

Installation Guide

iPlanet™ Process Manager

Version 6.5

816-6355-10
April 2002

Copyright (c) 2002 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at <http://www.sun.com/patents> and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Sun, Sun Microsystems, the Sun logo, Forte, iPlanet, and the iPlanet logo are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Federal Acquisitions: Commercial Software - Government Users Subject to Standard License Terms and Conditions.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright (c) 2002 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303, Etats-Unis. Tous droits réservés.

Sun Microsystems, Inc. a les droits de propriété intellectuels relatants à la technologie incorporée dans le produit qui est décrit dans ce document. En particulier, et sans la limitation, ces droits de propriété intellectuels peuvent inclure un ou plus des brevets américains énumérés à <http://www.sun.com/patents> et un ou les brevets plus supplémentaires ou les applications de brevet en attente dans les Etats - Unis et dans les autres pays.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a.

Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Sun, Sun Microsystems, le logo Sun, Forte, iPlanet, Unified Development Server, et le logo iPlanet sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays.

UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

Contents

List of Procedures	5
Preface	7
About This Manual	7
Conventions Used in This Manual	7
Viewing Documentation	8
For Further Information	9
Chapter 1 Preparing for Installation	11
Process Manager Components	12
Platform Requirements	13
System Requirements for Process Manager	13
RAM and Disk Space Requirements for Process Manager	13
Other Software Requirements for Process Engine	14
Database Requirements	14
Getting Ready to Install	14
Upgrading From Previous Versions	15
Application Server Configuration Issues	16
Directory Server Issues	16
Web Server and Security Issues	17
Webless Installation Issues	17
Browser Requirements for Users	18
Process Builder	18
Process Administrator and Process Business Manager	18
Process Express	18
Chapter 2 Installing on Windows Platforms	19
Before Installing	19
Upgrading from Previous Process Manager Versions	20

Installing All Components	20
Select Components To Install	21
Enter Information for the Directory Server	25
Enter Information for the Application Server and Web Server	27
Enter Information for Process Manager	28
Review and Install	28
Installing Process Builder Only	28
Chapter 3 Installing on Solaris	29
Before Installing	29
Upgrading from Previous Process Manager Versions	30
Installing All Components	30
Log on	30
Select Components to Install	31
Enter Directory Server Information	34
Enter Application Server and Web Server Information	36
Enter Information for Process Manager	38
Installing Process Builder Only	38
Chapter 4 Post-installation Tasks and Uninstalling Process Manager	39
What Happens During Installation	39
Configuring After a Webless Installation	41
Setting up Database Connectivity	43
Creating a Cluster	43
Accessing Process Manager Components	44
Launching Process Builder	44
Accessing Process Express	45
Accessing Process Administrator	45
Accessing Process Business Manager	46
Uninstalling Process Manager	46
Uninstalling Process Builder Only	47
Uninstalling Process Manager	47

List of Procedures

- Installing a new instance of Directory Server 25
- Using an existing Directory Server 26
- To copy the directory files 41
- To update the obj.conf file 41
- To uninstall Builder on Windows 47
- To uninstall Builder on Solaris 47
- To Uninstall Process Manager on Windows 47
- To Uninstall Process Manager on Solaris 48

Preface

About This Manual

This manual, *iPlanet Process Manager Installation Guide*, provides information administrators need to install iPlanet Process Manager.

Conventions Used in This Manual

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

For your convenience, iPlanet Process Manager manuals are provided in both PDF and HTML formats. You can access the 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 location of the documentation in your distribution is at:

```
iPM_Install_Dir/builder/manual
```

The documentation is also available at the Sun documentation web site:

```
http://docs.sun.com/
```

For Further Information

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

Table 1 Summary of Process Manager Components

Do What?	Which Process Manager Component?	Comments
Install Process Manager	Installation component	For more information about installing Process Manager, see the <i>Process Manager Installation Guide</i>
Build a process application	Process Builder	Process Builder is a graphical user interface for building process applications. For more information, read the <i>Process Builder's Guide</i> .
Perform the steps in a process	Process Express	Process Express is a web-based interface used by the people who perform tasks in a process. It includes a customized worklist for each qualified user as well as a web-based form for each task. For more information about Process Express, see the <i>Process Express User's Guide</i> .
Administer a process application	Process Administrator and Business Manager	Process Administrator and Business Manager are a set of web-based interfaces for performing administration tasks such as: creating, deleting, and joining Process Manager clusters, and administering process applications deployed to clusters. For more information, read the <i>Process Administrator's and Business Manager's Guide</i> .
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 activities 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. Additionally, programmers can create SOAP clients that access web services APIs exposed by Process Manager applications. For more information, see For more information, see the <i>Process Manager Programmer's Guide</i> .

