Installation Guide

Process Manager Version 6.0 Service Pack 2

Contents

About This Guide

This *Installation Guide* provides information administrators need to install Process Manager Version 6.0 Service Pack 2.

This preface has the following sections:

- Conventions Used in This Guide

- Viewing Documentation Online

- For Further Information

Conventions Used in This Guide

File and directory paths are given in Windows format (with backslashes separating directory names). For Unix versions, the directory paths are the same, except slashes are used instead of backslashes to separate directories.

This guide uses URLs of the form:

`http://`*server.domain*`/`*path*`/`*file*`.html`

In these URLs, *server* is the name of server on which you run your application; *domain* is your Internet domain name; *path* is the directory structure on the server; and *file* is an individual filename. Italic items in URLs are placeholders.

This guide uses the following font conventions:

- The `monospace` font is used for sample code and code listings, API and language elements (such as function names and class names), file names, path names, directory names, and HTML tags.

- *Italic* type is used for book titles, emphasis, variables and placeholders, and words used in the literal sense.

Viewing Documentation Online

For your convenience, Process Manager manuals are replicated online in both PDF and HTML formats. You can access the online documentation from the Help menu of each Process Manager component. You can access context-sensitive documentation by clicking a Help button or link in each Process Manager component.

The documentation is available at the iPlanet web site:

http://docs.iplanet.com/docs/manuals/index.html

The documentation is also available in the Process Builder installation at *builderRoot*/manual.

For Further Information

Table 0-1 summarizes the tasks involved in using Process Manager and explains where to go for more information about each one.

Table 0-1 Summary of Process Manager Components

Do What?	Which Process Manager Component?	Comments
Install Process Manager 6.0		For more information, read this book.
Build a process application	Process Builder	The Builder is a graphical user interface for building processes.
		For more information, read the *Process Builder's Guide.*
Perform the steps in a process	Process Express	The Express is a web-based interface that is used by the people who perform tasks in a process. It includes a customized worklist for each person as well as a web-based form for each task.
		For more information about Process Express, see the *Process Express User's Guide.*
Administer a process application	Process Administrator and Business Manager	This is a set of web-based interface for doing administration tasks such as shutting down processes.
		For more information, read the *Process Administrator's and Business Manager's Guide.*

Table 0-1 Summary of Process Manager Components

Do What?	Which Process Manager Component?	Comments
Build Java custom data fields and activities in Java. Also use the Java API to programmatically interact with Process Manager.	Process Manager Java classes and API which are available in a JAR file.	Java programmers can build custom data fields and custom activies in Java that can be imported into the Process Builder. Programmers can also create Java applications that embed Process Manager functionality or present customized front ends to Process Manager. For more information, see the *Process Manager Programmer's Guide*.

For Further Information

Preparing for Installation

This chapter describes the various components of Process Manager 6.0 and discusses the prerequisites for installing the product.

Process Manager Version 6.0 Service Pack 2 Engine can be installed on Solaris Unix systems and Windows NT systems. Process Builder 6.0 can be installed on Windows NT systems.

On Windows NT, you install the product with an onscreen installer. On a Unix system, you install it with a single Unix command.

This chapter describes the following topics:

- Process Manager Components
- Platform Requirements
- Other Software Requirements for Process Engine
- Getting Ready to Install
- Browser Requirements for Users

After you have completed all the pre-installation requirements described in "Getting Ready to Install", read the following chapters for installation instructions:

- Chapter 2, "Installing on NT"
- Chapter 3, "Installing on Unix"

After completing the installation, you need to do some post-installation tasks, which are discussed in:

- Chapter 4, "Troubleshooting, Post-installation Tasks and Uninstalling Process Manager"

Process Manager Components

Process Manager has the following components:

- Process Builder, which is a graphical user interface for building business process systems

- Process Manager Engine (also known as Process Manager Server), which is used to run and administer business process systems. Process Manager Engine has the following components:

  - Process Express -- this is a web-based tasklist for users.

  - Process Administrator -- this is a web based interface for administering applications.

  - Process Business Manager -- this is a web based interface for managing individual process instances.

On Windows NT, you can choose to install the Process Manager Engine, Process Builder or both. On Solaris, you can install the Process Manager Engine.

Process Manager 6.0 Service Pack 1 uses the additional following products, which are installed during Process Manager installation:

- iPlanet Directory Server 4.0 -- Process Manager identifies assignees for activities through a central user and group directory, typically the one where your corporation lists all its users and groups. This directory must be Netscape Directory Server v4.0.

- iPlanet Application Server 6.0 Service Pack 1 -- Process Manager is an application that runs on the application server.

The Process Manager installation process installs the Directory Server, Console and Application Server. If you already have any of these components installed on your system, you can skip installing them again during Process Manager installation.

Process Manager also uses a web server and a database, which are not installed during the Process Manager installation process. These components are discussed in the section "Other Software Requirements for Process Engine."

Platform Requirements

This section discusses the hardware, operating system and memory requirements for installing Process Manager 6.0.

- System Requirements for Process Engine

- System Requirements for Process Builder

- RAM and Disk Space Requirements

The following section, "Other Software Requirements for Process Engine" discusses the additional software components that must be in place before installing Process Manager 6.0 Service Pack 1.

System Requirements for Process Engine

Process Engine, which includes Process Administrator, Process Business Manager, and Process Express is available on these platforms:

- **Windows NT 4.0** with Service Pack 5.

- **Solaris** 2.6 or 2.8

System Requirements for Process Builder

Process Builder can be used on these platforms:

- **Windows NT 4.0** with Service Pack 5

RAM and Disk Space Requirements

You need ~256 MB RAM to run the Directory Server, iPlanet Application Server, and Process Manager. If the database is installed on the same machine, you may need additional RAM. Less RAM may result in resource contention.

Depending on your operating system and which components you are installing, you need to be sure you have enough disk space:

- On Windows NT system, you need ~250 MB of disk space available for a complete installation.

