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PeopleSoft

PeopleSoft 9.2 Application Installation on Oracle (PeopleSoft PeopleTools 8.56)

July 2018

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Installation on Oracle (PeopleSoft PeopleTools 8.56)

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About This Documentation

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Understanding This Documentation

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

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

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

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

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

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

Audience

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

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

- SQL and SQL command syntax.

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

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

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

Typographical Conventions

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

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

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

Products

This documentation may refer to these products and product families:

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

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

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

Related Information

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

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

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

  See My Oracle Support, https://support.oracle.com.
- *PeopleTools: Getting Started with PeopleTools* for your release. This documentation provides a high-level introduction to PeopleTools technology and usage.

  See Oracle PeopleSoft Online Help, http://www.peoplesoftonlinehelp.com.
- PeopleSoft Application Fundamentals for your PeopleSoft Application and release. This documentation provides essential information about the setup, design, and implementation of your PeopleSoft Application.

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

See Also

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

Comments and Suggestions

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

PSOFT-Infodev_US@oracle.com

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

Part I

Mandatory Installation

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

Chapter 1

Preparing for Installation

This chapter discusses:

- Understanding the PeopleSoft Installation
- Understanding the PeopleSoft Installation Using Deployment Packages
- Understanding the PeopleSoft Upgrade Source Deployment Packages
- Reviewing Hardware Requirements
- Reviewing Software Requirements
- Using Oracle Software Delivery Cloud to Obtain Installation Files
- Considering Project Planning
- Planning Your Initial Configuration
- Planning Database Creation
- Planning Multilingual Strategy
- Installing Supporting Applications
- Installing the Database Engine
- Installing Oracle Net on the Server
- Installing Oracle Net on Your Workstation
- Testing Oracle Net Connectivity
- Performing Backups

Understanding the PeopleSoft Installation

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

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

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

  See My Oracle Support, Certifications.

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

- Use the My Oracle Support Certifications area to determine the latest certified versions of additional components, such as Oracle Tuxedo or IBM WebSphere, which are supported for the PeopleSoft PeopleTools release you are installing.
- If you will be upgrading your current release after you perform this installation, you also need to install Change Assistant. The page on My Oracle Support containing your upgrade documentation and files includes information on which tool you need.
- For critical issues related to the installation process, see the My Oracle Support web site. Be sure to read the "Required for Upgrade" incidents on the Patches and Updates page for the PeopleSoft PeopleTools version that you are installing.
- You will use the PeopleSoft application deployment packages (DPKs) for your PeopleSoft installation. The DPKs deliver pre-installed PeopleSoft components, which can be installed on virtualization platforms as well as directly on traditional, non-virtual machines ("bare-metal").

  Review the known issues on the PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2, for any issues related to the PeopleSoft application DPK installation.
- For online technical support information, use the My Oracle Support web site. My Oracle Support includes tools for self-directed searches of information including reference documents and problem resolutions, as well as service request management tools.

  See My Oracle Support, https://support.oracle.com.
- To download software and documentation, use the Oracle Software Delivery Cloud portal, and the Oracle Technology Network.

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

  See Oracle Technology Network, http://www.oracle.com/technetwork/index.html.
- Be aware that not all application releases are certified and supported to run on all PeopleSoft PeopleTools releases. Check the PeopleSoft policy information on My Oracle Support for further details on the support policy for your particular application. If you are planning to do a PeopleTools-only upgrade, do not continue until you have verified that your application is supported on the target PeopleSoft PeopleTools release.

  See Lifetime Support Summary for PeopleSoft Releases, My Oracle Support, Doc ID 2238983.2.
- This installation guide may refer you to other PeopleSoft documentation resources for more information or instructions. You can access Oracle's PeopleSoft Hosted Documentation online during the installation process. For PeopleSoft PeopleTools 8.53 and later, you also have the option to install PeopleSoft Online Help documentation, a dynamic, interactive, accessible HTML version of the documentation formerly known as "PeopleBooks."

See Also

"Installing PeopleSoft Online Help"

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

"Installing PeopleSoft Change Assistant"

Understanding the PeopleSoft Installation Using Deployment Packages

This section discusses:

- Understanding the PeopleSoft Deployment Packages Required for Installation
- Reviewing the PeopleSoft PeopleTools DPKs
- Reviewing the PeopleSoft Application Images
- Reviewing the Installation Choices
- Reviewing the Full-Tier DPK Installation Process (Linux or Microsoft Windows)
- Reviewing the DPK Installation Process for a User-Created Database (AIX, Linux, Microsoft Windows, or Solaris)
- Reviewing the Installation Process on HP-UX
- Reviewing the Installation Process with IBM WebSphere (AIX, Linux, Microsoft Windows, or Solaris)

Understanding the PeopleSoft Deployment Packages Required for Installation

To install PeopleSoft applications built on PeopleSoft PeopleTools 8.56 (PeopleSoft 9.2 applications as well as PeopleSoft Interaction Hub 9.1), you will use the PeopleSoft Application Images, which are comprised of deployment packages (DPKs). For most installation scenarios, you will also download the PeopleSoft PeopleTools DPKs separately.

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

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

See *PeopleSoft PeopleTools 8.56 Deployment Packages Installation,* "Learning About the PeopleSoft Deployment Process."

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

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

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

See "Completing the DPK Initialization with Customizations."

This section describes the DPKs used in the PeopleSoft installation and overviews of the installation process for various scenarios. The PeopleSoft Application Images are available as Microsoft Windows, Linux, and Oracle VM VirtualBox DPKs. The VirtualBox DPKs are used for PUM maintenance, and are not covered in this documentation. The PeopleSoft PeopleTools 8.56 DPKs are available for IBM AIX, Linux, Microsoft Windows, and Oracle Solaris on SPARC operating systems. You can also install on an HP-UX operating system using PeopleSoft PeopleTools installation files in the non-DPK format.

See Reviewing the Installation Choices.

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

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

Reviewing the PeopleSoft PeopleTools DPKs

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

Downloaded Zip Files	Embedded Zip Files	Description
PEOPLETOOLS-<*OS*>-8.56.*xx* _1of4.zip	The setup folder and other files	Setup DPK
PEOPLETOOLS-<*OS*>-8.56.*xx* _2of4.zip	PT-DPK-<*OS*>-8.56.*xx*-1of2.zip	PeopleTools server, Part 1
PEOPLETOOLS-<*OS*>-8.56.*xx* _3of4.zip	PT-DPK-<*OS*>-8.56.*xx*-2of2.zip	PeopleTools server, Part 2
PEOPLETOOLS-<*OS*>-8.56.*xx* _4of4.zip	PTC-DPK-<*OS*>-8.56.*xx*-1of1.zip	PeopleTools Client for 8.56

The filenames include the following:

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

Reviewing the PeopleSoft Application Images

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

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

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

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

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

See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.56),* PeopleSoft Update Image (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

Downloaded Zip Files	Files After First Extraction[1]	Description
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_1of11.zip	The setup folder and other files	Setup DPK
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_2of11.zip	PT-DPK-<*OS*>-8.56.*xx*-1of2.zip	PeopleTools server, Part 1
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_3of11.zip	PT-DPK-<*OS*>-8.56.*xx*-2of2.zip	PeopleTools server, Part 2
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_4of11.zip	PTC-DPK-WIN8.54.*xx*-1of1.zip	PeopleTools Client for 8.54
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_5of11.zip	PTC-DPK-WIN8.55.*xx*-1of1.zip	PeopleTools Client for 8.55
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_6of11.zip	PTC-DPK-WIN8.56.*xx*-1of1.zip	PeopleTools Client for 8.56
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_7of11.zip	ODC-DPK-WIN-12.1.0.2-*xxxxxx*-1of1.zip	Oracle Database client

Downloaded Zip Files	Files After First Extraction[1]	Description
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_8of11.zip	ODS-DPK-<*OS*>-12.1.0.2-*xxxxxx*-1of1.zip	Oracle Database server
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_9of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-1of3.zip	PeopleSoft Application DPK, Part 1
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_10of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-2of3.zip	PeopleSoft Application DPK, Part 2
<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_11of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-3of3.zip	PeopleSoft Application DPK, Part 3

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

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

<*Product*>-920-UPD-<*PI_Number*>-<*OS*>_#of*n*.zip

For example:

HCM-920-UPD-024-LNX_1of11.zip

HCM-920-UPD-024-LNX_2of11.zip

[...]