NOTE Process Manager runs on top of iPlanet Application Server (iAS).
For more information about iAS and other iPlanet products, see the
Sun documentation web site at <http://docs.sun.com/>.

Preparing for Installation

This chapter describes the various components of iPlanet Process Manager 6.5 and discusses the prerequisites for installing the product.

This chapter contains the following topics:

- “Process Manager Components” on page 12
- “Platform Requirements” on page 13
- “Other Software Requirements for Process Engine” on page 14
- “Getting Ready to Install” on page 14
- “Browser Requirements for Users” on page 18

After you complete all of the pre-installation requirements described in “Getting Ready to Install” on page 14, read the following chapters for installation instructions:

- Chapter 2, “Installing on Windows Platforms”
- Chapter 3, “Installing on Solaris”

After installing Process Manager, read the following chapter for information necessary to using the product:

- Chapter 4, “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, which is used to run and administer process applications. Process Manager Engine has the following components:
 - Process Express -- a web-based tasklist for users
 - Process Administrator -- a web-based interface for administering Process Manager clusters and process applications deployed to these clusters
 - Process Business Manager -- a web-based interface for managing individual process instances

You can choose to install the Process Manager Engine, Process Builder or both on Windows or Solaris.

Process Manager 6.5 uses the following additional products, which you can install during your Process Manager installation:

- iPlanet Directory Server -- 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 iPlanet Directory Server.
- iPlanet Application Server 6.5 -- Process Manager is an application that runs on the application server.

The Process Manager installation process installs the iPlanet Directory Server, iPlanet Console and iPlanet Application Server. If you already have the supported version of 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.”**

For a list of supported versions of all software required for installation and operation of Process Manager, see the *Release Notes*.

Platform Requirements

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

- [“System Requirements for Process Manager”](#)
- [“RAM and Disk Space Requirements for Process Manager”](#)

The following section, [“Other Software Requirements for Process Engine,”](#) discusses the additional software components that must be in place before installing Process Manager.

System Requirements for Process Manager

Both the Process Manager Builder and the Process Manager Process Engine, which includes Process Administrator, Process Business Manager, and Process Express are available for the Windows and Solaris platforms.

For information on the supported version and service pack numbers for each platform, see the Process Manager 6.5 Release Notes.

RAM and Disk Space Requirements for Process Manager

You need ~256 MB RAM to run the Directory Server, 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 must have enough disk space:

- Complete Process Manager installation
 - On Windows systems, you need ~307 MB of disk space available.
 - On Solaris systems, you need ~400 MB of disk space available.
- Process Builder only installation
 - On Windows systems, you need 25 MB of disk space available.
 - On Solaris systems, you need 25 MB of disk space available.

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
- Database

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

For information about supported component versions, see the Release Notes.

Database Requirements

Process Manager uses a relational database to store process instance data. 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 Informix, Oracle, and Sybase databases. For information about specific supported database server and client versions, see the Release Notes.

Getting Ready to Install

Before installing Process Manager, you need to:

- Make sure your system meets platform requirements
These are described in the section [“Platform Requirements”](#) on page 13.
- Uninstall previous versions of Process Manager.
See the *iPlanet Process Manager Release Notes* for details.

- Make sure all required software components are in place.
These are described in the section [“Other Software Requirements for Process Engine”](#) on page 14.
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 6.5
 - iPlanet Directory Server 5

You also need to consider the following:

- [“Upgrading From Previous Versions”](#)
- [“Application Server Configuration Issues”](#)
- [“Directory Server Issues”](#)
- [“Web Server and Security Issues”](#)

Upgrading From Previous Versions

You cannot install Process Manager 6.5 in the same location as previous versions of the product. If you have an earlier version, you must uninstall previous Process Manager versions and delete all your Process Manager database tables before installing Process Manager 6.5.

See the iPlanet Process Manager Release Notes for instructions on uninstalling and migrating from previous versions of Process Manager.

Application Server Configuration Issues

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

- 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 the Process Manager installation. If you have one already installed, you may choose not to install the Directory Server and use an already existing Directory Server as the configuration directory.

For information about Directory Server, see:

<http://docs.sun.com/>

You need to know the following information before starting the 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 `iplanet.com`, then select a suffix of `dc=iplanet,dc=com`.

