify the value for the Help URL field as follows:

```
http://<server_name>:<port_number>/<help_folder>/help.html?ContextID=&=&CONTEXT_ID%&LangCD=%LANG_CD%
```

Note. If you do not want the Help icon to display in your applications, clear the Help URL field value.

For example, if your web server is called `myserver`, you are using port 5080, and your `help_folder` is `pt855pbr0`, the Help URL value would be:

```
http://myserver:5080/pt855pbr0/help.html?ContextID=%CONTEXT_ID%&LangCD=&=&LANG_CD%
```

- Enter your web server name for `<server_name>`.
 - Enter the web server port for `<port_number>`.
 - Enter the folder where you installed the help system files for `<help_folder>`.
 - The system resolves `%CONTEXT_ID%` to the page name from which you called help. The system resolves `%LANG_CD%` to the signon language of the user.
4. Save and exit the Web Profile Configuration page.
 5. Before testing help functionality, purge the browser cache on the client and close all web browsers. Restart the application server and web server for PIA.
 6. Test the help functionality by clicking the Help link on a PeopleSoft application page.

Task 15-2-2: Enabling F1 Help with Local Installations

This procedure describes how to enable F1 help for Application Designer, PeopleCode Editor, and other Microsoft Windows-based PeopleSoft programs.

To enable F1 help:

1. Sign on to your PeopleSoft application using your browser.
2. Select the PeopleTools, Utilities, Administration, PeopleTools Options page.
3. Enter the same URL as in the previous procedure (where `<server_name>`, `<port_number>`, and `<help_folder>` reflect your installation) into the F1 Help URL field:

```
http://<server_name>:<port_number>/<help_folder>/help.html?ContextID=&=&CONTEXT_ID%&LangCD=%LANG_CD%
```

For example:

```
http://myserver:5080/pt855pbr0/help.html?ContextID=%CONTEXT_ID%&LangCD=&=&LANG_CD%
```

4. Save the page.

Task 15-2-3: Creating the Help Index for Multi-Product Installations

The PeopleSoft Online Help site contains a precompiled context-sensitive help index containing all context IDs for the product family. To have the help processor deliver help pages from other product families, you need to re-create this help index to include the context IDs for all applicable product families.

Note that this procedure does not support help sites for PeopleSoft 9.1 and PeopleTools 8.52 and earlier. To include help sites for those releases, select About This help in the PeopleSoft PeopleTools product documentation.

See *Managing Locally Installed PeopleSoft Online Help*, "Including Multiple Online Help Sites for PeopleSoft 9.1 and PeopleTools 8.52 and Earlier."

To re-create the context-sensitive help index follow the instructions "Creating Index for multi-domain online help site" described in the README.txt file included with the downloaded zip files.

See *Managing Locally Installed PeopleSoft Online Help*, "Including Multiple Online Help Sites for PeopleSoft 9.2 and PeopleTools 8.53 and Later."

Chapter 16

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 16-1: 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 16-1-1: 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 16-2: 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 16-2-1: 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 16-3: 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 16-4: 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.

- 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

- 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.

- On the Gateways page, click the Load Gateway Connectors button to load the list of connectors, and then click Save.

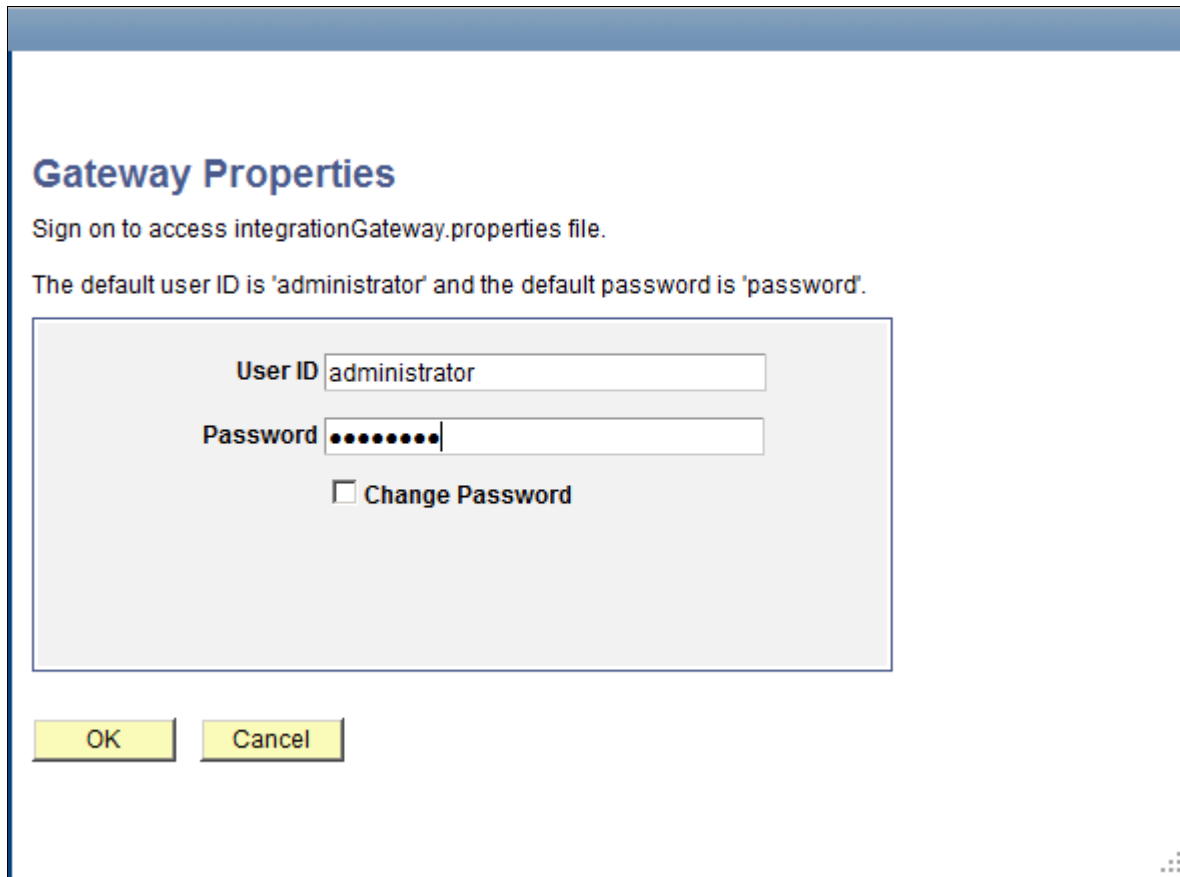
If the ping is unsuccessful, check the Web server URL entered, and also make sure Pub/Sub servers are enabled in the Application Server configuration.

- Select PeopleTools, Integration Broker, Service Operations Monitor, Administration, Domain Status.
- 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 administrator

Password ●●●●●●●●

Change Password

OK Cancel

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 Customize | Find | View All | First 1 of 1 Last

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 17

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 and IBM WebSphere. Complete the instructions for the web server you selected when you carried out the PeopleSoft PeopleTools installation. Typically, you would choose GUI mode for Microsoft Windows platforms and console mode for UNIX or Linux platforms.

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.

If you use Oracle WebLogic as your web server, you must fulfill these 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.

If you use IBM WebSphere as your web server, you must fulfill these requirements:

- Java 8 or above must be installed and working properly.
- The PeopleSoft web server must be selected for installation during the PeopleSoft PeopleTools installation.
- IBM WebSphere 9.0.0.0 must be installed. The web server must be up and running when you carry out the Web Application Deployment tool installation.
- The PeopleSoft Pure Internet Architecture must be installed on IBM WebSphere.
- If you are running on UNIX or Linux, run the Web Application Deployment installation with a user who owns IBM WebSphere, and who owns `PS_HOME`. Here are two examples:
 - If IBM WebSphere is owned by "root" and group "system", the Web Application Deployment installation must be run with "root" and group "system."

- If WebSphere is owned by user "wsadmin" and group "wsadmin", then the Web Application Deployment installation must be run with wsadmin and wsadmin as the user and group.

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 17-1: 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. Silent mode installation of the Web Application Deployment tool is supported for both Microsoft Windows and UNIX operating systems platforms, and for both Oracle WebLogic and IBM WebSphere web servers.

Task 17-1-1: 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.

For information on the parameters in the response file, see the previous sections in this chapter on installing the Web Application Deployment tool.

The response file includes the following sections:

- Comments and instructions, including the command to run the silent installation.
- Parameters needed for the installations, such as `PS_CFG_HOME`, `DOMAIN_NAME`, `SERVER_TYPE`.