HCM-920-UPD-024-LNX_11of11.zip

The files names are comprised of the following parts:

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

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

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

- *n* represents the total number of zip files.

Reviewing the Installation Choices

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

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

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

Installation Format	Operating System	Oracle Database	Web Server	Overview Section
PeopleTools and PeopleSoft Application DPKs	• Linux • Microsoft Windows	Pre-configured Oracle 12c Multitenant **Note.** The term pluggable database is sometimes used to describe an Oracle multitenant setup.	Oracle WebLogic	Reviewing the Full-Tier DPK Installation (Linux or Microsoft Windows)
PeopleTools and PeopleSoft Application DPKs	• AIX • Linux • Microsoft Windows • Solaris for SPARC	User-created Oracle 11g or 12c	Oracle WebLogic	Reviewing the DPK Installation for a User-Created Database (AIX, Linux, Microsoft Windows, or Solaris)
PeopleTools and PeopleSoft Application DPKs	• AIX • Linux • Microsoft Windows • Solaris for SPARC	User-created Oracle 11g or 12c	IBM WebSphere	Reviewing the Installation with IBM WebSphere (AIX, Linux, Microsoft Windows, or Solaris)
Traditional PeopleTools installation media (VCD) PeopleSoft application DPKs	HP-UX	User-created Oracle 11g or 12c	Oracle WebLogic	Reviewing the Installation on HP-UX

Reviewing the Full-Tier DPK Installation Process (Linux or Microsoft Windows)

These are the high-level steps for using the PeopleSoft Application Images to perform a fresh installation (that is, you are not upgrading or updating an existing environment) with the full-tier deployment. Note that this process applies only to installation on Linux or Microsoft Windows.

This document uses the term "full tier" to refer to a complete PeopleSoft environment. This includes the Oracle database server and pre-configured PeopleSoft application database along with the application server, Process Scheduler, and PIA.

1. Download the Native OS DPKs on Linux or Microsoft Windows for your PeopleSoft 9.2 application.
2. Use the PeopleTools DPK setup script in full-tier mode to deploy the full PeopleSoft environment, including a pre-configured DEMO or SYS database, application server, Process Scheduler, and PIA.

See "Performing a Full-Tier Installation."

Reviewing the DPK Installation Process for a User-Created Database (AIX, Linux, Microsoft Windows, or Solaris)

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

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

   For installations on IBM AIX, Linux, or Oracle Solaris on SPARC, download the Native OS DPK for Linux. For installations on Microsoft Windows, download the Native OS DPK for Windows. Do not unzip the file. If you need to FTP the file, use binary mode.

   See "Installing the PeopleSoft Homes," Obtaining the PeopleSoft Application and PeopleTools DPKs.
2. Download the PeopleTools 8.56 DPKs.
   - Select the operating system you want to install on. The PeopleTools 8.56 DPKs are available for AIX, Linux, Microsoft Windows, and Solaris for SPARC.
   - Select the PeopleTools patch release specified for the PeopleSoft 9.2 application.
3. Before running the DPK setup script, review the setup script options. Certain installation situations require a customized procedure.

   See "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.
4. Use the DPK setup script from the PeopleTools DPKs to carry out one of these steps:
   - Install *PS_HOME* and *PS_APP_HOME* only.

     PS_HOME includes the PeopleTools utilities that you use in the next step. *PS_APP_HOME* includes the files needed to create an application database.
   - OR Install *PS_HOME, PS_APP_HOME,* Oracle Tuxedo, and Oracle WebLogic.
5. Create a DEMO or SYS database.
6. Use the PeopleTools DPK setup script to complete the setup of the PeopleSoft domains.
   a. If not installed in step 4, install Oracle Tuxedo and Oracle WebLogic.
   b. Configure the application server, PeopleSoft Pure Internet Architecture (PIA) and Process Scheduler domains.
7. Complete optional tasks, such as installing and compiling COBOL.

Reviewing the Installation Process on HP-UX

If you are installing on a supported HP-UX operating system, you must install PeopleSoft PeopleTools 8.56 using the installation files delivered in the traditional format, for all operating systems. You use a Microsoft Windows or Linux computer to download and transfer the PeopleSoft Application software from the PeopleSoft DPKs. Here is a high-level overview of the steps.

Use Case 1

For this use case you use a separate Linux server to download and deploy the PeopleSoft application DPK and transfer required files to the HP-UX server.

1. Obtain the installation files for PeopleSoft PeopleTools 8.56 for all operating systems, in the non-DPK format.

   You can access links to the latest PeopleSoft PeopleTools patch releases from the PeopleSoft PeopleTools Patches Home Page. Select the tab PeopleTools 8.56 Patches, and then PeopleTools 8.56 Patches on Other Operating Systems.

   See PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2.

2. Install PeopleSoft PeopleTools *(PS_HOME)* on HP-UX using the PeopleSoft installer.

   See *PeopleSoft PeopleTools 8.56 Installation (for your database platform)*, "Using the PeopleSoft Installer."

   To locate the documentation, go to Oracle's PeopleSoft PeopleTools 8.56 Home Page, My Oracle Support, Doc ID 2259140.2, and select the Installation and Upgrade tab. Go to Installation Documentation, and access the installation guides in the section PeopleSoft PeopleTools.

3. Install necessary supporting software, such as Oracle Tuxedo, database server and connectivity software, and web server software, on the HP-UX server.

   See "Installing Additional Components."

   See "Installing Web Server Products."

4. Download the DPKs for PeopleSoft PeopleTools 8.56 and your PeopleSoft Application Image in the Native OS for Linux format.

   Note. The PeopleSoft PeopleTools 8.56 DPKs must be obtained separately.

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

5. On a Linux server or VM, use the DPK setup script to install the PeopleSoft Application installation directory, *PS_APP_HOME*.

   When running the DPK setup script, specify a FRESH installation, which installs the files needed for the PeopleSoft application database creation.

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

6. On the Linux server or VM, tar the *PS_APP_HOME* directory.
7. Using FTP, transfer the *PS_APP_HOME* tar file from the Linux server or VM to the HP-UX server.
8. On the HP-UX server, untar *PS_APP_HOME*.
9. Create a System or Demo application database.

   See the chapters on creating databases in this documentation.

10. Create Application Server, Process Scheduler, and web server domains using PSADMIN.

    See the chapters on configuring Application Server in this documentation.

    See the chapters on setting up the PeopleSoft Pure Internet Architecture in this documentation.

    See the chapters on configuring Process Scheduler in this documentation.

Use Case 2

For this use case you use Oracle VirtualBox on a Microsoft Windows server to deploy the PeopleSoft Application Image and transfer the required files to the HP-UX server.

1. Obtain the installation files for PeopleSoft PeopleTools 8.56 for all operating systems, in the non-DPK format.

   You can access links to the latest PeopleSoft PeopleTools patch releases from the PeopleSoft PeopleTools Patches Home Page. Select the tab PeopleTools 8.56 Patches, and then PeopleTools 8.56 Patches on Other

Operating Systems.

See PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2.

2. Install *PS_HOME* on HP-UX using the PeopleSoft installer.

   See *PeopleSoft PeopleTools 8.56 Installation (for your database platform)*, "Using the PeopleSoft Installer."

   To locate the documentation, go to Oracle's PeopleSoft PeopleTools 8.56 Home Page, My Oracle Support, Doc ID 2259140.2, and select the Installation and Upgrade tab. Go to Installation Documentation, and access the installation guides in the section PeopleSoft PeopleTools.

3. Install necessary supporting software, such as Oracle Tuxedo, database server and connectivity software, and web server software, on the HP-UX server.

   See "Installing Additional Components."

   See "Installing Web Server Products."

4. Install VirtualBox on a Microsoft Windows computer.

   Note that you must install Oracle VirtualBox on a physical computer, not a virtual machine (VM).

   See *PeopleSoft Deployment Packages for Update Images Installation.*

   The installation guide is available on PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2. Select the PeopleSoft Update Images Home Pages tab. On the page for your PeopleSoft application, expand the section Installation Documentation.