- On Windows NT, you need 25 MB for the Process Builder-only installation.

- On a Solaris system, you need ~400 MB of disk space available for a Process Engine installation.

Other Software Requirements for Process Engine

Process Manager Engine requires the following additional software components. These components must be in place before Process Manager Engine is installed:

- Web browser -- this is not needed before installation, but is needed after installation to create a cluster.

- iPlanet Web Server 4.1

- Database -- Process Manager Engine needs access to a database to store process instance data.

Database Requirements

Process Manager uses a relational database to store process instance data, so you must have a database available on your local system or available over a network on another system. If you are using a remote database, you must have the appropriate database client installed on your local system.

You need to have enough privileges to create tables and views. Your database administrator can set them up for you if necessary.

Process Manager supports the following databases:

DB Server	DB Client
Oracle 8.05, 8i	Oracle 8.1.5
Sybase 11.9.2, 12	Sybase Open/Client System 11.1.1

Getting Ready to Install

Before installing Process Manager, you need to:

- Check that your system meets platform requirements.

  These are described in the section "Platform Requirements."

- Uninstall previous versions of Process Manager 1.x or PAE 4.0. See Chapter 4, "Troubleshooting, Post-installation Tasks and Uninstalling Process Manager" for details.

- Check that all required software components are in place.

These are described in the section "Other Software Requirements for Process Engine" are in place. In summary, you need to:

❍ have a web server installed

❍ have established access to a database

• Know which of the following components are already installed, if any. You can install all these components during Process Manager installation or you can use existing components if they are already installed:

❍ iPlanet Application Server 6.0

❍ iPlanet Directory Server

You also need to consider the following:

• Upgrading From Previous Versions

• Application Server Configuration Issues

• Directory Server Issues

• Netscape Administration Server Issues

• Web Server and Security Issues

Upgrading From Previous Versions

You cannot install Process Manager 6.0 in the same location as previous versions of the product. If you have the earlier version, you must install Process Manager in a different location or you must uninstall previous versions and delete all your Process Manager database tables before starting to install Process Manager 6.0.

The following table addresses the upgrade scenarios for upgrading to Process Manager version 6.0 Service Pack 1.

Table 1-1 Scenarios for Upgrading to Service Pack 1

Currently Installed Product	To Upgrade to Service Pack 1 on NT	To Upgrade to Service Pack 1 on Solaris
iPlanet Process Manager 6.0	1. Install Process Manager 6.0 SP1 Be sure to reselect all components.	1. Uninstall Process Manager 6.0 2. Install Process Manager 6.0 SP1

Table 1-1 Scenarios for Upgrading to Service Pack 1

Currently Installed Product	To Upgrade to Service Pack 1 on NT	To Upgrade to Service Pack 1 on Solaris
iPlanet Application Server 6.0 SP1	1. Install the iPlanet Application Server patches `iAS60SP1patches.zip` file located on your CD.	1. Install the iPlanet Application Server patches `iAS60SP1patches.zip` file located on your CD.
	2. Install Process Manager 6.0 SP1	2. Install Process Manager 6.0 SP1
iPlanet Process Manager 4.x or earlier	1. Uninstall Process Manager	1. Uninstall Process Manager
	2. Install Process Manager 6.0 SP	2. Install Process Manager 6.0 SP1
		Be sure to select **only** the Process Manager components.

See Chapter 2, "Installing on NT" for installation details specific to NT.

See Chapter 3, "Installing on Unix" for installation details specific to Solaris.

See Chapter 4, "Troubleshooting, Post-installation Tasks and Uninstalling Process Manager" for details.

Application Server Configuration Issues

Before installing Process Manager, you should have the following information handy:

- Know the product key shown on the Welcome letter you received with the server products that you purchased.

- For Unix systems, decide if you want to install iPlanet Application Server so that it starts up automatically when you boot your system. If you decide yes, then log on to the system as the root user before installing iPlanet Application Server.

Directory Server Issues

If you do not already have a Directory Server installed, you can install it during Process Manager installation. If you have one already installed, you may choose to not install the Directory Server and use an already existing directory server as the configuration directory.

For information about Directory Server, see:

`http://docs.iplanet.com/docs/manuals/index.html`

You need to know the following information before starting Process Manager installation:

- The host name and port number for the machine where the existing Directory Server is installed

- Login ID and password for the existing Directory Server

- The top level domain name (suffix) of your Directory Server structure.

  This is the directory entry that represents the first entry in the directory tree. You will need at least one directory suffix for the tree that will contain your enterprise's data. It is recommended that you select a directory suffix that corresponds to the DNS host name used by your enterprise. For example, if your organization uses the DNS name of airius.com, then select a suffix of `o=airius.com`.

- Administrator login ID and password

Netscape Administration Server Issues

The Netscape Administration Server is a common front end to all Netscape and iPlanet servers. It receives communications from Netscape Console and passes those communications on to the appropriate Netscape server. Your site will have at least one Administration Server for each server root in which you have installed a Netscape server. During installation you are prompted for an Administration Server port number. This is the port number that your system administrator must specify to access the Administration Server.

Make sure the port number you select for the Administration Server is unique and has not been assigned earlier during the installation process to the non-SSL port number for the configuration server.

Before installing Process Manager you need to know:

- Administration Server user and password.

Web Server and Security Issues

You must install the Process Manager Engine components on a machine that is running iPlanet web Server 4.1.

On Unix, consider security issues related to your firewall setup.

- Install iPlanet Application Server as the same user or as a member of the same group that installed the web server with which your iPlanet Application Server will interface.

Before installing Process Manager 6.0 Service Pack 1, you need to know:

- On Unix systems, you need to know the full path location of the web server.

- On Windows-NT, you need to know the location of the web server. You will be allowed to navigate onscreen to the location of the web server during installation.