- Administrator login ID and password

Web Server and Security Issues

You must install the Process Manager Engine components on a machine that is running a supported instance of iPlanet Web Server.

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 6.5, you need to know:

- the full path location of the web server for a Solaris installation
- the location of the web server for a Windows installation

The installer allows you to navigate onscreen to the location of the web server during the Windows 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 more information about the Web Connector plug-in, see the *iPlanet Application Server Installation Guide*.

For more information about security issues, see the *iPlanet Application Server Administrator's Guide*.

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 Process Express, the Process Administrator, or the Process Business Manager interfaces.

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 require 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 web browser to access them.

For information about which web browser products and version numbers are supported, see the *iPlanet Process Manager Release Notes*.

Process Express

Process Express is a web-based interface for viewing worklists. Users need a web browser to use Process Express.

For information about which web browser products and version numbers are supported, see the *iPlanet Process Manager Release Notes*.

Installing on Windows Platforms

This chapter describes the procedure for installing Process Manager on Windows platforms. For information about which Windows platforms are supported with Process Manager, see the *Process Manager Release Notes*.

On Windows systems, you can install all Process Manager components or you can choose to install just the Process Builder component. If you choose to install all Process Manager components, you use an on-screen installer to perform the installation. If you choose to install just the Process Builder, you install by unzipping the Process Builder component and its supported JDK using an extraction program.

This chapter has the following sections:

- [“Before Installing” on page 19](#)
- [“Upgrading from Previous Process Manager Versions” on page 20](#)
- [“Installing All Components” on page 20](#)
- [“Installing Process Builder Only” on page 28](#)

Before Installing

Before installing Process Manager on Windows, make sure:

- your system meets all the hardware, operating system, and memory requirements discussed in the section [“Platform Requirements” on page 13](#)
- you have access to a database
- you know all the information discussed in the section [“Getting Ready to Install” on page 14](#)
- you are logged in as a user with administrative privileges

Upgrading from Previous Process Manager Versions

Process Manager 6.5 has no upgrade option. If you have a previous version of iPlanet Application Server with iPlanet Process Manager, you must uninstall the previous version before you install.

Before you uninstall previous versions of Process Manager, read the application migration section in the *Release Notes* for Process Manager

Before you uninstall previous versions of the iPlanet Application Server or iPlanet Directory Server, refer to the Release Notes for each product for migration issues.

Installing All Components

This section describes the steps for performing a typical installation. If you plan on using iPlanet Application Server clusters, you must perform a custom installation. See the *iPlanet Application Server Installation Guide* for custom installation instructions.

Before you install Process Manager see the section [“Getting Ready to Install” on page 14](#), which explains important concepts and information required to properly install and configure iPlanet Application Server.

The installation media for iPlanet Process Manager contains an executable setup program that installs Process Manager components using an installation wizard.

NOTE If you want to install Process Builder only, do not use the on-screen installer.

The installation media contains a zipped installation of Process Builder that includes an installation of the supported JDK. For more information, see [“Installing Process Builder Only” on page 28](#).

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

- “Select 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”

Select Components To Install

1. Execute the `Setup.exe` file from the installation media to launch the installer. The installation wizard launches.
2. Select Next in the Welcome dialog box.
3. Select Yes to accept the Software License Agreement.
4. When prompted for the installation type, select iPlanet Servers.

This installation option gives you the choice of installing some or all of the following products:

- iPlanet Application Server
 - iPlanet Directory Server
 - iPlanet Console
 - iPlanet Application Server Administrator
 - Web Connector plug-in
 - iPlanet Process Manager.
5. When prompted for the installation type, select Typical.
 6. Select the installation directory and select Next.

The default installation directory is `C:\iPlanet\iPM65`.

NOTE You cannot use a directory name that includes spaces.

7. Select components to install:

To install iPlanet Process Manager, iPlanet Application Server, and iPlanet Directory Server:

- a. In the Select Components to Install window, make sure the following components are selected (these are the default selections):
 - iPlanet Server Family Core Components
 - iPlanet Directory Suite
 - Administration Services
 - nsPerl
 - PerLDAP
 - iPlanet Application Server 6.5
 - iPlanet Process Manager 6.5

The first five components (iPlanet Server Family Core Components, iPlanet Directory Suite, Administration Services, nsPerl, and PerLDAP) install Directory Server software.

- b. Select Next and go to the section, **“Enter Information for the Directory Server”** on page 25.