5. Download the PeopleSoft Application Image in the VirtualBox format to the Microsoft Windows computer.

   You can access links to the PeopleSoft Application Images from the PeopleSoft Update Manager (PUM) Home Page. Select the PeopleSoft Update Images Home Pages tab. On the page for your PeopleSoft application, in the update image link section, select the link for Native OS.

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

6. Use the DPK setup script to install the complete PeopleSoft environment from the VirtualBox DPK.

   Choose the Bridged Adapter option, and specify a FRESH installation, which installs the files needed for the PeopleSoft application database creation.

   Note. The DPK setup script creates a Linux VM in VirtualBox, and installs a full-tier PeopleSoft application environment, including *PS_HOME, PS_APP_HOME, PS_CFG_HOME,* and so on. Although all of these items are not needed for the next steps, the full-tier installation is the only supported method when deploying with VirtualBox.

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

7. In the VirtualBox VM, tar the *PS_APP_HOME* directory.
8. Using FTP, transfer the *PS_APP_HOME* tar file from the VirtualBox VM to the HP-UX server.
9. On the HP-UX server, untar *PS_APP_HOME.*
10. Create a System or Demo application database.

    See the chapters on creating a database in this documentation.

11. Create Application Server, Process Scheduler, and web server domains using PSADMIN.

    See the chapters on configuring Application Server in this documentation.

    See the chapters on setting up the PeopleSoft Pure Internet Architecture in this documentation.

    See the chapters on configuring Process Scheduler in this documentation.

12. Complete optional tasks, such as installing and compiling COBOL

Reviewing the Installation Process with IBM WebSphere (AIX, Linux, Microsoft Windows, or Solaris)

The PeopleTools DPKs install Oracle WebLogic as the web server. This section provides an overview of the steps needed to use IBM WebSphere as the web server with the PeopleSoft Application Images and the PeopleTools DPKs.

To install the PeopleSoft Application Images and use IBM WebSphere as the web server for your PeopleSoft installation:

1. Download the necessary DPK from the PeopleSoft Application Image, and the PeopleTools 8.56 DPKs.

   For installations on IBM AIX, Linux, or Oracle Solaris, download the Native OS DPK for Linux. For installations on Microsoft Windows, download the Native OS DPK for Windows. Do not unzip the file. If you need to FTP the file, use binary mode.

   Note. You must obtain and download the PeopleTools 8.56 DPKs separately.

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

2. Use the DPK setup script command `psft-dpk-setup.bat --env_type midtier --deploy_only` on Microsoft Windows or `./psft-dpk-setup.sh --env_type midtier --deploy_only` on Linux to install the PeopleSoft PeopleTools installation directory, Oracle Tuxedo, and Oracle WebLogic software.

   This option deploys the *PS_HOME* directory, as well as the Oracle Tuxedo and Oracle WebLogic software, but does not create the PeopleSoft Application Server, web server, and Process Scheduler domains. Because there is no script option to install Oracle Tuxedo alone, we install both, but do not use the Oracle WebLogic installation.

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

3. Obtain and install IBM WebSphere 9.0.0.0.

   See "Installing Web Server Products," Installing IBM WebSphere Application Server.

4. Create a System or Demo application database.

   See the chapters on creating database in this documentation.

5. Create the Application Server domain using PSADMIN.

   See the chapters on configuring Application Server in this documentation.

6. Set up PeopleSoft Pure Internet Architecture (PIA). and specify IBM WebSphere in the silent mode response file.

   For example:

   ```
   # Web server type. Possible values are "weblogic", "websphere"
   SERVER_TYPE=websphere
   # WebSphere Home, the location where IBM WebSphere is installed (for⇒
    WebSphere deployment only)
   WS_HOME=C:/IBM/WebSphere/AppServer
   ```

   See "Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode."

7. Configure the Process Scheduler.

   See the chapters on configuring Process Scheduler in this documentation.

8. Complete optional tasks, such as installing and compiling COBOL

Understanding the PeopleSoft Upgrade Source Deployment Packages

This section discusses:

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

Reviewing the PeopleSoft Upgrade Source Image Usage

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

- The PeopleSoft Upgrade Source Image is released on a different schedule, and the version numbering sequence is independent of both the PeopleSoft application images and the PeopleSoft PeopleTools patches.
- The PeopleSoft Upgrade Source Image zip file names include UPG rather than UPD.

  See Reviewing the PeopleSoft Upgrade Source Image.
- The VirtualBox version of the PeopleSoft application image is not recommended for use with a fresh installation, but the VirtualBox version of the Upgrade Source Image can be used to install an upgrade demo database.
- The DPK setup script recognizes the type of DPK, and suppresses unnecessary prompts.

  See Reviewing the PeopleSoft Upgrade Source Image Installation.

Reviewing the PeopleSoft Upgrade Source Image

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

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

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

See Reviewing the PeopleSoft Upgrade Source Image Installation.

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

See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.56),* PeopleSoft Update Image (PUM) Home Page, My Oracle Support, Doc ID 1641843.2.

Downloaded Zip Files	Files After First Extraction[1]	Description
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_1of11.zip	The setup folder and other files	Setup DPK
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_2of11.zip	PT-DPK-<*OS*>-8.56.*xx*-1of2.zip	PeopleTools server, Part 1
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_3of11.zip	PT-DPK-<*OS*>-8.56.*xx*-2of2.zip	PeopleTools server, Part 2
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_4of11.zip	PTC-DPK-WIN8.54.*xx*-1of1.zip	PeopleTools Client for 8.54
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_5of11.zip	PTC-DPK-WIN8.55.*xx*-1of1.zip	PeopleTools Client for 8.55
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_6of11.zip	PTC-DPK-WIN8.56.*xx*-1of1.zip	PeopleTools Client for 8.56
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_7of11.zip	ODC-DPK-WIN-12.1.0.2-*xxxxxx*-1of1.zip	Oracle Database client
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_8of11.zip	ODS-DPK-<*OS*>-12.1.0.2-*xxxxxx*-1of1.zip	Oracle Database server
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_9of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-1of3.zip	PeopleSoft Application DPK, Part 1
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_10of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-2of3.zip	PeopleSoft Application DPK, Part 2
<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_11of11.zip	APP-DPK-<*OS*>-<*Product_Name*>92-8.56.*xx*-3of3.zip	PeopleSoft Application DPK, Part 3

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

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

<*Product*>-920-UPG-<*Img_Number*>-<*OS*>_#of*n*.zip

For example:

HCM-920-UPG-003-LNX_1of11.zip

HCM-920-UPG-003-LNX_2of11.zip

[...]

HCM-920-UPG-003-LNX_11of11.zip

The files names are comprised of the following parts:

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

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

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

Reviewing the PeopleSoft Upgrade Source Image Installation

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

Note. These instructions apply to the Upgrade Source Image that is created with PeopleSoft PeopleTools 8.56.

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

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

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

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

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

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

     See Oracle's PeopleSoft PeopleTools 8.56 Home Page, My Oracle Support, Doc ID 2259140.2. Select Installation and Upgrade, Installation Documentation, PeopleSoft 9.2 Application Deployment Packages.
   - If you are installing the VirtualBox version of the Upgrade Source Image, use *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.56).*

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

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

3. Download the PeopleTools 8.56 DPKs.
   - Select the operating system you want to install on. The PeopleTools 8.56 DPKs are available for AIX, Linux, Microsoft Windows, and Solaris for SPARC.
   - Select the PeopleTools patch release specified for the PeopleSoft 9.2 application.
4. Use the PeopleTools DPK setup script to deploy the PeopleSoft environment.

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

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

   When running the DPK setup script in full-tier mode, you do not see the following prompt. The Upgrade Source Image is DEMO only; the SYS selection is not available.

   ```
   Enter the PeopleSoft database [DEMO or SYS] type [SYS]:
   ```

Task 1-1: Reviewing Hardware Requirements

This section discusses:

- Reviewing Hardware Requirements for Microsoft Windows
- Reviewing Hardware Requirements on IBM AIX, Linux, or Oracle Solaris

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

You can install the PeopleSoft Application Image deployment packages (DPKs) directly on a system running a Microsoft Windows operating system. The PeopleSoft DPKs are certified to run on those Microsoft Windows operating systems that are certified for PeopleSoft PeopleTools 8.56. The Microsoft Windows system can be a physical computer or a virtual machine.