Sample response file template:


```

# *****
#
# Response file for WebAppDeploy Installations
#
# 1. In Windows
# use "\\\" as file path separator
#   Open a command prompt; go to PS_HOME\setup\PsmWebAppDeployInstall=>
  and run following commands
#   setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
#
# 2. In UNIX
# use "/" as file path separator
#   Go to PS_HOME/setup/PsmWebAppDeployInstall and run following=>
  commands
#   setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
#
# *****

# Set the below variable to the location where you want to install DES.
# PLEASE NOTE this variable could be ANY DIRECTORY on your machine. It=>
  includes but is definitely not limited to PeopleTools Home.
PS_CFG_HOME=

# Domain Name
DOMAIN_NAME=

# Web server type. Possible values are "weblogic", "websphere"
SERVER_TYPE=weblogic

# WebLogic home, the location where Oracle WebLogic is installed (for Web=>
  Logic deployment only)
BEA_HOME=C:\\oracle

# WebSphere Home, the location where IBM WebSphere is installed (for Web=>
  Sphere deployment only)
#WS_HOME=

# admin console user id/password for securing WebLogic/WebSphere admin=>
  console credential
USER_ID=system
USER_PWD=
USER_PWD_RETYPE=

HTTP_PORT=80
HTTPS_PORT=443

# 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

# Install type to specify whether the installation is a single server or⇒
multi server deployment,
# possible values for INSTALL_TYPE are singleserver, multiserver,⇒
distributedmanagedserver
INSTALL_TYPE=singleserver

# If your PeopleSoft Applications install is decoupled from PS_HOME then⇒
PS_APP_HOME will be the actual path to PS_APP_HOME, else it should be the⇒
path to PS_HOME.
PS_APP_HOME=

# 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=

```

Task 17-1-2: 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.
 - If your web server is on Oracle WebLogic:

Specify `SERVER_TYPE=weblogic` and the installation location for the Oracle WebLogic software, such as `BEA_HOME=C:\\WLS1221`.
 - If your web server is on IBM WebSphere:

Specify `SERVER_TYPE=websphere` and the installation location for the IBM WebSphere software, such as `WS_HOME=C:\\IBM\\WebSphere\\AppServer`. In addition, add a comment character (#, pound or hash sign) in front of the line `BEA_HOME=`.
 - Enter values for the remaining installation parameters.
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:\\pt856\\setup\\PSMpWebAppDeploy⇒
```

Install

5. On UNIX or Linux, 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=/home/pt856/setup/PsMpWebAppDeploy⇒  
Install
```

Task 17-2: 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 or IBM WebSphere, 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 18

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 18-1: 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 18-2: 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

This appendix discusses:

- Understanding the PeopleSoft Tablespace DDL Automation Assistance Tool
- 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

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. 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 Installer will place 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.

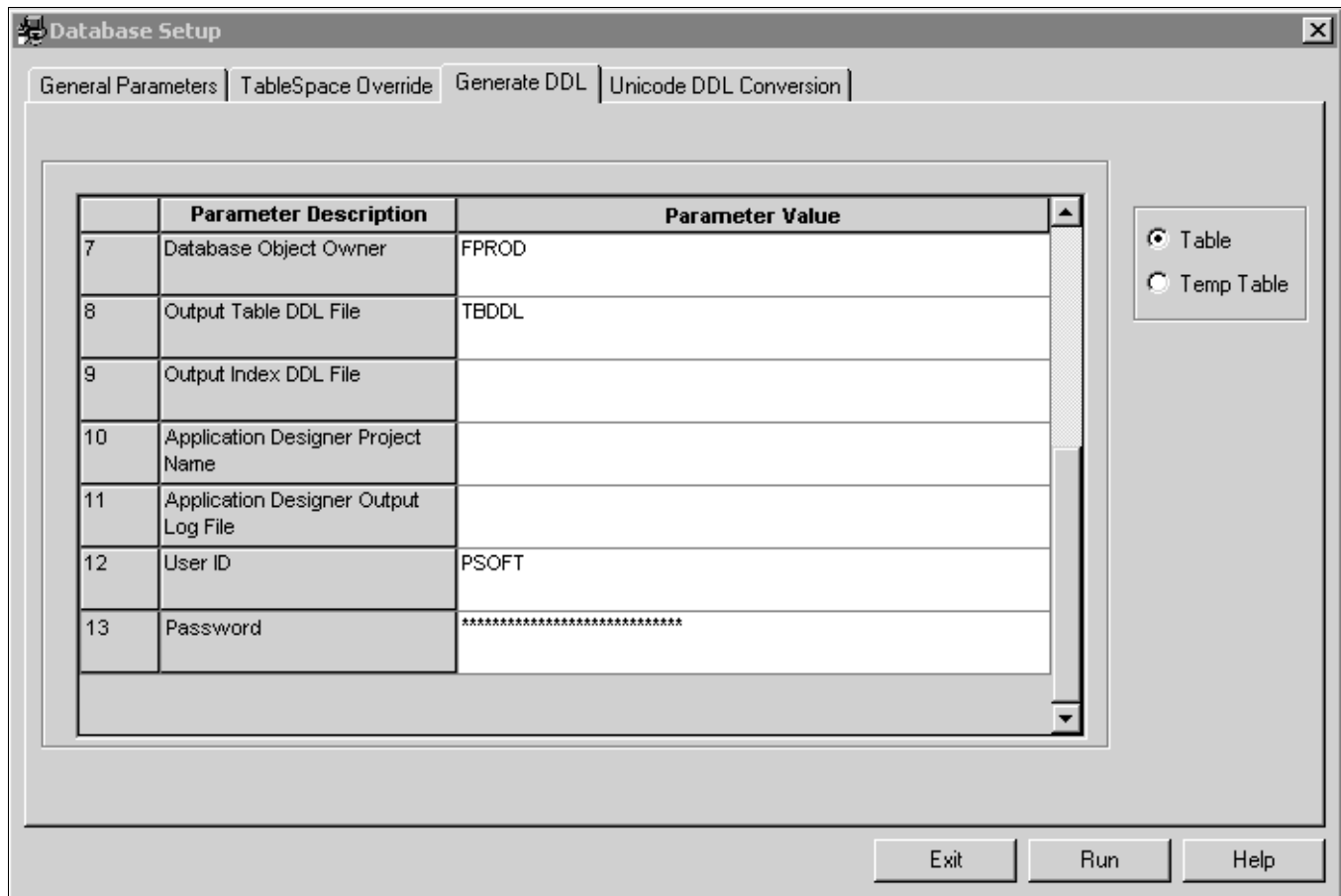
Generate DDL tab:

The screenshot shows a window titled "Database Setup" with four tabs: "General Parameters", "TableSpace Override", "Generate DDL", and "Unicode DDL Conversion". The "Generate DDL" tab is active. It contains a table with the following data:

	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

To the right of the table are two radio buttons: Table and Temp Table. At the bottom of the window are three buttons: "Exit", "Run", and "Help".

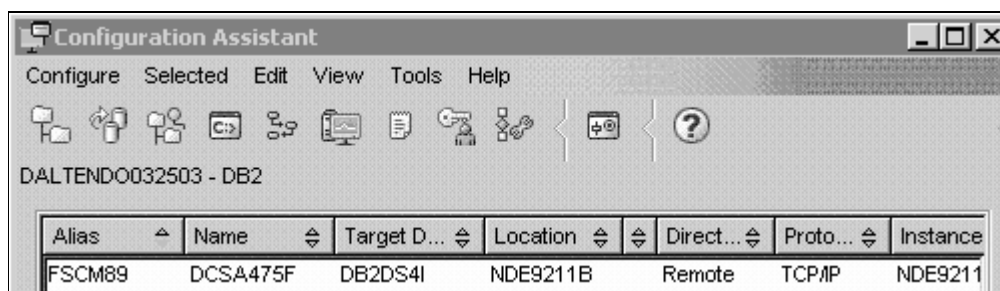
Database Setup page: Generate DDL tab (1 of 2)



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).



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. <hr/> Note. The path must already exist—PSTAAT will not create it for you. <hr/>
(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).