Webless Installation Issues

In a webless installation, the web server and iPlanet Process Manager /iPlanet Application Server reside on separate machines. You should consider security issues related to your firewall setup. If a firewall will exist between the Process Manager machine and the web server machine, consult with your security administrator before performing a webless installation. Make sure that the necessary ports on the firewall are open to allow the Executive Server (KXS) and the Web Connector plug-in to communicate. For information about the Executive Server, see the *Overview Guide.*

For more information see:
http://docs.iplanet.com/docs/manuals/ias/60/sp1/install/instnt.htm

Browser Requirements for Users

To use various Process Manager components, users need a web browser. The browser must be running on the workstation of the person who is using the Express, the Administrator, or the Business Manager.

This section discusses the browser requirements for:

- Process Builder

- Process Administrator and Process Business Manager

- Process Express

Process Builder

Process Builder is a Java-based application and does not need a browser to run. However, you do need a browser to view the online help and to take advantage of links to the Process Express, Process Administrator and Process Business Manager that appear in some dialog boxes in Process Builder.

Process Administrator and Process Business Manager

Process Administrator and Process Business Manager are web-based administration interfaces. You need a Netscape Communicator 4.5+ browser to access them.

Process Express

Process Express is a web-based interface for viewing worklists. To use Process Express, users need one of the following browsers on the system that is accessing the Express:

* Microsoft Internet Explorer 5.x,

* Netscape Communicator 4.x.

You can download the latest Netscape Communicator 4.x from the Netscape home page at `http://home.netscape.com/browsers/index.html`.

Browser Requirements for Users

Installing on NT

This chapter describes the procedure for installing Process Manager on Windows NT systems. Process Manager can be installed on Windows NT 4.0 (Service Pack 5) systems.

On Windows NT systems, you can install all Process Manager components or you can choose to install just the Process Builder component. Regardless of whether you install all components or just Process Builder, you use an onscreen installer to perform the installation.

This chapter has the following sections:

- Getting Ready

- Installing All Components

- Installing Process Builder Only

- Upgrading from Process Manager 6.0 to SP 1

- Webless Installation

Getting Ready

Before installing Process Manager on Windows NT 4.0 (Service Pack 5), make sure:

- your system meets all the hardware, operating system and memory requirements discussed in the section "Platform Requirements" in Chapter 1, "Preparing for Installation."

- you have access to a database.

- you know all the information discussed in the section "Getting Ready to Install" in Chapter 1, "Preparing for Installation."

Installing All Components

On Windows NT, you use an onscreen Process Manager installer that allows you to click through a set of install options.

When installing Process Manager on a Windows NT system, you can select which components to install by checking the corresponding boxes as shown in the following figure:
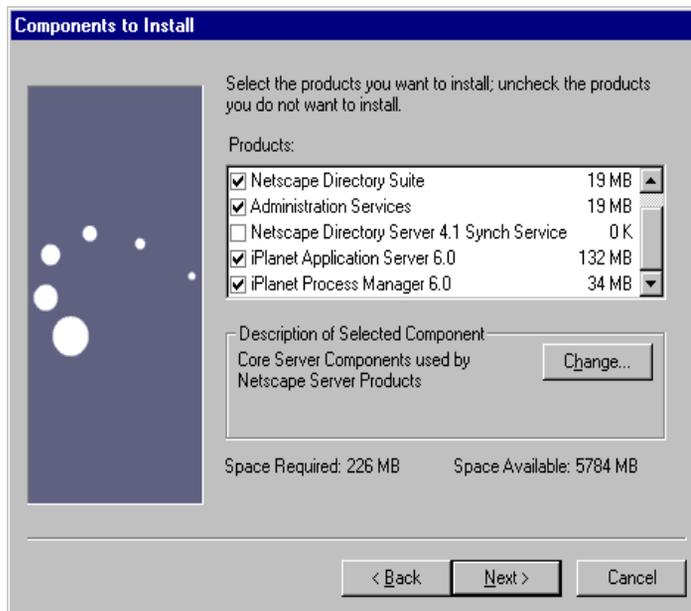
Before you install Process Manager 6.0, see the section "Getting Ready to Install" in Chapter 1, "Preparing for Installation" which explains important concepts and information required to properly install and configure iPlanet Application Server.

To install the Process Manager components using the installation wizard, follow these steps:

- Log on

- Select Which Components To Install

- Enter Information for the Directory Server

- Enter Information for the Application Server and Web Server

- Enter Information for Process Manager

- Review and Install

Log on

1. Log on to Windows NT as a user with administrator privileges.

2. Insert the Process Manager disc into your CD ROM drive or download the compressed product file from the ftp site and unzip it into a temporary location.

3. Execute the `Setup.exe` file to launch the installer.

The installation wizard launches.

The following section describes the steps for performing a Typical installation. If you plan on using the iPlanet Application Server Clusters, you must perform a Custom installation. See the iPlanet Application Server Installation Guide for Custom installation instructions.

Select Which Components To Install

1. Click Next in the Welcome dialog box.

2. Click Yes to accept the Software License Agreement.

3. When prompted for the installation, click Netscape Servers. This gives you the choice to install iPlanet Application Server, Netscape Directory Server, Netscape Console, iPlanet Application Server Administrator, the Web connector plug-in, and Process Manager.

4. When prompted for the installation type, click Typical.

5. Select the installation directory and click Next.

   The default directory is `C:\iPlanet\iPM6`.

   You cannot use a directory name that includes spaces.

6. Select which components to install:

   To install Process Manager along with iPlanet Application Server and Directory Server, select all the following components (these are the default selections):

   ❍ Netscape Server Family Core Components

   ❍ Netscape Directory Suite

- ❍ Administration Services
- ❍ iPlanet Application Server 6.0
- ❍ iPlanet Process Manager 6.0

The first three components (Netscape Server Family Core Components, Netscape Directory Suite, Administration Services) install Directory Server software.