To install iPlanet Process Manager and iPlanet Application Server without iPlanet Directory Server:

- a. In the Select Components to Install window, deselect the following components:
 - Server Core Components
 - iPlanet Directory Suite
 - Administration Services
 - nsPerl
 - PerLDAP
- b. Make sure the following components are selected:
 - iPlanet Application Server 6.5
 - iPlanet Process Manager 6.5

- c. Select Next and go to the section, “[Enter Information for the Directory Server](#)” on page 25.

To install only iPlanet Process Manager Server and Process Builder:

This installation requires that a compatible version of iPlanet Application Server is already installed on your machine. For more information, see the *Process Manager Release Notes*.

- a. In the Select Components to Install window, deselect the following components:
 - Server Core Components
 - iPlanet Directory Suite
 - Administration Services
 - nsPerl
 - PerLDAP
 - iPlanet Application Server 6.5
- b. Make sure the following components are selected:
 - iPlanet Process Manager 6.5
- c. Select Next and go to the section “[Enter Information for Process Manager](#)” on page 28.

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

A webless installation is an installation of Process Manager and the Application Server on a machine separate from the one where the Web Server is installed.

Once your webless installation is complete, you must install the Web Connector plug-in on the machine that contains your Web Server instance. For details on installing the Web Connector plug-in on the Web Server machine, see the *iPlanet Application Server Installation Guide*.

You must also update some files on the Web Server instance you plan to use with your webless installation of Application Server. For more information, see “[Configuring After a Webless Installation](#)” on page 41.

- a. In the Select Components to Install window, deselect the following components:
 - Server Core Components

- iPlanet Directory Suite
 - Administration Services
 - nsPerl
 - PerLDAP
- b.** Make sure the following components are selected:
- iPlanet Application Server 6.5
 - iPlanet Process Manager 6.5
- c.** Highlight iPlanet Application Server 6.5 and select Change.
- d.** In the Subcomponents to Install window, deselect the Web Connector plug-in subcomponent.
- e.** Select Next and go to the section **“Enter Information for the Directory Server” on page 25.**
- f.** After you complete the installation of Process Manager, install the Web Connector plug-in on the machine that contains your Web Server instance.

For details on installing the Web Connector plug-in on the Web Server machine, see the *iPlanet Application Server Installation Guide*.

To install Process Manager Server only:

This installation requires that a compatible version of iPlanet Application Server is already installed on your machine. For more information, see the *Process Manager Release Notes*.

- a.** In the Select Components to Install window, deselect the following components:
- iPlanet Server Family Core Components
 - iPlanet Directory Suite
 - Administration Services
 - nsPerl
 - PerLDAP
 - iPlanet Application Server 6.5
- b.** Make sure the following components are selected:
- iPlanet Process Manager 6.5

- c. Highlight iPlanet Process Manager 6.5 and select Change.
- d. In the Subcomponents to Install window, deselect Process Builder and select Continue.
- e. Select Next and go to the section [“Enter Information for Process Manager” on page 28.](#)

To install Process Builder only:

If you want to install Process Builder only, do not use the on-screen installer.

The installation media contains a zipped installation of Process Builder that includes an installation of the supported JDK. For more information, see [“Installing Process Builder Only” on page 28.](#)

Enter Information for the Directory Server

This section is divided into two parts. Follow the instructions based on whether you are:

- [“Installing a new instance of Directory Server”](#)
- [“Using an existing Directory Server”](#)

If you deselected the Directory Server components in the installation wizard, you must use an existing Directory Server somewhere on your network.

► Installing a new instance of Directory Server

1. Choose *“This instance will be the configuration directory server.”*
2. Choose *“Store data in this directory server.”*
3. 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

For example, if your domain is `iplanet.com`, you enter `dc=iplanet,dc=com`.

4. Enter the Administrator ID and password to the configuration directory.

NOTE 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.

5. Enter the name of the Administration Domain where iPlanet software information is stored on Directory Server or accept the default name.
6. Enter the Directory Manager distinguished name (DN) and password.
The default value for the distinguished name is `cn=Directory Manager`.
7. Enter the port number for the Directory Server Administration Server.

NOTE This port number is required for using the Console to administer the Directory Server. Either use a number meaningful to you or store the port number in a safe place.

8. Go to the section [“Enter Information for the Application Server and Web Server” on page 27](#) to proceed with the Application Server portion of the installation process.