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

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

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

  If you deploy on a virtual host computer, you are responsible for provisioning the virtual machine before beginning the deployment.
- *Host operating system*: The host operating system (OS) must be a 64-bit platform that is certified by Oracle for PeopleSoft systems.

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

See My Oracle Support, Certifications.

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

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

  See "Preparing to Deploy," Understanding PeopleSoft Components.

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

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

See Also

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

Task 1-1-2: Reviewing Hardware Requirements on IBM AIX, Linux, or Oracle Solaris

You can install the PeopleSoft Application Image deployment packages (DPKs) directly on a system running a Linux operating system. You can install the PeopleSoft PeopleTools deployment packages (DPKs) directly on a system running an IBM AIX, Linux, or Oracle Solaris for SPARC operating system. The PeopleSoft Application Images and PeopleSoft PeopleTools DPKs are certified to run on those operating systems that are certified for PeopleSoft PeopleTools 8.56. The AIX, Linux, or Solaris system can be a physical computer or a virtual machine.

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

  If you deploy on a virtual host computer, you are responsible for provisioning the virtual machine before beginning the deployment.
- *Host operating system*: The host operating system must be a 64-bit platform that is certified by Oracle for PeopleSoft systems.

  See My Oracle Support, Certifications.

  See PeopleSoft PeopleTools Certifications, My Oracle Support, Doc ID 747587.1, for help searching PeopleSoft Certifications.
- *RAM (Memory)*: A minimum of 8 GB RAM is required to run a PeopleSoft environment.
- *Disk space*: The disk space requirements vary depending upon the type of environment you set up.

  See "Preparing to Deploy," Understanding PeopleSoft Components.

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

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

See Also

My Oracle Support, Certifications.

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

Task 1-2: Reviewing Software Requirements

This section discusses:

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

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

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

- Administrative permission
- As of the PeopleSoft PeopleTools 8.56.06 patch release, the DPK setup script can be run from any drive, regardless of the drive where the Windows operating system is installed.
- Web Browser

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

  See My Oracle Support, Certifications.
- Zip utility

  You need a utility that is able to extract (unzip) the DPK zip files for your operating system.
- Verify that the PATHEXT environment variable includes the extension .bat.

  This is a requirement for running Puppet. For example:

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

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

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

- You must have root access to run the DPK setup script.
- If you are installing the PeopleSoft DPKs on Oracle Linux 6 or 7 with Unbreakable Enterprise Kernel (UEK), apply the latest UEK kernel from the Oracle YUM repository at http://public-yum.oracle.com/index.html.
- Zip utility

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

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

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

- You must have root access to run the DPK setup script.
- Zip utility

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

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

Task 1-2-4: Reviewing Software Requirements on AIX

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

- You must have root access to run the DPK setup script.
- Utilities for extracting the DPK zip files

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

  Obtain the latest version of OpenSSL for your operating system and install it on the host.
- JDK 8.0

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

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

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

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

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

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

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

Task 1-2-5: Reviewing Requirements for the Puppet Software on Microsoft Windows

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

- Installation requirements

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

  - The DPK deployment requires open-source Puppet software.

    See the Puppet Labs Web site at www.puppetlabs.com to download the software.
  - Customer installation of Puppet is supported for Microsoft Windows operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on Microsoft Windows operating systems:
  - Puppet Agent 1.5.2
  - Puppet 4.5.2
  - Hiera 3.2.0
  - Facter 3.2.0
  - Ruby 2.1.9
- Operating system packages required for Puppet

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

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

  Puppet software is installed in a standard location by the DPKs. The DPK deployment checks for existing Puppet installations only in that standard location. If Puppet software was installed in a different location, for example for other business or development requirements, the DPK will not recognize or try to remove that existing Puppet installation. It will install to the standard location dictated by the DPK requirement, and the other Puppet installation may subsequently cause problems.

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

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

- Installation requirements

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

  - The DPK deployment requires open-source Puppet software.

    See the Puppet Labs Web site at www.puppetlabs.com to download the software.
  - Customer installation of Puppet is supported for Linux operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on Linux operating systems:
  - Puppet Agent 1.5.2
  - Puppet 4.5.2
  - Hiera 3.2.0
  - Facter 3.2.0

  - Ruby 2.1.9
- Operating system packages required for Puppet

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

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

  Puppet software is installed in a standard location by the DPKs. The DPK deployment checks for existing Puppet installations only in that standard location. If Puppet software was installed in a different location, for example for other business or development requirements, the DPK will not recognize or try to remove that existing Puppet installation. It will install to the standard location dictated by the DPK requirement, and the other Puppet installation may subsequently cause problems.

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

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

- Installation requirements

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

  - The DPK deployment requires open-source Puppet software.

    See the Puppet Labs Web site at www.puppetlabs.com to download the software.
  - Customer installation of Puppet is not supported for Oracle Solaris for SPARC operating systems.

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

  - Puppet 4.5.2
  - Hiera 3.2.0
  - Facter 3.2.0
  - Ruby 2.1.9
- Operating system packages required for Puppet

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

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

  Puppet software is installed in a standard location by the DPKs. The DPK deployment checks for existing

Puppet installations only in that standard location. If Puppet software was installed in a different location, for example for other business or development requirements, the DPK will not recognize or try to remove that existing Puppet installation. It will install to the standard location dictated by the DPK requirement, and the other Puppet installation may subsequently cause problems.

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

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

- Installation requirements

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

  - The DPK deployment requires open-source Puppet software.

    See the Puppet Labs Web site at www.puppetlabs.com to download the software.
  - Customer installation of Puppet is not supported for IBM AIX operating systems.

    If you are installing the PeopleSoft DPKs for IBM AIX, you must use the Puppet software that is delivered with the DPKs.
- If you are installing the PeopleSoft DPKs for IBM AIX, check the Puppet web site for Puppet dependencies or limitations for those operating systems.
- These are the minimum requirements for the software versions associated with using Puppet with the PeopleSoft DPKs on AIX operating systems:
  - Puppet 4.5.2
  - Hiera 3.2.0
  - Facter 3.2.0
  - Ruby 2.1.9
- Operating system packages required for Puppet

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

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

  Puppet software is installed in a standard location by the DPKs. The DPK deployment checks for existing Puppet installations only in that standard location. If Puppet software was installed in a different location, for example for other business or development requirements, the DPK will not recognize or try to remove that existing Puppet installation. It will install to the standard location dictated by the DPK requirement, and the other Puppet installation may subsequently cause problems.

Task 1-3: Using Oracle Software Delivery Cloud to Obtain Installation Files

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

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

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

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

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

See Also

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

Task 1-4: Considering Project Planning

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

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

Task 1-5: Planning Your Initial Configuration

This section discusses:

- Understanding Workstations
- Understanding PeopleSoft Servers and Clients
- Defining the PeopleTools Client
- Defining the File Server
- Defining the Database Server
- Defining the Application Server

- Defining the Process Scheduler (Batch) Server
- Defining Installation Locations
- Defining the Web Server

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

Understanding Workstations

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

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

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

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

See Installing Supporting Applications.

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

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

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

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

Using Workstations Equipped with Supported Web Browsers

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

See *PeopleTools: Portal Technology.*

See My Oracle Support, Certifications.

Understanding PeopleSoft Servers and Clients

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

- *File Server*

  All Client executables (such as PeopleSoft Application Designer and Configuration Manager), PS/nVision, Change Assistant, files and directories necessary to perform upgrade, and Client SQR.

  See Defining the File Server

- *PeopleTools Client*

  All Client executables (such as PeopleSoft Application Designer and Configuration Manager), PS/nVision, Change Assistant, Change Impact Analyzer, PeopleSoft Test Framework, PSEM Agent, and Client SQR.

  See Defining the PeopleTools Client.

- *Application Server*

  PSADMIN and COBOL for remote call

- *Database Server*

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

- *Process Scheduler Server*

  PSADMIN, COBOL, and SQR.