To install Process Manager along with Netscape Application Server without Directory Server, select

- ❍ iPlanet Application Server 6.0
- ❍ iPlanet Process Manager 6.0

To install only Process Manager Server 6.0 and Process Builder 6.0 select only

- ❍ iPlanet Process Manager 6.0

To install Process Manager Server without the Web Connector, for a webless install, select

- ❍ iPlanet Application Server 6.0 and click Change
- ❍ Deselect the Web Connector Plug-in component and click Continue.

Once your webless installation is complete, you must install the Web Connector Plugin on your Web Server machine. See the section "Webless Installation" to update the webserver instance you plan on using with the Application Server.

To install only Process Manager Server 6.0 or Process Builder 6.0, select

- ❍ iPlanet Process Manager 6.0 and click Change.

Deselect the component you do not want to install and click Continue. If you are installing only Process Builder, click Next to complete the installation process. If you are installing only Process Manager server, click next to Enter Information for Process Manager.

Enter Information for the Directory Server

1. If you specified that you want to install a new instance of Directory Server, select "This instance will be the configuration directory server."

2. If you do not want to install Directory Server, enter the following information for the configuration Directory Server:

    ❍   Host name and port number of the machine where the existing installation of Directory Server resides

    ❍   Login ID for the machine where Directory Server is installed in "Bind As" (the default value is `cn=Directory Manager`).

    ❍   `Password` to the machine where Directory Server is installed.

3. If you are installing a new Directory Server click "Store data in this directory server."

4. If you are not installing a new Directory Server, enter the following information for the storage Directory Server that you want this installation to be configured with:

    ❍   Host name and port number of the machine where Directory Server is installed

    ❍   Login ID to the machine where Directory Server is installed in "Bind As"

    ❍   Password to the machine where Directory Server is installed

    ❍   Top level domain name in Suffix

Go to the section "Enter Information for the Application Server and Web Server" to proceed to the application server portion of the installation process.

5. If you are not installing a new Directory Server, skip this step. Otherwise, enter the settings to be used by the Directory Server you are installing or accept the default settings:

    ❍   Host name of the machine in Server Identifier

    ❍   Server Port number

    ❍   Top level domain name in Suffix

6. If you are not installing a new Directory Server, skip this step. Otherwise, enter the Administrator ID and password to the configuration directory.

Important: This is the Administrator ID and password required to uninstall iPlanet Application Server and Directory Server. Make a note of this information, as you will need it if you uninstall either of these products.

7. Enter the name of the Administration Domain where Netscape software information is stored on Directory Server or accept the default name.

8. Enter the Directory Manager distinguished name (DN) and password. The default value for the distinguished name is `cn=Directory Manager`.

9. Enter the port number for the Directory Server Administration Server. This is required for using the Console to administer the Directory Server.

   Note: Take note of this port number. Either use a number meaningful to you or store the port number in a safe place.

10. Confirm the configuration Directory Server information by entering the server's host name (defaults to the host you have used so far in the installation), port number (defaults to 389), Directory Manager user, and the Directory Manager password.

Enter Information for the Application Server and Web Server

1. Enter the product key of iPlanet Application Server. See the Welcome letter you received with the product for the correct key.

2. If you have already installed a web server, when prompted for the type of web server to be used, accept the default of iPlanet Web Server 4.1 (Process Manager 6.0 requires this web server). The web server instance will be displayed. For a webless installation, select 'None'.

3. When prompted for the Administration Server user ID and password, enter the user ID and password that will be required to log on to the Administration Server through the Administrator tool (iPlanet Application Server Administrator).

4. Select whether or not want to enable i18N support for the application server.

Enter Information for Process Manager

1. Enter the administrator user for Process Manager. This user should exist in the corporate directory.

Review and Install

2. Review the summary provided by the installation program of the configuration you have selected. If necessary, go back and make changes. When you are ready to install, click Install.

3. When the installation is complete, reboot the computer so that the new settings take effect.

4. During the installation process, when prompted if you want to overwrite an existing .dll file, press OK.

Installing Process Builder Only

You can install the Process Builder as a stand-alone tool on your system. Note that if you install Process Manager 6.0, Process Builder is installed by default; you do not need to install Process Builder separately. However, if you want to install *only* Process Builder, perform the following steps:

1. Locate the `builder.exe` file on the CD or download it from the Process Manager ftp site.

2. Double-click the `builder.exe` file.

   The self-extraction tool appears as shown in the following figure:
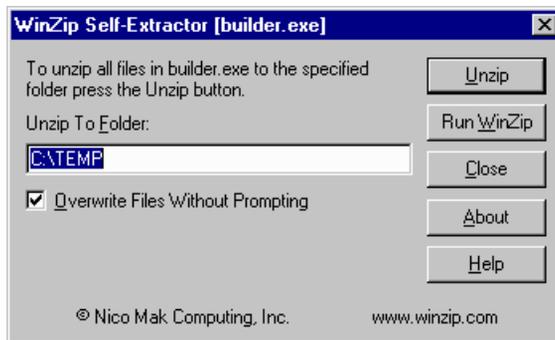
3. Enter the directory where the self-extractor will extract the files.

4. Click Unzip.

   The Process Builder files are extracted into the directory you specified in Step 3.

5. Click OK in the dialog box that appears indicating that the files were extracted successfully.

6. Click Close in the self-extractor window.

7. Navigate to the directory you specified in Step 3 and open the `builder` folder.

8. Double-click the `Builder.exe` file.

Process Builder appears.

Alternatively, you can double-click the `Builder.bat` file to launch a separate DOS window in addition to Process Builder that displays diagnostic messages. Note that if you close this DOS window, Process Builder closes as well.

Upgrading from Process Manager 6.0 to SP 1

It is not necessary to uninstall Process Manager 6.0 in order to upgrade to the Service Pack 1 release. Follow the installation steps described earlier and select the components you wish to upgrade.

You **must** upgrade the Application Server components to Service Pack 1 **before** you upgrade the Process Manager.

Webless Installation

For a production purposes,you may have elected to install the Process Manager and the Application Server on a separate machine from the Web server. Once you have completed the webless installation, you must:

- Copy a directory from the machine where you installed the Process Manager to the Web Server machine.