► **Using an existing Directory Server**

1. Select “Use existing configuration directory server” and enter the following information for your existing configuration Directory Server:
 - Host name of the machine where the existing installation of Directory Server resides
 - 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.
2. Enter the following information for the storage Directory Server that you want this installation to be configured with:
 - Server Identifier of the machine where Directory Server is installed

- Server Port number of the machine where Directory Server is installed
- Top level domain name in Suffix

For example, if your domain is `iplanet.com`, you enter
`dc=iplanet,dc=com`.

3. Enter the Directory Manager distinguished name (DN) and password.
 The default value for the distinguished name is `cn=Directory Manager`.
4. Enter the port number for the Directory Server Administration Server.

NOTE This port number is required for using the Console to administer the Directory Server. Either use a number meaningful to you or store the port number in a safe place.

5. Go to the section “[Enter Information for the Application Server and Web Server](#)” on page 27 to proceed with the Application Server portion of the installation process.

Enter Information for the Application Server and Web Server

1. Enter the product key of iPlanet Application Server.
 Refer to the Welcome letter you received with the product for the correct key.
2. Confirm the type of Web Server to use with this installation.
 The installer lists all installed instances of supported Web Servers found. Select the Web Server instance you want to use with Process Manager from this list.
 If you are performing a webless installation, select None.
3. 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 to enable i18N support for the Application Server.
 If you want to run multi-lingual applications you must specify yes.

Enter Information for Process Manager

1. Enter the administrator user for Process Manager. This user should exist in the corporate directory that is used by iPlanet Application Server to validate users.

Review and Install

1. Review the summary provided by the installation program of the configuration you have selected.
If necessary, use the Back button to make changes.
2. Select Install to confirm your installation settings.
3. When the installation is complete, reboot the computer for the new settings to take effect.

Installing Process Builder Only

You can install Process Builder as a stand-alone tool on your system. If you install Process Manager 6.5, 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 `NT_Builder.zip` file in the installation media.
2. Using an extraction tool, extract the zipped file to a directory location on your machine where you want to place the Process Builder.
3. Navigate to the location you specified and open the `builder` directory.
4. Double-click the `Builder.exe` file.

Process Builder appears.

NOTE Alternatively, you can execute the `Builder.bat` file in this same directory to launch a separate DOS window that displays diagnostic messages as you run Process Builder. If you close this DOS window, Process Builder closes as well.

Installing on Solaris

This chapter describes the procedure for installing Process Manager on Solaris (Unix) systems. For information about which Solaris platforms are supported with Process Manager, see the *Release Notes*.

On Unix systems, you can install all Process Manager components or you can choose to install just the Process Builder component. If you choose to install all Process Manager components, the Unix installer uses an install command that acts upon a file containing a set of predefined install options. If you choose to install just the Process Builder, you install by unzipping the Process Builder component and its supported JDK using an extraction program.

This chapter has the following sections:

- [“Before Installing” on page 29](#)
- [“Upgrading from Previous Process Manager Versions” on page 30](#)
- [“Installing All Components” on page 30](#)
- [“Installing Process Builder Only” on page 38](#)

Before Installing

Before installing Process Manager 6.5 on Solaris make sure:

- your system meets all the hardware, operating system, and memory requirements discussed in the section [“Platform Requirements” on page 13](#)
- you have access to a database
- you know all the information discussed in the section [“Getting Ready to Install” on page 14](#)

Upgrading from Previous Process Manager Versions

Process Manager 6.5 has no upgrade option. If you have a previous version of iPlanet Application Server with iPlanet Process Manager, you must uninstall the previous version before you install.

Before you uninstall previous versions of Process Manager, read the application migration section in the *Process Manager Release Notes*.

Before you uninstall previous versions of the iPlanet Application Server or iPlanet Directory Server, refer to the Release Notes for each product for migration issues.

Installing All Components

Before you install Process Manager, see the section [“Getting Ready to Install” on page 14](#) 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 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 in one of two ways:
 - 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.

- o as the root user before installing iPlanet Application Server

Do this if you want to install iPlanet Application Server so that it starts up automatically when you boot your system.

2. At the shell prompt, run the `setup` command contained in the installation media.

The installation process starts.

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

- o **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, “iPlanet Server Products,” “iPlanet 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.
 - o **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.
3. When prompted, press Enter to accept the default [yes] to continue with the installation.
 4. When prompted, type `yes` to accept the Software License Agreement.