- *Web Server*

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

Task 1-5-1: Defining the PeopleTools Client

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

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

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

See "Deploying the PeopleTools Client DPK."

Task 1-5-2: Defining the File Server

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

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

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

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

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

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

Task 1-5-3: Defining the Database Server

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

See Planning Database Creation.

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

Task 1-5-4: Defining the Application Server

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

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

If you are installing on an Oracle for UNIX RDBMS, you can install the application server on the same machine as the database server, a configuration called *logical three-tier.* You can also install application servers on one or more separate UNIX or Microsoft Windows machines. This configuration is called *physical three-tier.* (See the Certification area on My Oracle Support for information on supported operating systems for PeopleSoft Application Servers.)

If you are installing on an Oracle for Windows RDBMS, you may use a Microsoft Windows application server. This application server can be installed on the same machine as the Oracle database server, but for Windows installations you will most likely get better results by installing one or more dedicated application servers (that is, a physical three-tier configuration).

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

See Also

PeopleTools: Portal Technology

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

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

With Oracle Windows databases, a Process Scheduler server running on the batch server may point to and invoke files that are physically located on the file server. With an Oracle UNIX database, the SQR and COBOL files must be installed to the batch server through the PeopleSoft Installer; and COBOL source files must be compiled.

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

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

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

See Also

PeopleTools: Process Scheduler

Task 1-5-6: Defining Installation Locations

Understanding Installation Locations

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

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

Defining the DPK Base Directory

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

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

  The script deploys the PeopleSoft components to the following installation locations:
  - *PS_HOME* is installed by default in <*BASE_DIR*>/pt/ps_home<*peopletools_patch_version*>, where <peopletools_patch_version> is the full release; for example, ps_home8.56.12.
  - *PS_APP_HOME* is installed by default in <*BASE_DIR*>/pt/<*app*>_app_home, where <app> is the PeopleSoft product, such as fscm_app_home.
  - The Oracle Tuxedo software is installed by default in *BASE_DIR/*pt/bea/tuxedo.
  - The Oracle WebLogic software is installed by default in *BASE_DIR/*pt/bea/wlserver.
  - The supported JDK software is installed by default in <*BASE_DIR*>/pt/jdk<*version*>, where <version> is the supported JDK version; for example, jdk1.8.0_74.
  - For a full-tier installation, the files needed to install the supported version of the PeopleSoft PeopleTools client software are installed in *BASE_DIR/*pt/tools_client.
- *BASE_DIR*/db

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

Defining PS_HOME

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

PS_HOME can be used in the following ways:

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

Defining PS_APP_HOME

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

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

Defining PS_CFG_HOME

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

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

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

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

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

The DPK deployment creates the *PS_CFG_HOME* directory in the following locations:

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

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

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

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

Defining PS_CUST_HOME

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

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

To define a PS_CUST_HOME location, use the Puppet customizations.

Defining PIA_HOME

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

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

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

Task 1-5-7: Defining the Web Server

A web server is required to run the PeopleSoft Pure Internet Architecture. The PeopleSoft Pure Internet Architecture is certified to work with either of the following two J2EE web application servers (also commonly referred to as web servers):

- Oracle WebLogic Server
- IBM WebSphere Server

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

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

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

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

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

Task 1-6: Planning Database Creation

This section discusses:

- Understanding Database Creation
- Determining Databases and Database Names
- Defining Oracle and PeopleSoft Databases

- Using Oracle Pluggable Databases

Understanding Database Creation

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

- System (also called SYS) databases, which contain the PeopleSoft PeopleTools and product-specific metadata required for development of a production database.
- Demo (DMO) databases, which are populated with sample data for study, demonstration, or training purposes.

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

It is important to note the distinction between an Oracle database and a PeopleSoft database, which is a set of SQL objects that reside within a single Oracle database and share the same owner ID. Oracle recommends that you install only one PeopleSoft database per Oracle instance. For details, see the section "Defining Oracle and PeopleSoft Databases" later in this task.

If you are installing PeopleSoft software on an Oracle Real Application Cluster (RAC) database, you must use the manual procedure for database setup, and complete other configuration procedures.

See "Creating a Database Manually (on UNIX or Windows)."

See the information on setting up the PeopleSoft installation with Oracle RAC in the *PeopleTools: Data Management* product documentation.

Before installing PeopleSoft software, you should install the Oracle RDBMS software. This documentation does not cover installation of Oracle software. Please refer to the Oracle RDBMS installation documentation that accompanied your Oracle software for information.

You need to install 64-bit server and client Oracle RDBMS software for your PeopleSoft installation. The PeopleSoft PeopleTools database server, Application Server, and Process Scheduler, as well as the PeopleTools Client features, require 64-bit connectivity.

Task 1-6-1: Determining Databases and Database Names

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

- Are limited to eight characters, all UPPERCASE.
- Capture information about the PeopleSoft product line and the type of database.

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

Task 1-6-2: Defining Oracle and PeopleSoft Databases

An Oracle database is a set of SQL objects defined by one system catalog in the SYSTEM tablespace and one SID (system identifier), using one instance of the Oracle server executables and associated files. The Oracle database is commonly referred to as the *Oracle SID.*

A PeopleSoft database is a set of SQL objects defined as having the same owner ID. These tables are always contained within a single Oracle database. A PeopleSoft database includes the PeopleSoft objects and application data for one or more products in a PeopleSoft product line.

This owner ID (an Oracle user ID) may also be referred to as an Oracle schema or Oracle logical database. Each PeopleSoft database needs its own owner. We refer to this as the *PeopleSoft owner ID,* which is also the PeopleSoft access ID.

Note. You must limit the owner ID (access ID) to eight characters or less. You must limit the owner password (access password) to 30 characters or less.

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

We recommend that you install no more than one PeopleSoft database per Oracle instance. When each PeopleSoft database has its own instance, the system is more robust for the following reasons:

- Your developers can bring down their instance of the Oracle server executables, but the others will remain running.
- You have added security with one PeopleSoft database per Oracle instance.
- It is more efficient to tune each instance to the requirements of its corresponding PeopleSoft application database.

If you are unable to run extra Oracle database instances because of resource limitations, such as memory and system semaphores, you can install multiple PeopleSoft databases in the same Oracle instance. Keep the following points in mind if installing multiple PeopleSoft databases within one Oracle database instance:

- When supporting multiple databases in one Oracle instance, increase maxdatafiles from the default of 32 when you create the database.

  Check the limits of maxdatafiles for your operating system and increase the value accordingly.
- You need to increase the size of the tablespaces if you use the same ones for each PeopleSoft database schema.

  Sharing tablespaces is not recommended.
- Each PeopleSoft database should have different operator IDs (also known as user IDs) to avoid problems with passwords.
- Each PeopleSoft database needs its own PeopleSoft database name.

  This is the database name users enter during the PeopleSoft logon process. It appears in the following locations:

Location	Reference
PeopleSoft logon screen	Database Name
TNSNAMES.ORA	The service name defined in TNSNAMES.ORA must be the same as that in PS.PSDBOWNER.
PS.PSDBOWNER table	DBNAME column A single table, PS.PSDBOWNER, is created in the Oracle SID as part of the database creation procedures. PS.PSDBOWNER is maintained and acts as directory during the sign-on process to all of the PeopleSoft databases in the Oracle database/SID. There is a single row in the PS.PSDBOWNER for each PeopleSoft DB contained in the SID.

This table includes an example of four PeopleSoft databases, uses, and IDs, in one Oracle database:

Database Use	PeopleSoft Database Name	Owner ID and Access ID (Oracle Schema)	Owner/Access Password	SID
Testing	HRTST	sysadm	sysadm	hrdm
Development	HRDVLP	sysadm2	sysadm2	hrdm
Training	HRTRAIN1	sysadm3	sysadm3	hrdm
Training	HRTRAIN2	sysadm4	sysadm4	hrdm

Note. With Oracle 11gR1 the database user ID is case-sensitive. So, when running the installation, system administrators need to make sure the database user ID, such as SYSADM, with all upper-case letters, is represented consistently, wherever it needs to be supplied in the configuration tools and scripts as well as on any signon screen.