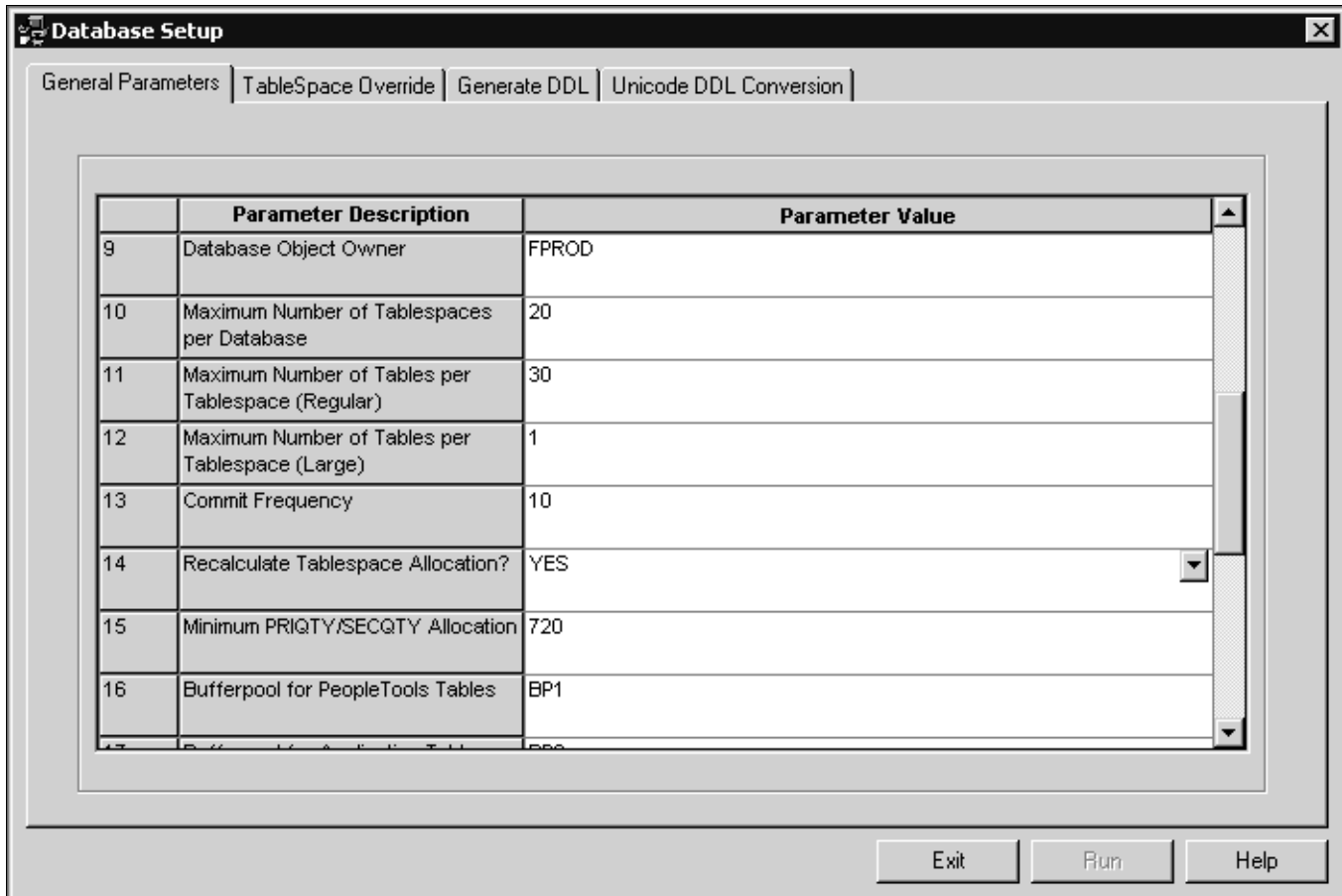
General Parameters Tab:

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 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.
	<hr/> Note. All tablespaces will be created using this stogroup. PSTAAT is not capable of assigning multiple tablespace stogroups. <hr/>

(22) Index Storage Group	Stogroup to be used for indexes.
	Note. All indexes will be created using this stogroup. PSTAAT is not capable of assigning multiple index stogroups.
(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.

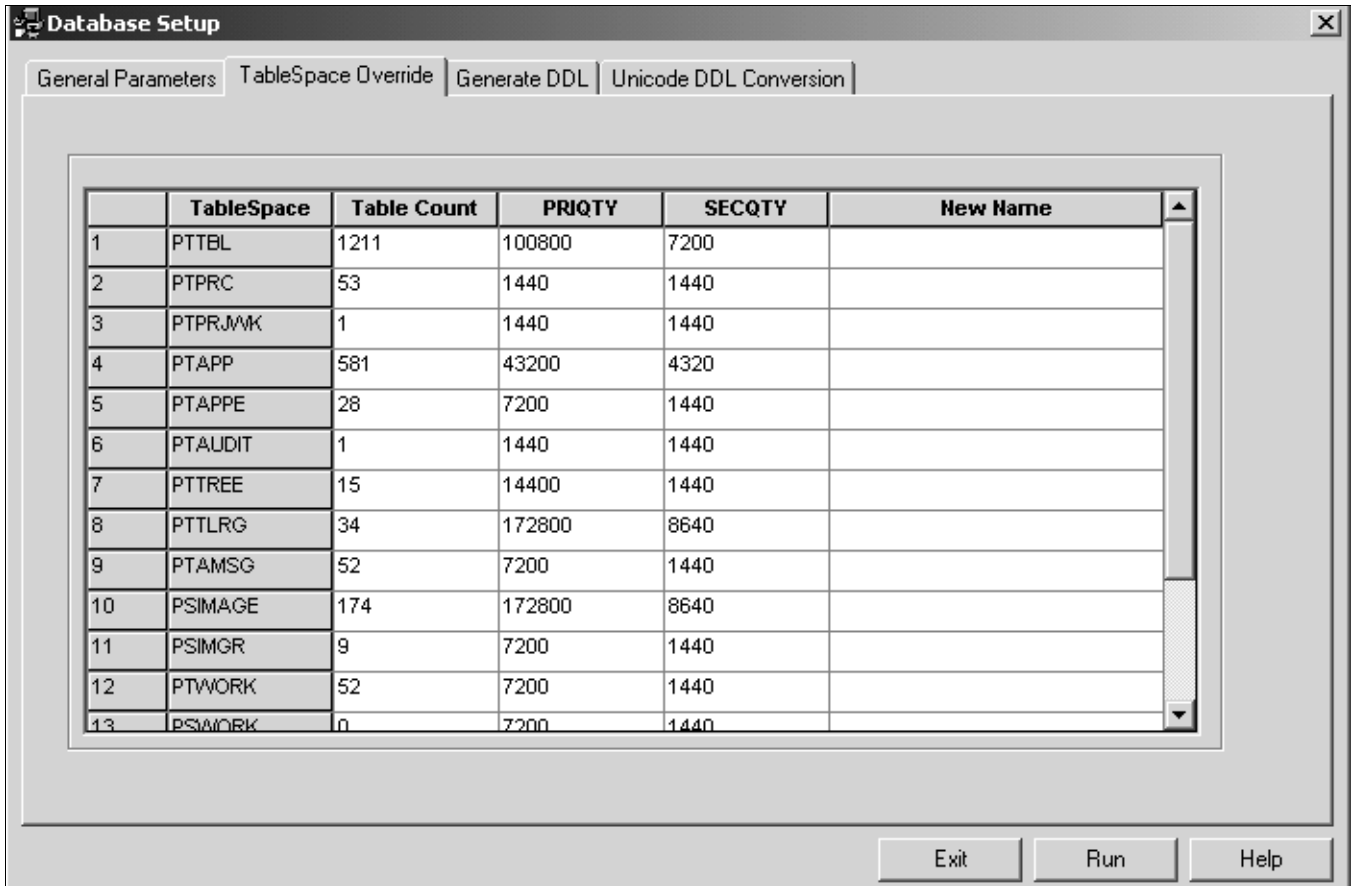
Note. LOCKSIZE does not appear as an override parameter on the GUI. LOCKSIZE is controlled automatically by PSTAAT. Those tables originally delivered in tablespaces set to a LOCKSIZE of ROW will be remapped to tablespaces also set to a LOCKSIZE of ROW automatically. All other tablespace DDL will be generated 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).



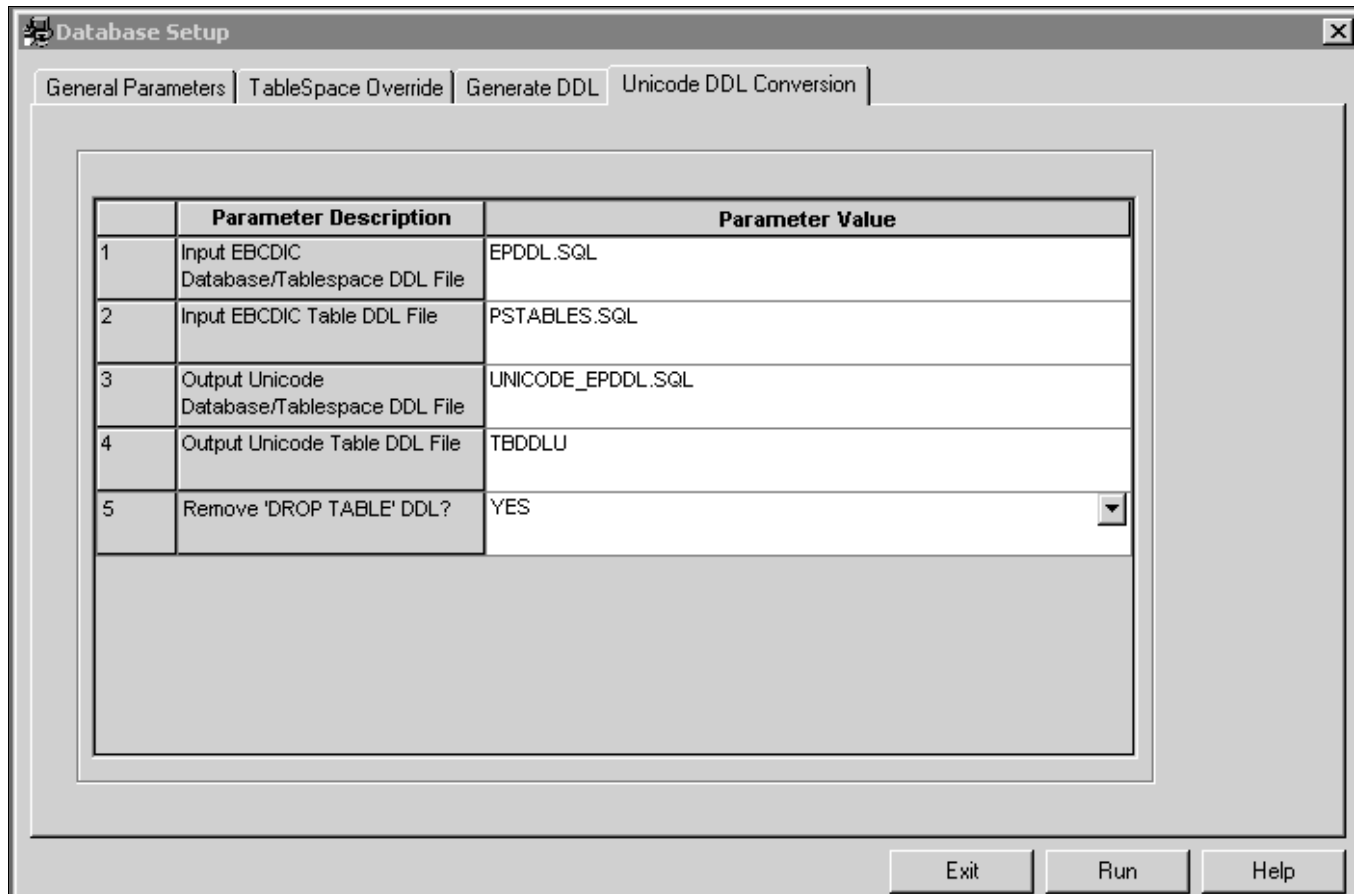
Database Setup page: TableSpace Override tab