Select 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 iPlanet Process Manager, iPlanet Application Server, and iPlanet Directory Server

- a. When prompted to install the iPlanet Server Products components, press Enter to select all components listed:
 - Server Core Components
 - iPlanet Directory Suite
 - Administration Services
 - iPlanet Application Server Suite
 - iPlanet Process Manager 6.5
- b. When prompted to install the Server Core Components components, press Enter to select all components listed.
- c. When prompted to install the iPlanet Directory Suite components, press Enter to select all components listed.
- d. When prompted to install the Administration Services components, press Enter to select all components listed.
- e. When prompted to install iPlanet Application Server Suite components, press Enter to select all components listed.
- f. When prompted to install Process Manager 6.5 components, press Enter to select all components listed.

To install iPlanet Process Manager and iPlanet Application Server without iPlanet Directory Server

- a. When prompted to install the iPlanet Server Products components, type 4 , 5 and Press Enter.
- b. When prompted to install iPlanet Application Server Suite components, press Enter to select all components listed.
- c. When prompted to install Process Manager 6.5 components, press Enter to select all components listed and go to the section **“Enter Application Server and Web Server Information”** on page 36.

To install only iPlanet Process Manager Server and Process Builder

This installation requires that a compatible version of iPlanet Application Server is already installed on your machine. For more information, see the *Process Manager Release Notes*.

- a. When prompted to install the iPlanet Server Products components, type 5 and Press Enter.
- b. When prompted to install Process Manager 6.5 components, press Enter to select all components listed and go to the section “**Enter Information for Process Manager**” on page 38.

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

A webless installation is an installation of Process Manager and the Application Server on a machine separate from the one where the Web Server is installed.

Once your webless installation is complete, you must install the Web Connector plug-in on the machine that contains your Web Server instance. For details on installing the Web Connector plug-in on the Web Server machine, see the *iPlanet Application Server Installation Guide*.

You must also update some files on the Web Server instance you plan to use with your webless installation of Application Server. For more information, see “**Configuring After a Webless Installation**” on page 41.

- a. When prompted to install the iPlanet Server Products components, type 4, 5 and press Enter.
- b. When prompted to install the iPlanet Application Server Suite components, type 2, 3, 4, 5 and press Enter.

This installs all iPlanet Application Server Suite components except for the Web Connector Component.

- c. When prompted to install Process Manager 6.5 components, press Enter to select all components listed and go to the section “**Enter Application Server and Web Server Information**” on page 36.
- d. Install the Web Connector plug-in on the machine that contains your Web Server instance.

For details on installing the Web Connector plug-in on the Web Server machine, see the *iPlanet Application Server Installation Guide*.

To install Process Manager Server only

This installation requires that a compatible version of iPlanet Application Server is already installed on your machine. For more information, see the *Process Manager Release Notes*.

- a. When prompted to install the iPlanet Server Products components, type 5 and press Enter.
- b. When prompted to install Process Manager 6.5 components, type 1 and press Enter to select all components listed and go to the section “[Enter Information for Process Manager](#)” on page 38.

To install Process Builder only

If you want to install Process Builder only, do not use the `setup install` command.

The installation media contains a zipped installation of Process Builder that includes an installation of the supported JDK. For more information, see “[Installing Process Builder Only](#)” on page 38.

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.
2. When prompted to specify the Unix user under which your iPlanet Application Server and Directory Server installations will run, press Enter to accept the default user, or enter a user defined in the directory server and press Enter.

You should have already set up this user 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 to specify the Unix group under which your iPlanet Application Server and Directory Server installations will run, press Enter to accept the default group, or enter a group defined in the Directory Server and press Enter.

You should have already set up this group prior to running the installation program.

4. 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.

5. 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.
 - o 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.
 - o 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:

- o Host name and port number of the machine where Directory Server is installed
- o Login ID to the machine where Directory Server is installed in "Bind As"
- o Password to the machine where Directory Server is installed
- o Top level domain name in Suffix

If your domain is `iplanet.com`, you would enter `dc=iplanet,dc=com`.

6. Enter the port number to be used by the Directory Server you are installing. The default value is 389.
7. When prompted for the Directory Server identifier, enter the host name of the Directory Server machine.

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

NOTE 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.

9. When prompted for the suffix, enter the top level domain name.
10. 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 make note of the port number for later use.

11. Enter the administrative domain.
12. Enter the port number for the Directory Server Administration Server.
This is required for using the Console to administer the Directory Server.
13. When prompted to specify the user the Administration Server will run as, press Enter to accept the default [root].