Task 1-6-3: Using Oracle Pluggable Databases

If your RDBMS is Oracle 12c, for PeopleSoft PeopleTools 8.54 and later, you can use the Oracle 12c database multitenant architecture, with pluggable databases. The Pluggable Databases (PDB) functionality is an Oracle 12c Enterprise Edition database feature that enables an Oracle database to function as a container database. A container database (CDB) is an Oracle database that includes one or more pluggable databases (PDBs). A PDB is a portable collection of schemas, schema objects, and non-schema objects that appears to an Oracle Net client as a non-CDB. For an introduction to the Oracle multitenant architecture, PDBs, and CDBs, see the Oracle database documentation.

Using the Oracle multitenant architecture with pluggable databases, a single database instance can host multiple PeopleSoft application databases.

The owners of PDBs and CDBs and their relationship to PeopleSoft users can be described as follows:

- CDB Administrator (Common User)

  A common user is a database user that has the same identity in the root and in every existing and future PDB. Every common user can connect to and perform operations within the root, and within any PDB in which it has privileges. every common user is either Oracle-supplied or user-created. Examples of Oracle-supplied common users are SYS and SYSTEM.

  In PeopleSoft PeopleTools, the Oracle database user who belongs to the ORA_DBA group acts as a CDB Administrator.

- PDB Administrator (Local User)

  A local user is a database user that is not common and can operate only within a single PDB. The PeopleSoft PeopleTools Access ID acts as the PDB Administrator.

This documentation includes the instructions for creating CDBs and PDBs with both the Database Configuration Wizard (on UNIX) and manually (on UNIX or Microsoft Windows).

See Also

Oracle Database Concepts 12c Release 1 (12.1), "Introduction to the Multitenant Architecture," Oracle Database Documentation Library, http://st-doc.us.oracle.com/12/121/server.121/e17633/toc.htm

PeopleTools: Data Management, "Using Pluggable Databases"

Tech Update - PeopleSoft Supports Oracle 12c Multitenant, My Oracle Support, (search for article title)

Task 1-7: Planning Multilingual Strategy

This section discusses:

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

Understanding Multilingual Issues

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

- Database base language
- Additional languages (if any)
- Database character set (AL32UTF8 recommended)

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

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

See Selecting a Database Character Set.

Language Code	Language	Database Character Set
ARA	Arabic	Unicode only
CFR	Canadian French	Unicode recommended
CZE	Czech	Unicode only
DAN	Danish	Unicode recommended
DUT	Dutch	Unicode recommended

Language Code	Language	Database Character Set
ENG	US English	Unicode recommended
FIN	Finnish	Unicode recommended
ESP	Spanish	Unicode recommended
FRA	French	Unicode recommended
GER	German	Unicode recommended
HUN	Hungarian	Unicode only
ITA	Italian	Unicode recommended
JPN	Japanese	Unicode recommended
KOR	Korean	Unicode only
NOR	Norwegian	Unicode recommended
POL	Polish	Unicode only
POR	Portuguese	Unicode recommended
ROM	Romanian	Unicode only
RUS	Russian	Unicode only
SVE	Swedish	Unicode recommended
THA	Thai	Unicode only
TUR	Turkish	Unicode only
UKE	United Kingdom English	Unicode recommended
ZHS	Simplified Chinese	Unicode only
ZHT	Traditional Chinese	Unicode only

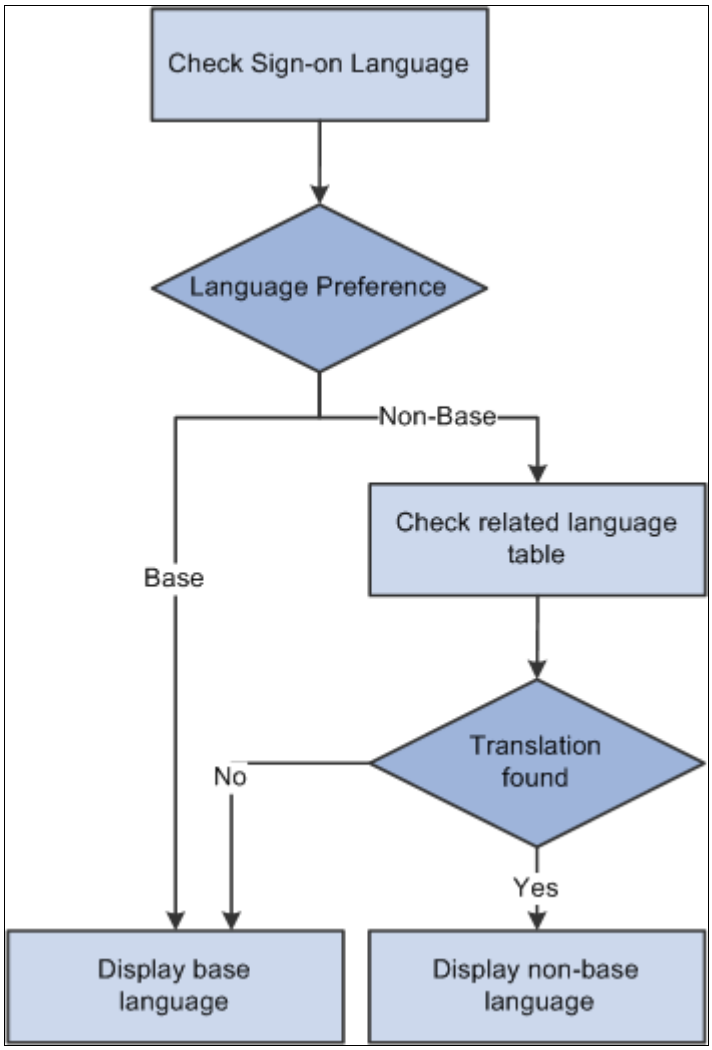
See Also

PeopleTools: Global Technology

Task 1-7-1: Choosing a Base Language

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

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



Language selection process using the base language and the preferred language

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

Task 1-7-2: Selecting Additional Languages

Oracle provides translations of all end-user objects with the Global Multi-Language installation files. It is much easier to install additional languages upon initial database creation than to add them later in your implementation process, so we recommend that you choose which additional languages may be required now. There is no limit to the number of languages that can coexist in a single PeopleSoft database; however, remember that each language will require additional storage space, primarily for PeopleSoft PeopleTools objects.

Task 1-7-3: Selecting a Database Character Set

This section discusses:

- Understanding Character Sets
- Using Unicode Databases

Understanding Character Sets

Oracle recommends Unicode AL32UTF8, but also supports non-Unicode (legacy) character sets, in PeopleSoft databases.

The following table lists a selection of character sets, descriptions, and languages that the PeopleSoft software supports for Oracle databases:

Legacy Character Set	Description	Languages Supported
WE8ISO8859P1	Western European ISO 8859-1	All Western European (English, French, Spanish, Portuguese, German, Dutch, and so on)
WE8ISO8859P15	Western European ISO 8859-15	All Western European (English, French, Spanish, Portuguese, German, Dutch, and so on), and includes the euro symbol
WE8MSWIN1252	Western European MS Windows CP1252	All Western European (English, French, Spanish, Portuguese, German, Dutch and so on), and includes the euro symbol
US7ASCII	US 7–bit ASCII	English
JA16SJIS **Note.** The Shift-JIS character set JA16SJISTILDE is also supported.	Japanese Shift-JIS 16-bit The JA16SJIS and JA16SJISTILDE character sets are essentially the same, except for the way that the wave dash and the tilde are mapped to and from Unicode.	Japanese, English

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

Using Unicode Databases

To create an Oracle Unicode database, you must specify the character set as either AL32UTF8 or UTF8 in the CREATE DATABASE statement. The default value for an Oracle Unicode database is AL32UTF8, although UTF8 is also supported. The difference between the two is that the newer AL32UTF8 supports Unicode supplementary characters.

In addition, you must specify the init.ora parameter `NLS_LENGTH_SEMANTICS` as `CHAR` or `BYTE` based on the database used, as described in the following sections:

See Creating an INIT<SID>.ORA File in "Creating a Database Manually on Windows" or "Creating a Database on UNIX."

See "Creating a Database Manually on UNIX," Creating an Oracle Instance.

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

Note. The characters required for the English language exist in all Unicode and non-Unicode character sets. For example, Japanese and English can coexist in a single Unicode or non-Unicode database.