- 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 <input type="button" value="v"/>

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, *XXDDL.SQL*) 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 *TBDDL.SQL* 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 *YES* is selected from the drop down, PSTAAT will comment the Drop Table statements in the newly generated DDL. When *NO* 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	<p>Default index DDL script (i.e. IXDDL.SQL).</p> <p>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.</p> <p>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.</p>
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).
<p>General Parameters and Tablespace Override Tabs</p> <p>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.</p>	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).
<p>General Parameters and Tablespace Override Tabs</p>	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.
<p>General Parameters and Tablespace Override Tabs</p>	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	<p>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.</p> <p>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.</p>
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	<p>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.</p> <p>Note. The PTlog.txt log file contains non-temporary tables <i>only</i>.</p>
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.

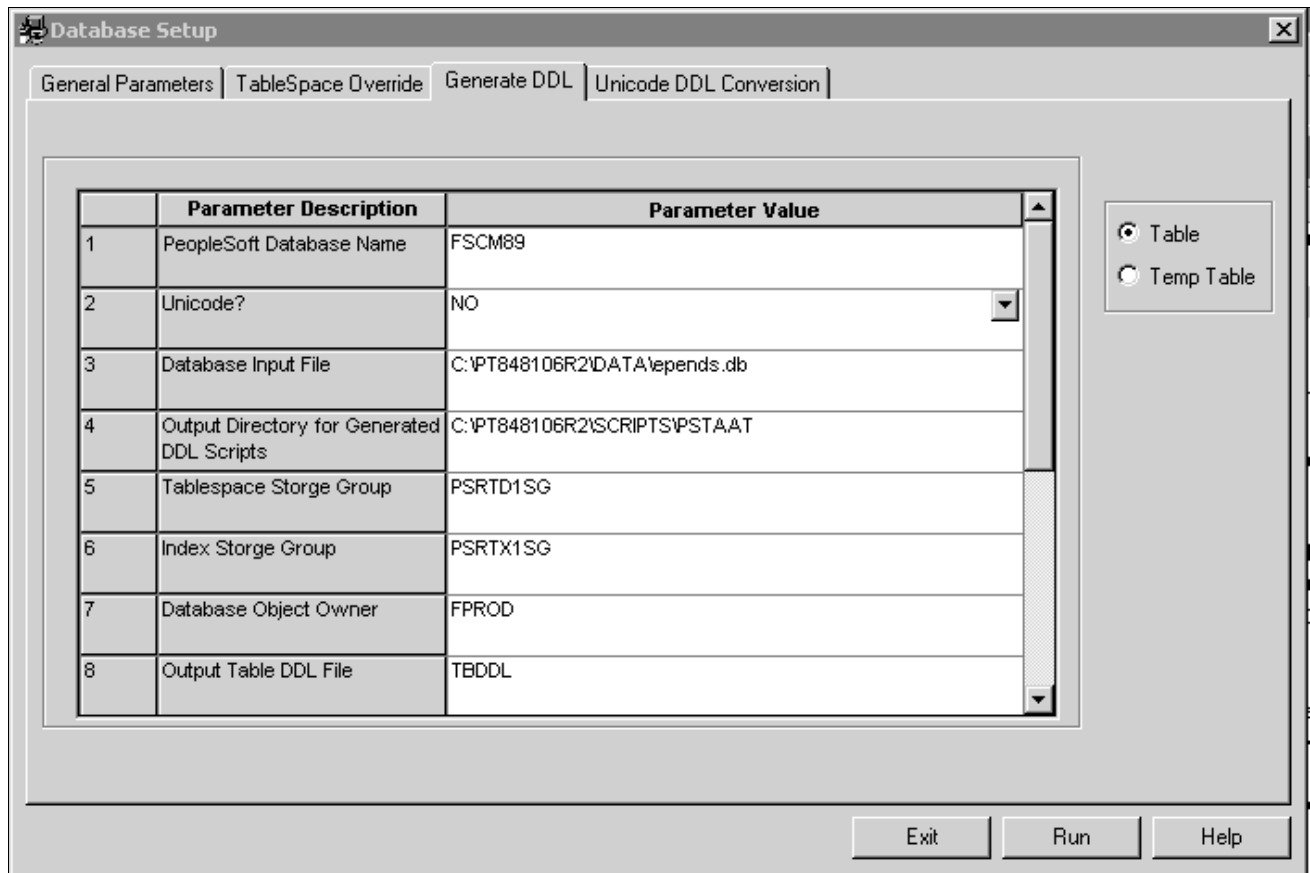
To create the *TBDDL.SQL* and *IXDDL.SQL* scripts:

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.

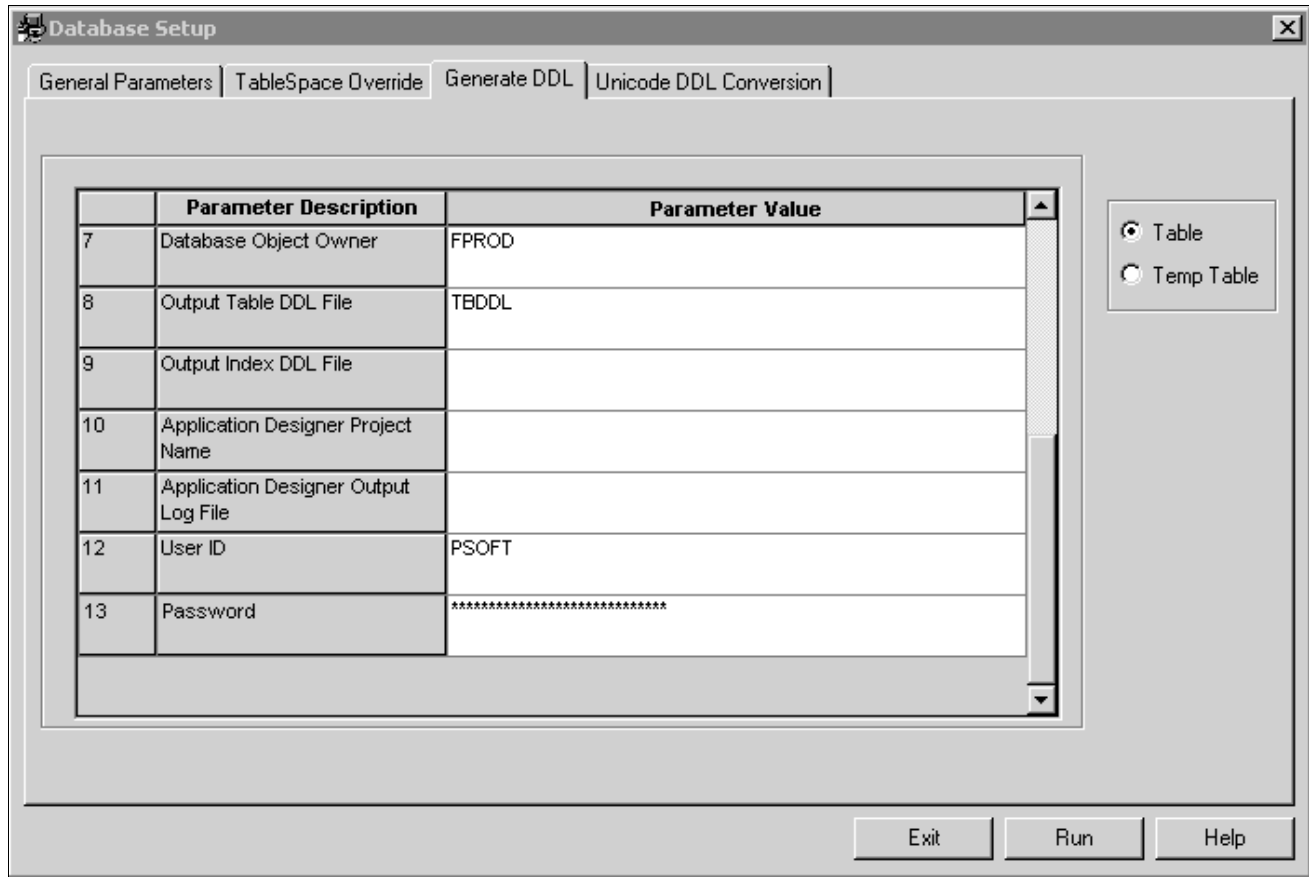
Refer to Generate DDL tab Input Parameters under the section titled Understanding the PSTAAT Graphical User Interface for a detailed explanation of each input parameter. To maintain consistency with previous releases of PeopleSoft PeopleTools, we recommend that you use *TBDDL* and *IXDDL* as the DDL script file names for input parameters eight (8) and nine (9).