This completes 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:
 - o Server identifier

- Host name
 - Port number
 - Username (same value you entered in **Step 10** of the section “**Enter Directory Server Information**” on page 34)
 - User password (same value you entered in **Step 10** of the section “**Enter Directory Server Information**” on page 34)
2. Enter the product key of iPlanet Application Server.
Refer to the Welcome letter you received with the product for the correct key.
 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. If 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. If prompted 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 to enable I18N.

If you want to run multi-lingual applications you need to enable I18N.

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.

Installing Process Builder Only

You can install Process Builder as a stand-alone tool on your system. Note that if you install Process Manager 6.5, 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 `Solaris_Builder.zip` file in the installation media.
2. Using an extraction tool, extract the zipped file to a directory location on your machine where you want to place the Process Builder.
3. Change directories to the `builder` directory within the location you specified.
4. Call the command `./Builder.sh &`

Process Builder appears.

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” on page 39
- “Configuring After a Webless Installation” on page 41
- “Setting up Database Connectivity” on page 43
- “Creating a Cluster” on page 43
- “Accessing Process Manager Components” on page 44
- “Uninstalling Process Manager” on page 46

What Happens During Installation

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

The Installer performs the following actions in order:

1. Beans and servlets are registered: The installer registers eight servlets and three beans with the configuration directory.

Servlets:

- `DeploymentManager.npm`
- `Administrator.apm`

- SiteAdmin.apm
- ClusterAdmin.apm
- Business.apm
- ProcessBusiness.apm
- Express.npm
- ProcessExpress.npm

Beans:

- PMCluster
- PMClusterManager
- WFEEngine

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 iPlanet Console integration.

4. Installation log files are created.

- Installation log files for Windows are stored in the following directory:
`serverRoot\bpm\bpm_install.log`

- Installation log files for Solaris are stored in the following places:

- pre-installation log files

`$PM_HOME/BPM/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.

- post-installation log files

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

- log files for registration of servlets and beans

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

Configuring After a Webless Installation

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

- Make sure the Web Connector plug-in is installed on the machine containing the Web Server.

For details on installing the Web Connector plug-in on the Web Server machine, see the *iPlanet Application Server Installation Guide*.

- Copy directory files from the machine where you installed the Process Manager to the Web Server machine.
- Update the Web Server's `obj.conf` file.

➤ To copy the directory files

1. Create a directory named `iPlanet/iPM65/bpm` on the machine where the Web Server is installed.
2. Assuming you installed Process Manager in an `iPlanet/iPM65` directory, copy the following directories from the `iPlanet/iPM65/bpm` directory on the machine where you installed Process Manager to the Web Server machine directory you just created.
 - `html`
 - `resources`

➤ To update the obj.conf file

1. On the machine where the Web Server is installed, open the `obj.conf` file.

The `obj.conf` file is located in the following directory:

webservlocation\https-instance name\config

2. Insert the following lines under the `<object name=default>` section:

```
NameTrans fn="pfx2dir" from="/SiteAdmin.apm"
dir="D:/iplanet/ipm65/bpm/html/SiteAdmin.apm/en"
NameTrans fn="pfx2dir" from="/ClusterAdmin.apm"
dir="D:/iplanet/ipm65/bpm/html/ClusterAdmin.apm/en"
NameTrans fn="pfx2dir" from="/ProcessBusiness.apm"
dir="D:/iplanet/ipm65/bpm/html/ProcessBusiness.apm/en"
NameTrans fn="pfx2dir" from="/ProcessExpress.npm"
dir="D:/iplanet/ipm65/bpm/html/ProcessExpress.npm/en"
NameTrans fn="pfx2dir" from="/Administrator.apm"
dir="D:/iPlanet/iPM65/bpm/html/Administrator.apm/en"
NameTrans fn="pfx2dir" from="/Business.apm"
dir="D:/iPlanet/iPM65/bpm/html/Business.apm/en"
NameTrans fn="pfx2dir" from="/Express.npm"
dir="D:/iPlanet/iPM65/bpm/html/Express.npm/en"
NameTrans fn="pfx2dir" from="/PMResources"
dir="D:/iPlanet/iPM65/bpm/resources"
NameTrans fn="pfx2dir" from="/BPM" dir="D:/iPlanet/iPM65/bpm"
```

NOTE

- Change the pathname following the `dir` directive to match the pathname where you copied the `html` and `resources` directories.
 - Make sure that each corresponding `NameTrans` and `dir` translation is on a single line.
-

3. Add the following line to your `obj.conf` file if it does not already exist:

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

Restart the Web Server to register the new `obj.conf` settings.