- Update the `obj.conf` file.

To copy the directory:

1. Go to the machine where the Web Server is installed.

2. Create a directory with the name `iPlanet\iPM6`.

3. Assuming you installed Process Manager in an `iPlanet\iPM6` directory, copy the following directories from the machine where you have installed the Process Manager to the Web Server machine directory you just created.

   ```
   iPlanet\iPM6\bpm\html
   iPlanet\iPM6\bpm\resources
   ```

   In addition, if your Process Manager application uses any resources such as images or HTML files, copy the directory, for example:

```
iPlanet\iPM6\bpm\applications\MyApp\images
```

You must copy the directory for each application that relies on any resources.

To update the `obj.conf` file:

1. Go to the machine where the Web Server is installed.

2. Open the obj.conf file located in:

    webserverlocation/https *instance name*/conf/obj.conf

3. Copy the following lines under the `<object name=default>` section:

    Change the pathname following the `dir` directive to match the pathname where you copied the files.

```
NameTrans fn="pfx2dir" from="/Administrator.apm" dir="d:/iPlanet/iPM6/bpm/html/Administrator.apm/en"
NameTrans fn="pfx2dir" from="/Business.apm" dir="d:/iPlanet/iPM6/bpm/html/Business.apm/en"
NameTrans fn="pfx2dir" from="/Express.npm" dir="d:/iPlanet/iPM6/bpm/html/Express.npm/en"
NameTrans fn="pfx2dir" from="/PMResources" dir="d:/iPlanet/iPM6/bpm/resources"
NameTrans fn="pfx2dir" from="/BPM" dir="d:/iPlanet/iPM6/bpm/Applications"
```

4. Additionally, if the following isn't already in your `obj.conf` file, add it:

```
Service method=(GET|HEAD|POST) type=*~magnus-internal/* fn=send-file
```

5. Restart the Web Server.

Webless Installation

Installing on Unix

This chapter describes the procedure for installing Process Manager on Solaris (Unix) systems. Process Manager can be installed on Solaris 2.6 and Solaris 8.

The Unix installer uses an install command that acts upon a file containing a set of predefined install options.

This chapter has the following sections:

- Getting Ready
- Installing All Components
- Upgrading from Process Manager 6.0 to SP 1
- Webless Installation
- Setting up Database Connectivity

Getting Ready

Before installing Process Manager 6.0 Engine on Solaris make sure:

- your system meets all the hardware, operating system and memory requirements discussed in the section "Platform Requirements" in Chapter 1, "Preparing for Installation"
- you have access to a database

Installing All Components

Before you install Process Manager, see the section "Getting Ready to Install" in Chapter 1, "Preparing for Installation" which explains important concepts and information required to properly install and configure iPlanet Application Server.

To install the Process Manager components using the installation wizard, follow these steps:

- Log on

- Select Which Components to Install

- Enter Directory Server Information

- Enter Application Server and Web Server Information

- Enter Information for Process Manager

Log on

To install Process Manager and its components, perform the following steps:

1. Log on to the system as the same user or as a member of the same group that installed the web server with which your iPlanet Application Server will interface. If you install as a regular user, and elect to configure the iPlanet Application Server for automatic startup, you will have to log on again as the root user after you install to enable automatic startup.

2. For Unix systems, decide if you want to install iPlanet Application Server so that it starts up automatically when you boot your system. If you decide yes, then log on to the system as the root user before installing iPlanet Application Server.

3. Insert the Install CD-ROM into the CD-ROM drive.

4. Mount the CD-ROM on, for example, `/cdrom/cdrom0`.

5. At the shell prompt, run the following command:

   `/cdrom/cdrom0/solaris/setup`

   The installation process starts.

   During installation you can back up to previous screens or exit the installation process by pressing the following key combinations:

   ❍ **CTL+B** to back up to the previous screen within an installation section. An installation section is defined by the title at the top of the screen. For example, "Netscape Server Products," "Netscape Directory," and "Application" are names of sections within the installation program. You cannot use CTL+B to go back to a screen in a different section than the one you are currently in.

   ❍ **CTL+C** to exit the installation. This results in an incomplete installation. If you want to install again, you must run the installation program from the beginning.

6. When prompted, press Enter to accept the default [yes] to continue with the installation.

7. When prompted, type `yes` to accept the Software License Agreement.

Select Which Components to Install

1. When prompted, press Enter or specify 1 to select "iPlanet Servers" as the item to install.

2. Specify 2 to select an installation type of Typical.

3. Specify a target installation directory as the base directory within which all components are installed. Do not include spaces in the path name.

4. When prompted for the components you want to install, do one of the following:

   To install Process Manager and iPlanet Application Server *along with* Directory Server, press Enter. This selects *all* the following components.

   ❍ Netscape Server Products Core Components

   ❍ Netscape Directory Suite

   ❍ Administration Services

      This installs the Administration Services and Console, allowing you to administer your Netscape servers from the same machine as the Console.

   ❍ iPlanet Application Server 6.0 Suite

      This installs iPlanet Application Server, iPlanet Application Server Administrator, the Web Connector plug-in used to communicate between application server and the web server, and Deployment Manager.

   ❍ Process Manager 6.0

The first three components (Netscape Server Products Core Components, Netscape Directory Suite, Administration Services) install Directory Server software. The fourth component installs iPlanet Application Server and its associated components. The last component installs Process Manager 6.0 and its associated components.

To install Process Manager and iPlanet Application Server *without* Directory Server, type 4, 5 (a iPlanet Application Server and Process Manager-only installation), and go to the section "Enter Application Server and Web Server Information."

To install only Process Manager, type 5 and go to the section "Enter Information for Process Manager."

5. When prompted to install the Netscape Server Family Core Components, press Enter to select all the components listed.

6. When prompted to install the Directory Suite components, press Enter to select all of components listed.

7. When prompted to install the Administration Services components, press Enter to select all the components listed.

8. When prompted to install iPlanet Application Server Suite components, press Enter if you want to install all the listed components.