3. Select the Table radio button.

4. Click the Run button.



Generate DDL page (1 of 2)



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.

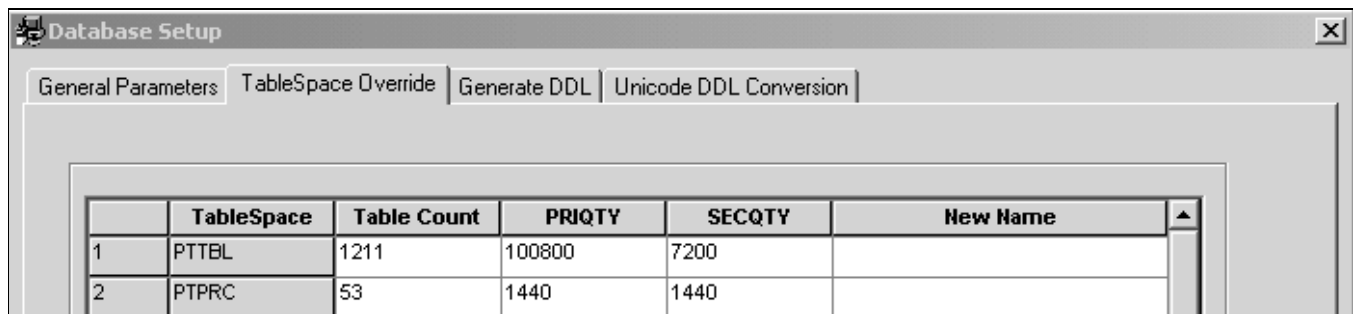
Note that these are only general guidelines and may not be adequate for every installation.

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	

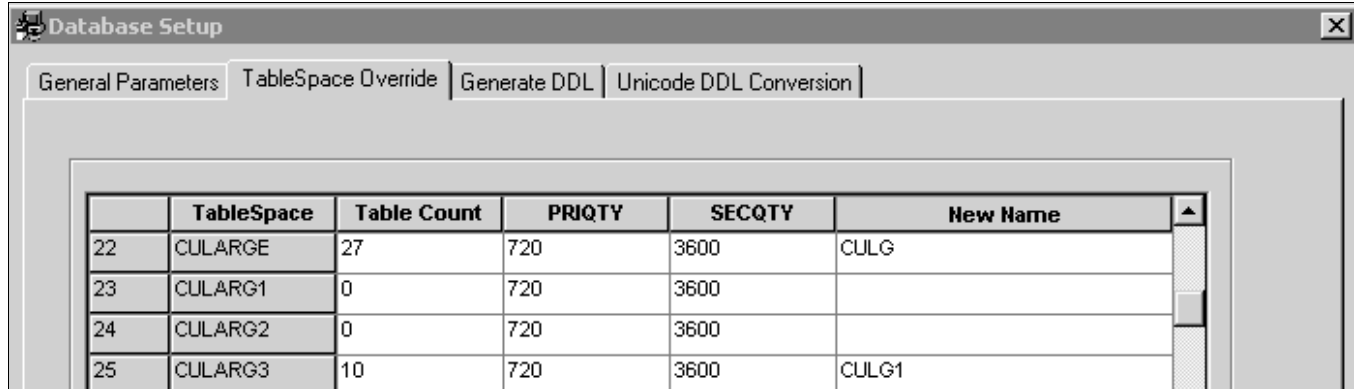
Reviewing Table Count on the TableSpace Override tab

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 Tablespace names.

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.

- 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.

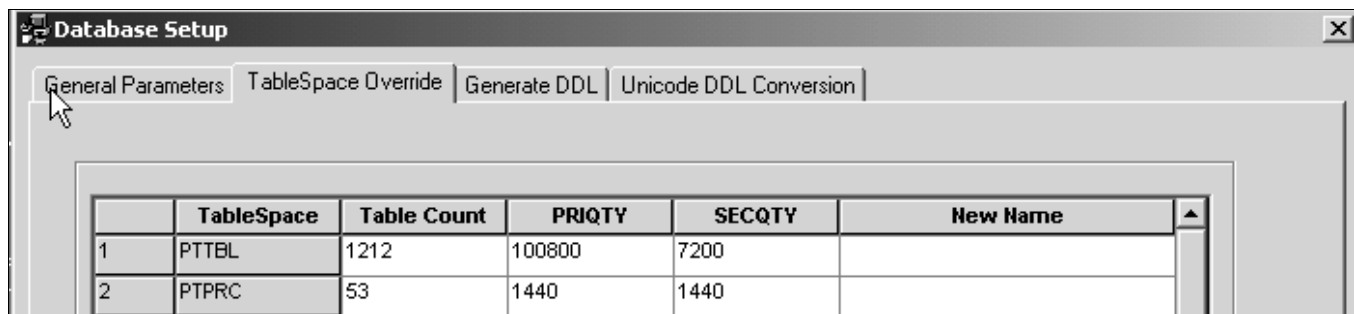
See Understanding How PSTAAT Assigns an Object Naming Convention.

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:

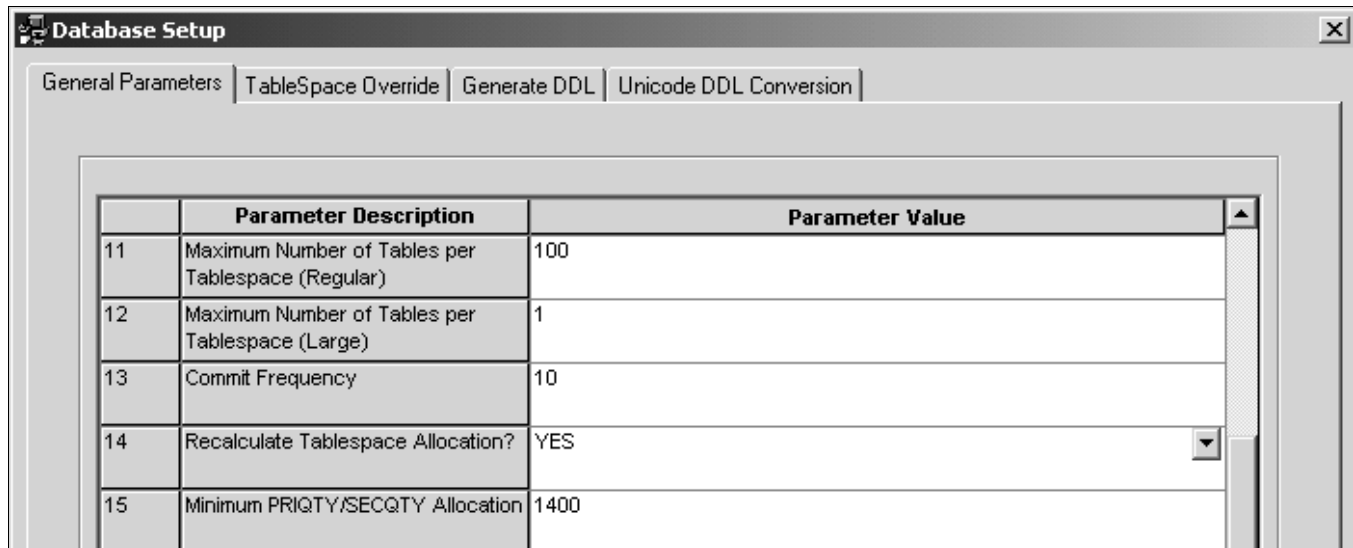


	TableSpace	Table Count	PRIQTY	SECQTY	New Name
1	PTTBL	1212	100800	7200	
2	PTPRC	53	1440	1440	

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.