Setting up Database Connectivity

After installing Process Manager 6.5, you must establish database connectivity:

- Windows Platforms

You are required to set up database connectivity for third-party JDBC drivers on Windows. If you use native database drivers, you do not need to set up database connectivity for Windows. You establish database connectivity for third-party JDBC drivers using the `jdbcsetup` utility, located in the `<ipm_install_directory>/ias/bin` directory. For more information on the `jdbcsetup` utility, see the *iPlanet Application Server Administrator's Guide*.

- Solaris Platforms

You are required to set up database connectivity if you use native or third-party JDBC database drivers on Solaris before you create a cluster. You do this using the `db-setup` utility, located in the `<ipm_install_directory>\ias\bin` directory. For more information on the `db-setup` utility, see the *iPlanet Application Server Administrator's Guide*.

NOTE After you establish database connectivity, restart your iPlanet Application Server for your new settings to take effect.

For information on configuring specific third-party JDBC drivers with iAS, see iPlanet Knowledge Base article number 7831, entitled "Registering Third-party JDBC Drivers with iAS for Database Connectivity with iPM Applications."

Creating a Cluster

After installing all components and establishing database connectivity, you must create an iPlanet Process Manager cluster. This cluster associates the following components with each other:

- an LDAP-compliant corporate user directory
- an LDAP-compliant configuration directory
- a relational database

After you create an iPlanet Process Manager cluster, you can deploy applications you create with Process Manager Builder to that cluster. For more information about creating a cluster, see the *Process Administrator's and Business Manager's Guide*.

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 systems, execute this file:

```
<builder_install_directory>\Builder.exe
```

To launch Process Builder on Solaris systems, go to the installed Builder directory and call the following command:

```
./Builder.sh &
```

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

Accessing Process Express

Process Express is a web-based interface where users can view their worklists and can start new processes.

The URL Process Manager application users access to launch Process Express depends on the cluster implementation the Process Manager administrator uses.

- single cluster

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

- multiple cluster:

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

The Process Express client requires 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*.

For information on the difference between single and multiple cluster implementations, see the *Process Administrator's and Business Manager'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 clusters and applications deployed to those clusters.

The URL Process Manager administrators access to launch Process Administrator depends on the cluster implementation the Process Manager administrator uses:

- single cluster

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

- multiple cluster

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

For more information about Process Administrator and the difference between single and multiple cluster implementations, 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.

The URL Process Manager administrators and business managers access to launch Process Business Manager depends on the cluster implementation the Process Manager administrator uses:

- single cluster

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

- multiple cluster

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

For more information about Process Business Manager and the difference between single and multiple cluster implementations, see the *Process Administrator's and Business Manager's Guide*.

Uninstalling Process Manager

If you currently have a previous version of Process Manager installed on your Windows or Solaris machine, you must migrate your application data to the current version. For information about migration issues and application data migration, see the *Process Manager Release Notes*.

- “Uninstalling Process Builder Only”
- “Uninstalling Process Manager”

NOTE Make sure to back up your applications to a local directory other than your Builder application directory before uninstalling Process Manager or Process Builder.

Refer to the individual Installation Guides and Release Notes for back up instructions for the Application Server and Directory Server data and applications.

Uninstalling Process Builder Only

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

- **To uninstall Builder on Windows**
 1. Delete the Process Builder menu item from your Start Menu.
 2. In your file system, delete the `\builder` directory.
- **To uninstall Builder on Solaris**
 1. In your file system, delete the `/builder` directory.

Uninstalling Process Manager

You can uninstall any of the following products using the Process Manager uninstall program:

- iPlanet Directory Server
 - iPlanet Application Server
 - iPlanet Process Manager
- **To Uninstall Process Manager on Windows**
 1. Select Programs > iPlanet Application Server 6.5 > Uninstaller from the Start menu.
 2. Select the items you want to uninstall.
 3. Select Uninstall and provide the administrator username and password.
 4. Delete the builder directory from the Process Manager directory when the uninstall is complete.

See the individual Installation Guides and Release Notes for any other post-uninstallation tasks you must perform for the Application Server and the Directory Server.

► **To Uninstall Process Manager on Solaris**

1. Run the uninstall command in the iPlanet Process Manager directory.
2. Select the items you want to uninstall when prompted.
3. Select Uninstall and provide the administrator username and password.
4. Delete the builder directory from the Process Manager directory when the uninstall is complete.

See the individual Installation Guides and Release Notes for any other post-uninstallation tasks you must perform for the Application Server and the Directory Server.