If you plan on installing or supporting a combination of languages that do not share the same character set, you should use a Unicode database.

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

See Understanding Multilingual Issues.

See Understanding Character Sets.

Task 1-8: Installing Supporting Applications

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

COBOL

- Consult the PeopleSoft information on My Oracle Support to verify whether your application requires COBOL. Remember that COBOL is not needed for PeopleSoft PeopleTools or for applications that do not contain COBOL programs.

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

  See PeopleSoft Enterprise Frequently Asked Questions about PeopleSoft and the IBM COBOL Compiler, My Oracle Support, (search for the article name).
- For PeopleSoft applications written in COBOL, install the appropriate version of the COBOL compiler on the server where you will compile.

  See "Installing and Compiling COBOL on Windows."

  See "Installing and Compiling COBOL on UNIX."

  - For UNIX servers, install Micro Focus Server Express or IBM Compiler for IBM AIX.

  - For Microsoft Windows servers, install the appropriate version of Micro Focus Net Express.
- If all your servers are on Microsoft Windows operating systems, Oracle recommends that you install a COBOL compiler on the file server.

  You can install PeopleSoft PeopleTools plus any patches on the file server, compile your COBOL there, and then copy the COBOL binaries to your application and batch servers.
- If your application and batch servers are on UNIX operating systems, we recommend that you designate a single server as the compile server, so that you can compile COBOL from this central location and then distribute it to the rest of your application and batch servers.

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

  Note that the compile server must have the same operating system as any destination application or batch servers. For example, if your compile server is an IBM AIX machine, you can only copy COBOL compiled there to other IBM AIX application and batch servers. Oracle recommends this approach. It will help you keep your COBOL source code in sync and only requires that you install COBOL in a single location.
- The format of COBOL source file names of patches or customizations on the file server should always be UPPERCASE.cbl to ensure compatibility with your UNIX servers.
- The PeopleSoft Installer installs COBOL source code from the installation directory to your Microsoft Windows file server and to all UNIX servers, but not to the rest of your Microsoft Windows servers.

SQR

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

Microsoft Office

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

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

See Also

My Oracle Support, Certifications

Task 1-9: Installing the Database Engine

This section discusses:

- Understanding the Database Engine
- Creating a Seed Database

Understanding the Database Engine

If you have not already done so, install the Oracle database engine on your database server.

When installing the Oracle RDBMS, installation option selection influences the resulting generated Oracle Shared Library. The PeopleSoft product calls the Oracle Shared library when making calls to the Oracle RDBMS.

Task 1-9-1: Creating a Seed Database

Create the seed database during the installation of your Oracle database engine. This will not be your PeopleSoft database, so keep it small and give it a name that is not related to your application. After successfully installing your Oracle database engine, use the seed database to test Oracle Net connectivity from your application servers, batch servers, and workstations.

Task 1-10: Installing Oracle Net on the Server

You need to carry out this step for the database server, batch server, and application server. You need to load the Oracle Net listener and the communication protocol adapter you are using, such as TCP/IP, IPX, or NetBIOS.

Additionally you should do the following:

- Configure the listener to start automatically upon booting.

  Refer to your Oracle documentation for details on setting up the listener.
- Verify that Oracle Net is loaded on the database server by connecting to a database using SQL*PLUS.

  Issue the complete connect string including the TCP/IP address or some other node identifier. For example, if you are on TCP/IP, your logon might resemble the following example:

  ```
  oracleid/password@TNS:service_name
  ```

  Note. If you have someone outside your company install Oracle Net, make sure that they install the workstation end as well. Also, make sure they demonstrate connectivity between the workstations and the database server.

- Set required Oracle network configuration file parameters.

  Note. PeopleTools 8.44 introduced a new feature called Query Kill. For Query Kill to work successfully, your application server must be using a remote network connection (for example, Oracle Net). In addition, you need to set the SQLNET.EXPIRE_TIME = nn parameter in the SQLNET.ORA network configuration file, as discussed below. If you are using a local connection, Query Kill will not work. However, the BEQUEATH_DETACH=YES parameter in the SQLNET.ORA network configuration file should also be set to keep UNIX defunct processes from being created on aborted batch server processes.

Oracle requires its PeopleSoft customers to use one of the following two Oracle SQLNET.ORA parameters to force the Oracle database server to terminate "dead" or "defunct" threads: SQLNET.EXPIRE_TIME or BEQUEATH_DETACH.

- The Dead Connection Detection parameter, `SQLNET.EXPIRE_TIME = nn`, applies only to connections being done through Oracle Net (for example, through tnsnames.ora).

  This parameter sets a dead connection time-out value. Oracle Net sends a probe periodically to verify that a client-server connection is still active. (Oracle recommends a value of 10. The time increment is in minutes.) This ensures that connections are not left open indefinitely, due to an abnormal client termination. (Client in

this context can be an application server thread.) If the probe finds a dead connection or a connection that is no longer in use, it returns an error, causing the server process to exit.

Note. Be sure to set this parameter in the SQLNET.ORA on the server side.

Note. This parameter works with all the supported versions of Oracle with PeopleTools 8.51 and higher.

Limitations on using the dead connection detection feature are:

- Dead connection detection is not allowed on bequeathed connections.
- Though very small, a probe packet generates additional traffic that may downgrade network performance.
- The server may need to perform additional processing to distinguish the connection probing event from other events that occur, depending on which operating system is in use.

  This may also downgrade network performance.

- The parameter Turn Off Unix Signal Handling, `BEQUEATH_DETACH=YES`, applies only to local connections using the BEQ protocol.

  Because the client application spawns a server process internally through the Bequeath protocol as a child process, the client application becomes responsible for cleaning up the child process when it completes. When the server process completes its connection responsibilities, it becomes a defunct process. Signal handlers are responsible for cleaning up these defunct processes. Setting this parameter configures the client profile to pass this process to the UNIX init process by disabling signal handlers.

Task 1-11: Installing Oracle Net on Your Workstation

You must install Oracle Net on each workstation that will connect to the PeopleSoft database server in a two-tier connection. Workstations making a three-tier connection normally do not need connectivity software. However, bear in mind that batch processes (such as COBOL and SQR) that are executed on the client workstation require that database connectivity software be installed on the client workstation. This is necessary because these batch processes must maintain their own SQL connection to the database server.

Note. You must also install Oracle Net on each application server and batch server that will connect to the PeopleSoft database server.

Oracle Net works with many communication protocols, so ensure that the listener on your database server is using the same protocol as the workstation. Also, keep in mind that the client workstations need simultaneous access to the database server (through Oracle Net) and to the PeopleSoft PeopleTools software on the file server.

You must use the same version of Oracle Net (either 11g or 12c for PeopleSoft PeopleTools 8.54 and later) on your workstations, applications servers, batch servers, and database servers. PeopleSoft PeopleTools 8.55 requires at a minimum the NET 11g (version 11.2.0.x) functionality. Note as well that you must install the necessary protocol driver for your environment, such as the Oracle TCP/IP Adapter.

Note. Ensure that Oracle Net client connectivity is installed prior to performing a PeopleSoft workstation installation. Always check the most recent version of supported platforms on My Oracle Support for the currently supported Oracle Net versions.

See My Oracle Support, Certifications.

Task 1-12: Testing Oracle Net Connectivity

Once you have installed Oracle Net on the database server, application server, or workstation, test that the connection works using the SQL*PLUS utility provided with Oracle Net.

Connect to a database on your database server as the SYSTEM user, and issue the following SQL statement:

```
SQL> select * from all_users;
```

Note. Pinging or using Telnet does not test the Oracle Net connection.

Oracle, or your Oracle vendor, is best equipped to assist you if you have any problems installing any Oracle products or connecting to your Oracle database.