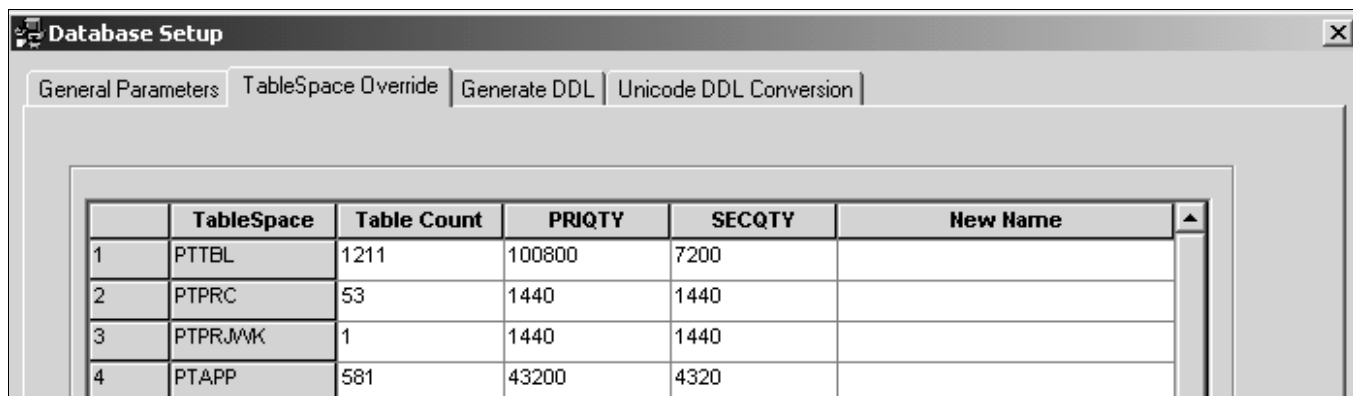
The default allocation may be less than ideal for each of the 1,211 tables when assigned to an individual tablespace. PSTAAT will thus recalculate these allocations when Input parameter 14, Recalculate Tablespace Allocation, is set to YES, and a value is provided for Minimum PRIQTY/SECQTY Allocation, 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 PSRTD1SG PRIQTY 7753 SECQTY 5538
  FREEPAGE 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.

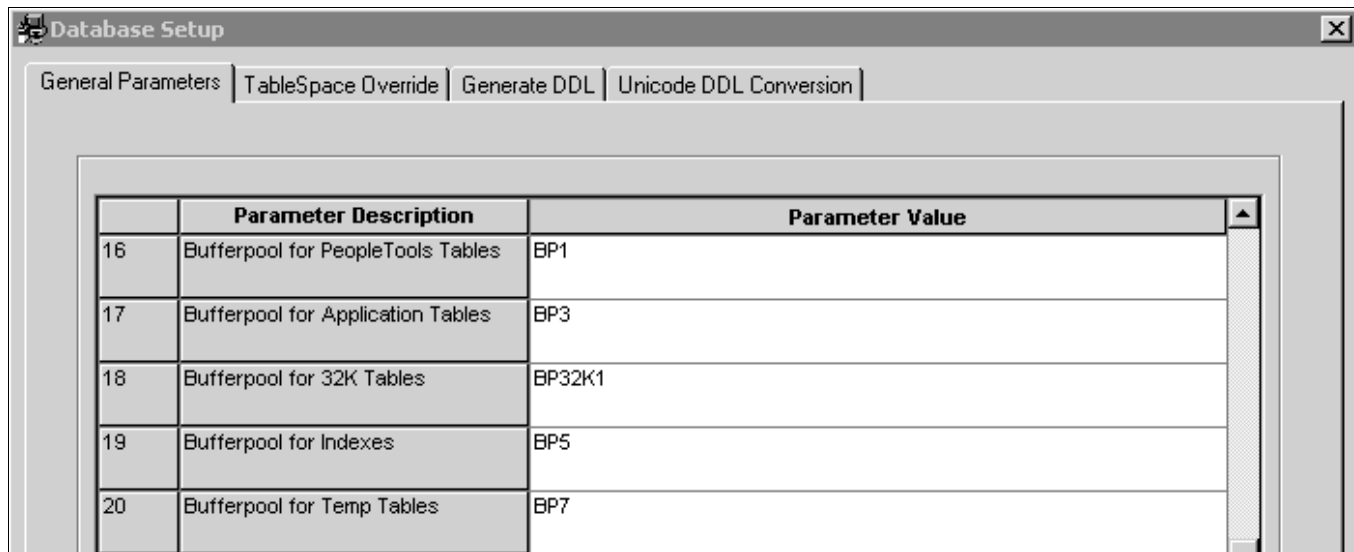
```
CREATE TABLESPACE PTAPP01 IN HCMPD001
  USING STOGROUP PSRTDISG PRIQTY 7200 SECQTY 1440
  FREEPAGE 20 PCTFREE 0
  SEGSIZE 4 BUFFERPOOL BP1 LOCKSIZE ANY CLOSE NO ;
```

- 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).

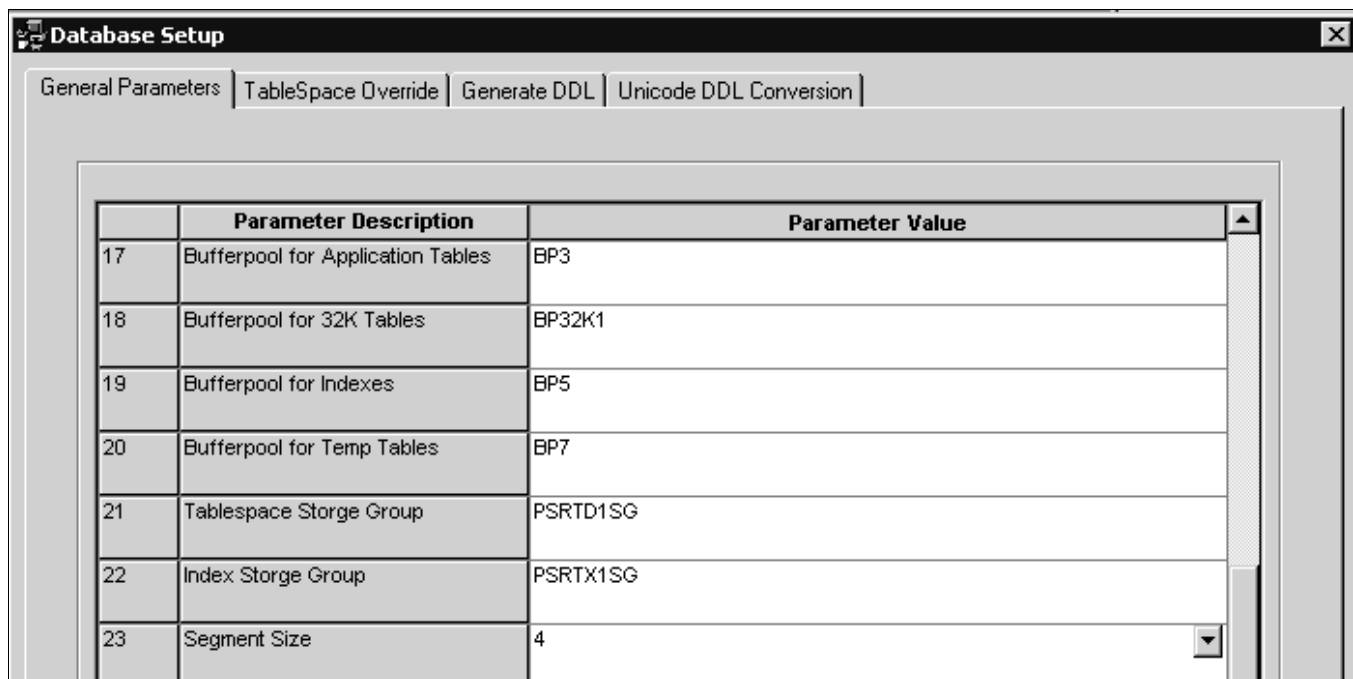
The default Unicode *XXDDL*.SQL script alternates bufferpool assignments between BP8K0, BP8K1, BP8K2, and BP8K3. When given an *XXDDL*.SQL script as input, PSTAAT simply substitutes the values of input parameters 16-20 for the default assignments in the original Unicode script. Be careful to specify 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:



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.

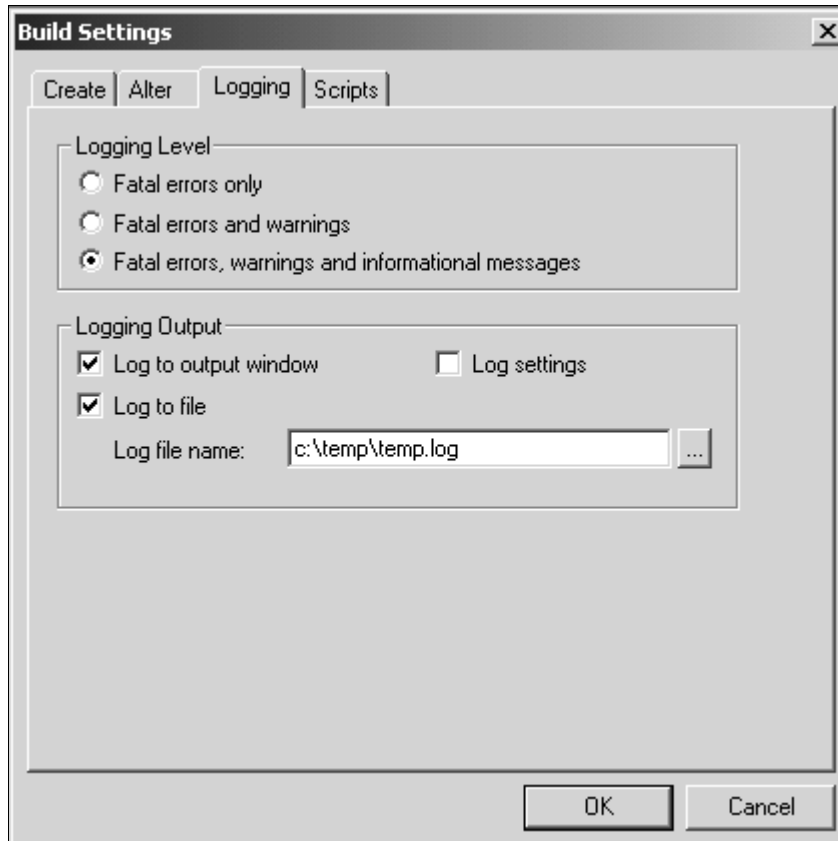
4. Use PSTAAT to parse the default temporary table DDL, create the additional databases, and remap the tablespace assignments.