   ❍ Web Connector Component

   ❍ Core Server Component (iPlanet Application Server without the Web Connector plug-in)

   ❍ Administrator Component (iPlanet Application Server Administrator)

   ❍ Deployment Manager

   If you want to install iPlanet Application Server without the Web Connector plug-in, specify 2 (Core Server Component) and 3 (Administrator Component).

9. When prompted to install Process Manager Components, press Enter if you want to install all the listed components.

   ❍ iPlanet Process Manager Server (this is the engine software)

   ❍ iPlanet Process Manager Builder

   For a webless installation, type 2, 3, 4 at the iPlanet Application Server Suite Components prompt. Do not install the iPlanet Application Server Web Connector Component.

Enter Directory Server Information

1. When prompted to specify the fully qualified domain name for the host system, press Enter to accept the default or type in another domain name if the default is not correct for any reason.

2. When prompted to specify the Unix user and group under which your iPlanet Application Server and Directory Server installations will run, press Enter to accept the default user [nobody] and press Enter again to accept the default group [nobody]. You can also type in another user and group.

   You should have already set up this user and group prior to running the installation program. Specify a user that has no privileges elsewhere on the system, so as to avoid access to restricted servers, such as the configuration Directory Server, from iPlanet Application Server.

3. When prompted if you want to use an existing Directory Server for your configuration directory, press Enter to accept the default [no]. This means that you want to use the Directory Server you are installing as part of this installation as your configuration directory.

   You can type yes to use another directory if you are not installing a Directory Server during this installation process.

4. When prompted if you want to use an existing Directory Server for your users and groups directory, press Enter to accept the default [no]. You can type yes to use another directory if you are not installing a Directory Server during this installation process.

   ○ If you are installing Directory Server with this installation of iPlanet Application Server, specify this Directory Server as the configuration Directory Server. Only specify an existing Directory Server as the configuration Directory Server if you are not installing Directory Server with this installation of iPlanet Application Server.

   ○ If you are installing Directory Server with this installation of iPlanet Application Server, specify this Directory Server as the storage server. Only specify an existing Directory Server as the storage server if you are not installing Directory Server with this installation of iPlanet Application Server.

   If you specify an existing installation as the storage Directory Server, enter the following information:

   ○ Host name and port number of the machine where Directory Server is installed

○   Login ID to the machine where Directory Server is installed in "Bind As"

○   Password to the machine where Directory Server is installed

○   Top level domain name in Suffix

5. Enter the port number to be used by the Directory Server you are installing. The default value is 389.

6. When prompted for the Directory Server identifier, enter the host name of the Directory Server machine.

7. Enter the administrator ID and password for the configuration Directory Server.

    Important: This is the Administrator ID and password required to uninstall iPlanet Application Server and Directory Server. Make a note of this information, as you will need it if you uninstall either of these products.

8. When prompted for the suffix, enter the top level domain name.

9. Enter the Directory Manager distinguished name (DN) and password. The default value for the distinguished name is `cn=Directory Manager`

    Note: It is good practice to use your own port number, such as 10000 or 20000, so you won't forget it. If you want to use the randomly generated port number, be sure to write it down somewhere handy.

10. Enter the administrative domain.

11. Enter the port number for the Directory Server Administration Server. This is required for using the Console to administer the Directory Server.

12. When prompted to specify the user the Administration Server will run as, press Enter to accept the default [root].

    This is the last step of the Directory Server portion of the installation process. All steps that follow install iPlanet Application Server.

Enter Application Server and Web Server Information

1. If you installed Directory Server earlier during this installation process, type `yes` to configure iPlanet Application Server with this Directory Server.

If you did not install Directory Server earlier during this installation process, provide the following information about the already existing Directory Server that you want iPlanet Application Server to be configured with:

- Server identifier

- Host name

- Port number

- Username (same value you entered in Step 9)

- User password (same value you entered in Step 9)

2. Enter the product key of iPlanet Application Server. The product key is available in the Welcome letter you received with the product.

3. Enter a full path of a web server instance to be used or enter `cgi` if you are using CGI.

4. Press enter to continue.

5. When prompted to enable the web server user to access the registry and plug-in libraries, press Enter to accept the default [y]. You are only prompted for this information if you belong to a different group than the one used to install the web server.

6. When prompted if you want to continue with the iPlanet Application Server installation despite needing to change some file permissions, press Enter to accept the default [y]. You are only prompted for this if you belong to a different group than the one used to install the web server.

7. When prompted for the Server Administrator username and password, enter the username and password to log on to the iPlanet Application Server Administrator tool or press Enter to accept the default [admin].

8. When prompted if you want to change ownership of iPlanet Application Server files to the user:group you specified earlier, press Enter to accept the default [n].

9. Choose whether or not to enable I18N. If you want to run multi-lingual applications you will need it, otherwise not.

Enter Information for Process Manager

1. Enter the administrative user(s) for Process Manager or press Enter to accept the default [admin]. This user should exist in the corporate directory. You can enter more than one user ID by separating the IDs with commas. All users you list in this field will have administrative use of Process Manager.

2. Press Enter to complete the installation.

Upgrading from Process Manager 6.0 to SP 1

You must uninstall Process Manager 6.0 in order to upgrade to the Service Pack 1 release. Follow the installation steps described earlier and select the components you wish to upgrade.

You **must** upgrade the Application Server components to Service Pack 1 **before** you upgrade the Process Manager.

Webless Installation

For a production purposes,you may have elected to install the Process Manager and the Application Server on a separate machine from the Web server. Once you have completed the webless installation, you must:

• Copy a directory from the machine where you installed the Process Manager to the Web Server machine.

• Update the `obj.conf` file.

To copy the directory:

1. Go to the machine where the Web Server is installed.

2. Create a directory with the name `iPlanet/iPM6`.

3. Assuming you installed Process Manager in an `iPlanet/iPM6` directory, copy the following directories from the machine where you have installed the Process Manager to the Web Server machine directory you just created.