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.

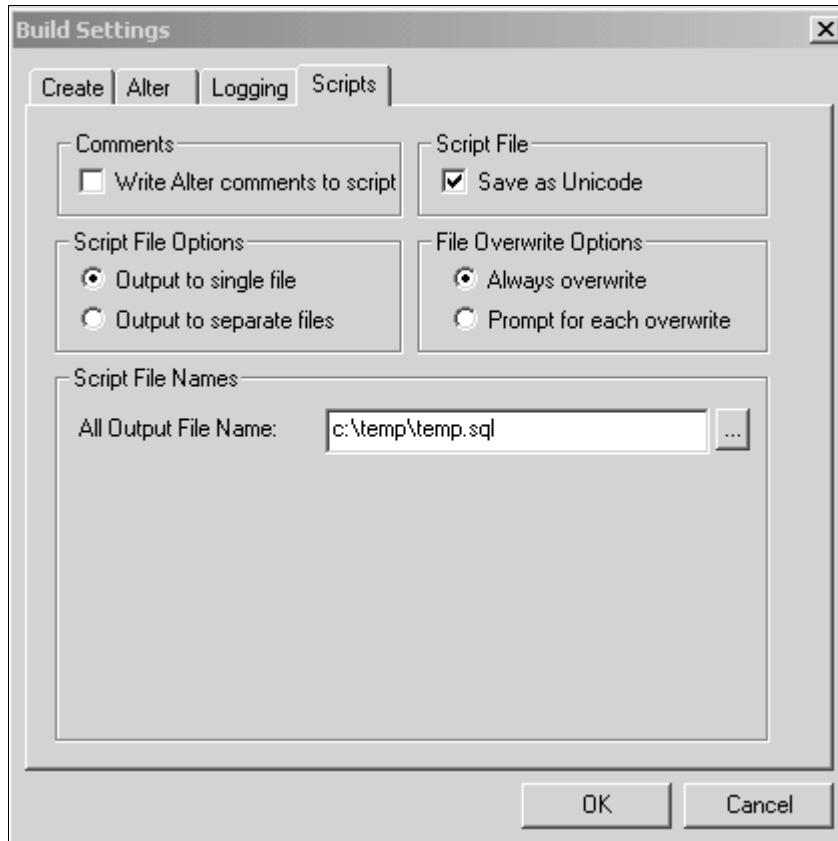


Build Settings dialog box: Logging tab

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.

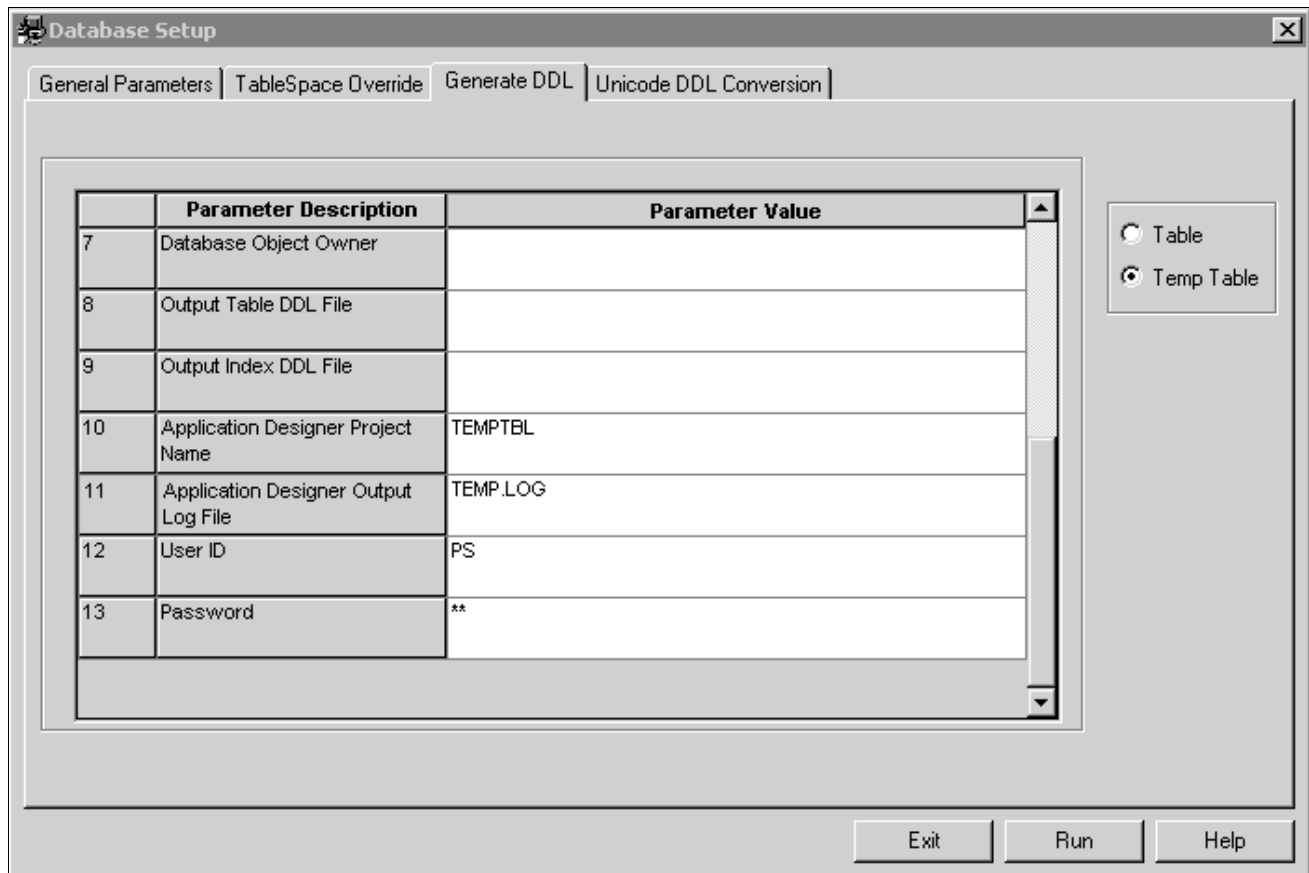
You may close Application Designer now.



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
Ptllog.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 vargraphic and long vargraphic 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.

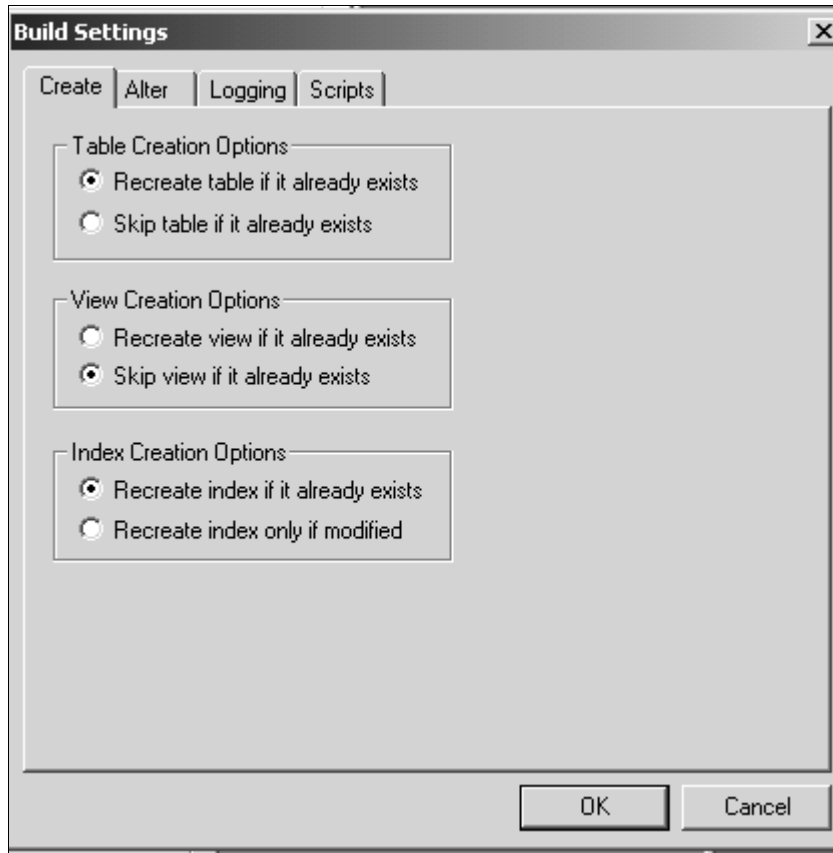
To use PSTAAT to convert EBCDIC DDL to Unicode DDL, begin by inserting *all* of the record definitions contained in the EBCDIC database into an Application Designer project, and then create the EBCDIC DDL for all tables and indexes in the database:

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 vargraphic 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:



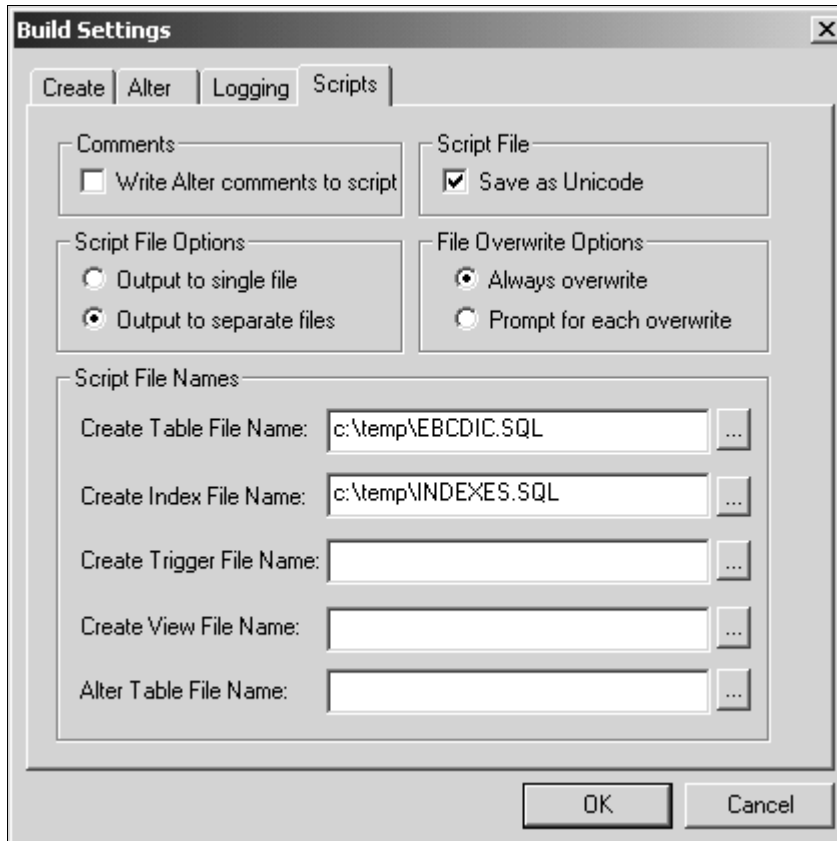
Build Settings dialog box: Create tab

- 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.

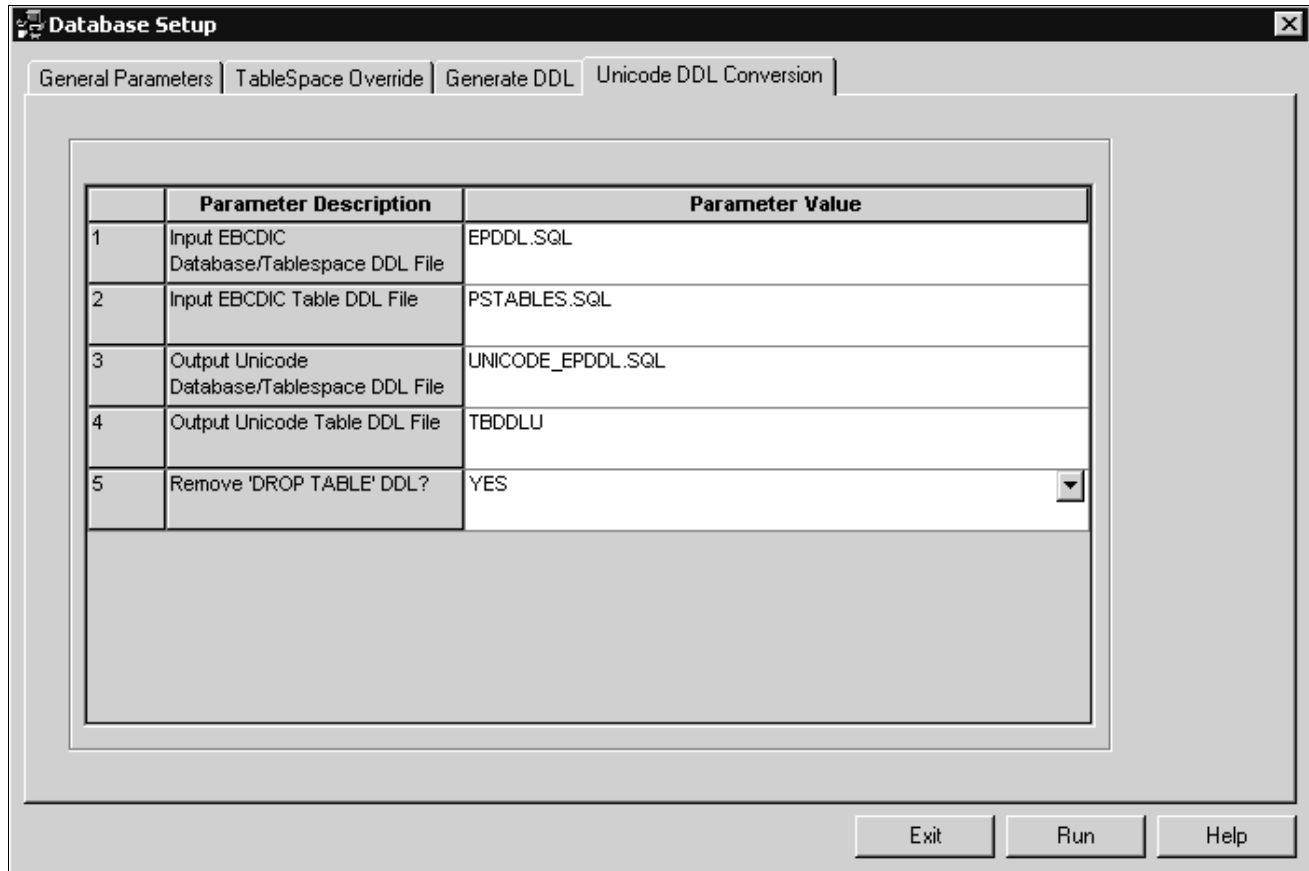
18. After the script generation process has finished, click Close in the Build Progress dialog box to return to Application Designer.

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).

- 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.



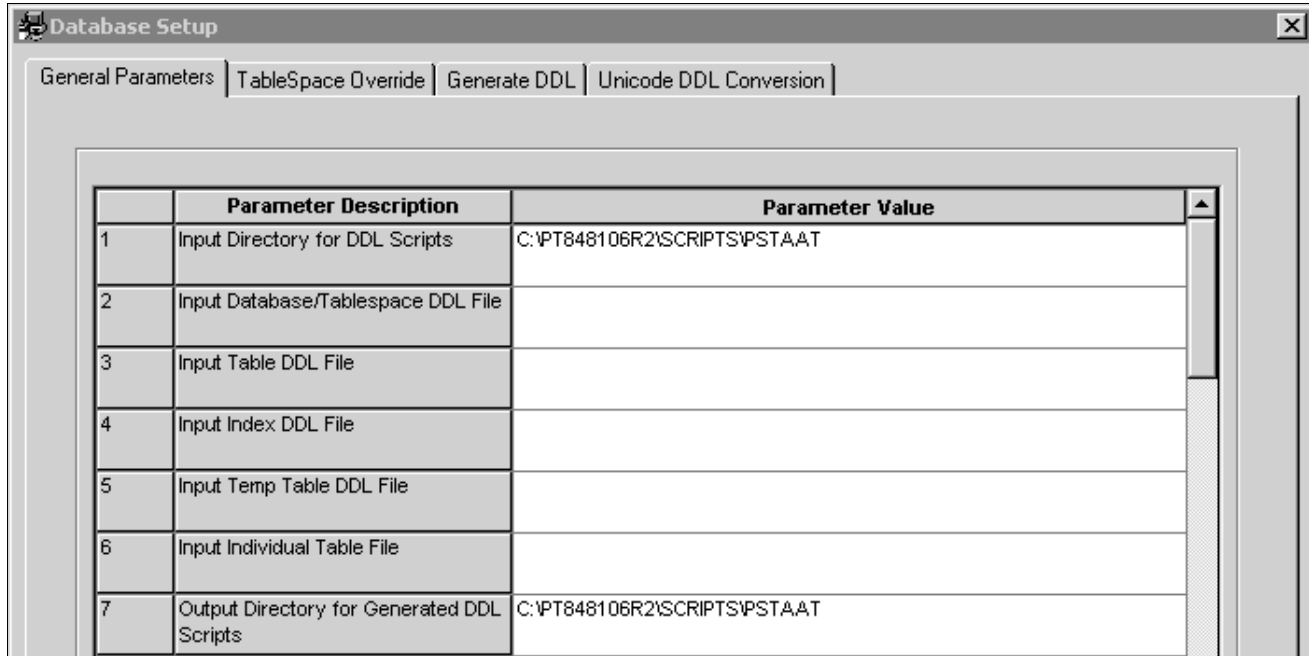
Specifying output files on Unicode DDL conversion tab

- 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.



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-24-31.2-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.