   ```
   iPlanet/iPM6/bpm/html
   iPlanet/iPM6/bpm/resources
   ```

   In addition, if your Process Manager application uses any resources such as images or HTML files, copy the directory, for example:

```
iPlanet/iPM6/bpm/applications/MyApp/images
```

You must copy the directory for each application that relies on any resources.

To update the `obj.conf` file:

1. Go to the machine where the Web Server is installed.

2. Open the obj.conf file located in:

   webserverlocation`/https `*instance name*`/conf/obj.conf`

3. Copy the following lines under the `<object name=default>` section:

   Change the pathname following the `dir` directive to match the pathname where you copied the files.

```
NameTrans fn="pfx2dir" from="/Administrator.apm" dir="/iPlanet/iPM6/bpm/html/Administrator.apm/en"
NameTrans fn="pfx2dir" from="/Business.apm" dir="/iPlanet/iPM6/bpm/html/Business.apm/en"
NameTrans fn="pfx2dir" from="/Express.npm" dir="/iPlanet/iPM6/bpm/html/Express.npm/en"
NameTrans fn="pfx2dir" from="/PMResources" dir="/iPlanet/iPM6/bpm/resources"
NameTrans fn="pfx2dir" from="/BPM" dir="/iPlanet/iPM6/bpm/Applications"
```

4. Additionally, if the following isn't already in your `obj.conf` file, add it:

```
Service method=(GET|HEAD|POST) type=*~magnus-internal/* fn=send-file
```

5. Restart the Web Server.

Setting up Database Connectivity

After installing Process Manager 6.0, you need to establish database connectivity as follows:

1. Go to your iPlanet Application Server root directory at

   `/export/home/ipm/ias/bin`

2. Run the `db-setup` script:

   `./db-setup.sh`

3. It will ask which database you want to use with Process Manager. (Process Manager 6.0 supports Oracle and Sybase).

4. When you choose which database, `db-setup` asks you for some configuration parameters. Enter the requested parameters.

5. You will be asked if you want the configuration and resource managers. Consult your iPlanet Application Server documentation to determine if this is required for your environment.

6. You can now begin using Process Manager 6.0.

Troubleshooting, Post-installation Tasks and Uninstalling Process Manager

This chapter discusses what happens during installation, gives troubleshooting hints for installation, discusses how to create a cluster after completing the installation procedure, and describes how to uninstall Process Manager.

- What Happens During Installation

- Configuring after a Webless Install

- Installation Troubleshooting

- Creating a Cluster and Getting Started

- Uninstalling Process Manager

What Happens During Installation

When you install Process Manager, the installer makes several modifications to files on your machine.

- Modification on Windows NT

- Modifications on Unix

Modification on Windows NT

On a Windows NT machine, the installer performs the following actions in order:

1. Beans and servlets are registered: The installer registers four servlets and one bean with the configuration directory.

    Servlets:

    ❍ `DeploymentManager.npm`

    ❍ `Administrator.apm`

    ❍ `Business.apm`

    ❍ `Express.npm`

    Bean:

    ❍ `PMCluster`

2. iPlanet Web Server files are updated:

    ❍ `obj.conf`: The installer modifies this file to allow name translations for Process Manager URLs.

3. `bpm.ldif` file is modified. Generic parameters are replaced by installation-specific data.

    This file, stored in the *serverRoot*/bpm/admin directory, contains the LDIF entries that are added to the configuration directory for Netscape Console integration.

    Installation log files for Windows NT are stored in the following directory:

    serverRoot/bpm/bpm_install.log

Modifications on Unix

On a Unix machine, the installation process is similar to that of Windows NT. The following actions are unique to the Unix installation:

- Several files are modified to include the Process Manager classpath. The installer modifies the following files:

    ❍ `kjs`: The Process Manager classpath is added to the CLASSPATH variable of this shell script, which runs the Java Server for iPlanet Application Server. This addition allows the Java Server to execute Process Manager-related logic.

    ❍ `ejbreg, webappreg, j2eeappreg`: The Process Manager classpath is added to the CLASSPATH variable of these shell script as well. Process Manager-related beans can then be registered with the configuration directory.

All the script files are located in the *serverRoot*/nas/bin directory.

The Process Manager classpath is *serverRoot*/bpm/classes.

On a Unix system, the pre-installation log files are located in the following directory:

```
$PM_HOME/installfiles/pae_preinstall_UserID.log
```

where userID is the user ID that is running the installation script and $PM_HOME is where Process

Manager has been installed.

The post-installation log files are located in the following directory:

```
$PM_HOME/installfiles/pae_postinstall_UserID.log
```

The log files for registration of servlets and beans are kept in

```
$PM_HOME/installfiles/pae_app_reg.log
```

Configuring after a Webless Install

After a webless installation of Process Manager, you need to manually update the obj-conf file of the webserver instance. First, install the web-connector plug-in for iPlanet Application Server. See the *iPlanet Application Server 6.0 SP1 Installation Guide* for how to do this. Then perform the following steps:

1. On the machine where the webserver is installed, create a directory called iPlanet/iPM6. (For example, d:\iPlanet\iPM6).

2. From the Process Manager installation directory, copy bpm\html and bpm\resources into iPM6.

3. Find the obj.conf file of the webserver instance, and add the following lines under the <object name=default> section:

```
NameTrans fn="pfx2dir" from="/Administrator.apm"
dir="d:/iPlanet/iPM6/bpm/html/Administrator.apm/en"

NameTrans fn="pfx2dir" from="/Business.apm"
dir="d:/iPlanet/iPM6/bpm/html/Business.apm/en"

NameTrans fn="pfx2dir" from="/Express.npm"
dir="d:/iPlanet/iPM6/bpm/html/Express.npm/en"

NameTrans fn="pfx2dir"
from="/PMResources"dir="d:/iPlanet/iPM6/bpm/resources"
```

```
NameTrans fn="pfx2dir"
from="/BPM"dir="d:/iPlanet/iPM6/bpm/Applications"
```

4. If you cannot find the following line in `obj.conf` under `<object name=default>`, you will need to add it:

```
Service method=(GET|HEAD|POST) type=*~magnus-internal/*
fn=send-file
```

Installation Troubleshooting

The following troubleshooting hints are applicable to installations on both Windows NT and Unix machines.

- Invalid Process Administrator User

- Bean and Servlets Not Registered

Invalid Process Administrator User

Be sure the user name you enter for the Process Administrator user exists in the corporate directory used by the application server.

This user entry is stored in the following file:

Bean and Servlets Not Registered

This error occurs if the relevant servlets are not registered when you try to access Process Express, Process Administrator or Business Manager interfaces.

Make sure your four servlets (`DeploymentManager.npm`, `Administrator.apm`, `Business.apm`, `Express.npm`) and two beans (`PMCluster` and `PMClusterManager`) are registered correctly by following these steps:

1. Open Netscape Console.

2. Open the Directory Server administrator.

    The AppLogics (`DeploymentManager.npm`, `Administrator.apm`, `Business.apm`, `Express.npm`) and bean (`PMCluster`) should be listed under the following key in Directory Server:

root/NASCluster/nasconfig/Global/SOFTWARE/Netscape/Application Server/Name Trans

If these AppLogics and bean are not listed, you can register them.

Creating a Cluster and Getting Started

After you've installed Process Manager you need to create a cluster. Until a cluster is available, process designers cannot deploy applications. (You can design applications in Process Builder without a cluster, but you cannot deploy them.)

This section gives a brief overview of the steps required. See the *Administrator's Guide* for detailed steps on how to create a cluster. See the *Builder's Guide* for details on launching and using Process Builder.

To create a cluster, you must begin by launching Process Administrator and accessing the Cluster Management forms.

1. To launch Process Administrator, enter this URL in your web browser:

   `http://`*yourServer*`/Administrator.apm`

2. Click the Cluster Management tab.

   This displays the Create or Join a Cluster page.

3. Click the Create a Cluster link.

4. In the form that appears, fill in the fields as needed and click Create Cluster.

   A series of diagnostic messages are displayed onscreen as the cluster is created. The last few lines contain instructions for how to configure the Process Builder's `preferences.ini` file. For more information, see the *Process Administrator's and Business Manager's Guide.*

5. Copy the lines and paste them into the Process Builder's `preferences.ini` file, located in the Process Builder root folder. On a Windows NT system, this is typically in the *serverRoot*`/builder` folder.

Accessing Process Manager Components

This section describes how to launch or access each of the Process Manager components after installation.

• Launching Process Builder

• Accessing Process Express

- Accessing Process Administrator

- Accessing Process Business Manager

Launching Process Builder

Process Builder is a Java application that enables you to build Process Manager applications. When a Process Manager cluster has been created and you have modified the file `preferences.ini` to point to a cluster, you can deploy applications from the Builder to the Process Manager Engine.

To launch Process Builder on Windows NT system, execute this file:

```
//builder/Builder.exe
```

For further information on using Process Builder, see the *Process Builder's Guide.*

Accessing Process Express

The Process Express is a web-based interface where users can view their worklists and can start new processes. To log on to the Process Express, go to the following URL in your browser:

```
http://ProcessManager_server:port_number/Express.npm/
```

For example:

```
http://poppy.pmserver.com:8080/Express.npm/
```

Process Express asks the user to log in, and then displays the worklist appropriate to that user.

For more information about Process Express, see the *Process Express User's Guide.*

Accessing Process Administrator

After you have installed Process Manager Engine and created a cluster, you can access the Process Administrator interface to administer Process Manager applications by going to the following URL in the browser:

```
http://ProcessManager_server:port_number/Administrator.apm/
```

```
For example:
```

```
http://poppy.pmserver.com:8080/Administrator.apm/
```

For more information about Process Administrator, see the *Process Administrator's and Business Manager's Guide.*

Accessing Process Business Manager

After a Process Manager application has been deployed to a cluster, you can perform administrative operations on process instances in an application by using the Business Manager interface. To access this interface, go to the following URL in the browser:

```
http://ProcessManager_server:port_number/Business.apm/
```

```
For example:
```

```
http://poppy.pmserver.com:8080/Business.apm/
```

For more information about Process Business Manager, see the *Process Administrator's and Business Manager's Guide.*

Uninstalling Process Manager

On Windows NT, if you currently have Process Manager 1.x or PAE 4.0 and you want to upgrade to Process Manager 6.0 Service Pack 1, you must first uninstall your existing Process Manager/PAE installation.

On Solaris, if you currently have Process Manager 1.x or PAE 4.0, or 6.0 and you want to upgrade to Process Manager 6.0 Service Pack 1, you must first uninstall your existing Process Manager/PAE installation.

Note: Make sure you back up your applications before uninstalling older versions of Process Manager/PAE. •Uninstalling Process Builder Only

- Deleting Database Tables

- Uninstalling Netscape Application Server 4.0

Note: If for any reason you need to re-install Process Manager 6.0 after installing it, you do not need to uninstall it first.

Uninstalling Process Builder Only

If you have installed Process Builder as a stand-alone application on your Windows NT machine, you can uninstall the application by performing the following steps:

1. Delete the Process Builder menu item from your Start Menu.

2. In your file system, delete the `/builder` folder.

Deleting Database Tables

If you want to uninstall Process Manager Engine 1.x or PAE 4.0 in order to install Process Manager 6.0, you must also delete your existing Process Manager database tables because the database table schemas have changed. See the *Process Administrator's and Business Manager's Guide* for more details about the Process Manager tables.

Uninstalling Netscape Application Server 4.0

To uninstall PAE 4.0, you need to uninstall Netscape Application Server (NAS) 4.0. For information about uninstalling Netscape Application Server 4.0, refer to the documentation for the application server.

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