Task 1-13: Performing Backups

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

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

Chapter 2

Installing the PeopleSoft Homes

This chapter discusses:

- Obtaining the PeopleSoft Application Images and PeopleTools DPKs
- Obtaining the PeopleSoft Upgrade Source Images
- Reviewing the DPK Setup Script Options
- Running the DPK Setup Script to Install PS_HOME and PS_APP_HOME
- Running the DPK Setup Script to Install All Software
- Obtaining Operating System Packages Required by Puppet
- Removing a Deployed PeopleSoft Environment

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

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

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

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

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

2. Select the tab PeopleSoft Update Image Home Pages, and select the link for your PeopleSoft application.
3. Expand the Update Image Link section, and then select the link for Native OS to find the details for the current PeopleSoft Application Image for Microsoft Windows and Linux.
4. In the Update Image Link table on the PeopleSoft Update Image Home Page, download or open the Update Image Manifest, and note the following:
   - The PeopleTools patch release in the Software Version Included column.
   - The file name for Application DPK Zip 1, normally *FILENAME*_9of11.zip.
5. To obtain the PeopleTools DPK, in My Oracle Support, select the Patches & Updates tab.
6. Select Product or Family (Advanced).
7. Specify the following information, and then click Search:
   - PeopleSoft Enterprise PT PeopleTools as the Product
   - The current PeopleSoft PeopleTools 8.5x release, such as 8.56, as the Release

- Your operating system, IBM AIX, Linux, Microsoft Windows, or Oracle Solaris on SPARC, as the Platform

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

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

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

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

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

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

Task 2-2: Obtaining the PeopleSoft Upgrade Source Images

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

1. Go to the upgrade home page for your PeopleSoft application, and select the tab <*Product*> Upgrade Source Images.
2. In the Upgrade Source Image Link and Manifest table, locate the row for Native OS for Microsoft Windows and or Native OS for Linux.
3. Download or open the software manifest, and note the following:
   - The PeopleTools patch release in the Software Version Included column.
   - The file name for Application DPK Zip 1, normally *FILENAME*_9of11.zip.
4. To obtain the PeopleTools DPK, in My Oracle Support, select the Patches & Updates tab.
5. Select Product or Family (Advanced).
6. Specify the following information, and then click Search:
   - PeopleSoft Enterprise PT PeopleTools as the Product
   - The current PeopleSoft PeopleTools 8.5x release, such as 8.56, as the Release
   - Your operating system, IBM AIX, Linux, Microsoft Windows, or Oracle Solaris on SPARC, as the Platform
7. On the search results page, locate the PeopleTools patch corresponding to the patch release that you noted in step 4, and download the DPKs into a single directory, referred to in this documentation as *DPK_INSTALL*.

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

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8. To obtain the PeopleSoft Application DPK, return to the PeopleSoft Upgrade Source Image page, and in the

table, select the link in the column Link to Upgrade Source Image.

9. From the patch page, download the zip file for Application DPK Zip 1 to the same *DPK_INSTALL* directory as in step 8.

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

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

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

Task 2-3: Reviewing the DPK Setup Script Options

The PeopleSoft PeopleTools DPK setup script alleviates the installation process by automating most of the manual tasks on a virtual or bare-metal host running a supported operating system. By convention, the setup DPK is the first zip file (*FILENAME*_1ofn.zip) in the group of PeopleSoft DPK zip files you download from My Oracle Support.

The DPK setup zip file includes two scripts, a Microsoft Windows script (psft-dpk-setup.bat) and a shell script for Linux, AIX, or Solaris, (psft-dpk-setup.sh). To set up a PeopleSoft environment, run the script pertinent to the host operating system (OS) platform on which the DPK setup script is invoked. The DPK setup script offers a variety of options for setting up mid-tier components, *PS_HOME* folder, and PeopleSoft domains, depending upon the options you supply. The script is an interactive script that detects the downloaded DPKs and verifies that they are correct. It also prompts the user for input, and once that information is gathered, will set up a complete functional PeopleSoft mid-tier environment connecting to an existing PeopleSoft database.

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

The following table lists the options available for the DPK setup script, psft-dpk-setup.bat for Microsoft Windows and psft-dpk-setup.sh for Linux, AIX, or Solaris. The suffix *<ext>* in the table refers to the operating system specific extension.

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

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

Deployment	DPK Setup Script Command
Perform the following: • Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic, and Oracle database client. • Deploy and set up the domains for the mid-tier components (Application Server, web server, Process Scheduler and Oracle database client). The deployment sets up one each of Application Server, web server, and Process Scheduler domains. • Install the *PS_HOME* directory.	`psft-dpk-setup.<ext>` `--env_type midtier`

Deployment	DPK Setup Script Command

Perform the following:
• Install the software required for the mid-tier components, including Oracle Tuxedo, Oracle WebLogic and Oracle database client, without setting up the mid-tier domains.
• Install the *PS_HOME* directory.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--deploy_only`
	or
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--deploy_only`
	`--deploy_type all`

Deploy the *PS_HOME* directory only.
This option does not set up any domains.
*There is additional information following this table.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--deploy_only`
	`--deploy_type tools_home`

Deploy the *PS_APP_HOME* directory only.
This option does not set up any domains. This option requires the presence of PeopleSoft application DPK zip files, as well as the PeopleTools DPK zip files, in the deployment folder.
*There is additional information following this table.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--deploy_only`
	`--deploy_type app_home`

Deploy the *PS_HOME* and *PS_APP_HOME* directories only.
This option does not set up any domains. This option requires the presence of PeopleSoft application DPK zip files, as well as the PeopleTools DPK zip files, in the deployment folder.
*There is additional information following this table.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--deploy_only`
	`--deploy_type app_and_tools_home`

Deploy and set up the domain for the Application Server only.	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--domain_type appserver`

Deploy and set up the domain for the Process Scheduler only.	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--domain_type prcs`

Deploy and set up the domain for PIA only.
Note. Before beginning the PIA domain deployment, ensure that Application Server and Process Scheduler domains are available.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--domain_type pia`

Deploy and set up the domains for the Application Server and the Process Scheduler.	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--domain_type appbatch`

Deployment	DPK Setup Script Command

Deploy and set up the domains for the Application Server, the Process Scheduler, and PIA.	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--domain_type all`

Specify the full path of the downloaded DPKs.
The script assumes that the downloaded DPKs are in the parent directory of the DPK setup script. If the DPKs are located in a different directory, use this option.
	`psft-dpk-setup.<ext>`
	`--env_type midtier`
	`--dpk_src_dir <full_DPK_path>`

Remove a deployed environment. See "Using and Maintaining the PeopleSoft Environment," Removing a Deployed PeopleSoft Environment.	`psft-dpk-setup.<ext>` `--cleanup`
List the DPK setup script usage.	`psft-dpk-setup.<ext> --help`

* When you use the `--deploy_only` options on Linux, AIX, or Solaris operating systems, the deployment does not set environment variables needed for subsequent tasks. After the deployment is complete, you can set the environment variables using one of these methods:

- Change directory to *BASE_DIR*/pt/ps_home8.56.xx and run `../psconfig.sh`.
- Run the following command:

```
/opt/oracle/puppetlabs/bin/puppet apply --confdir=<BASE_DIR>/dpk/puppet
-e "include ::pt_profile::pt_psft_environment" --debug --trace
--detailed-exitcodes
--logdest <DPK_INSTALL>/pt_psft_environment.log
```

Note. The command text given here includes line feeds for readability.

Include the following decisions in preparing for the installation process:

- FRESH or PUM installation type

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

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

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

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

- Default or manual configuration

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

  See "Completing the DPK Initialization with Customizations."

The following installation scenarios require manual configuration using the customizations:

- Installing on an AIX operating system

  See Reviewing the Software Requirements on AIX

  See Preparing the Customization File for JDK on AIX.
- Connecting to a non-Oracle RDBMS platform

- User IDs and password

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

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

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

  Alternatively, specify Unicode using the customizations and Puppet apply command.

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

Task 2-4: Running the DPK Setup Script to Install PS_HOME and PS_APP_HOME

This section discusses:

- Understanding the PS_HOME and PS_APP_HOME Installation
- Installing PS_HOME and PS_APP_HOME on Microsoft Windows
- Installing PS_HOME and PS_APP_HOME on Linux, AIX, or Solaris
- Reviewing the Deployment Results

Understanding the PS_HOME and PS_APP_HOME Installation

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

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

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

Task 2-4-1: Installing PS_HOME and PS_APP_HOME on Microsoft Windows

To use the DPK setup script for deployment only:

1. Extract the first zip file *(FILENAME*_1of*n.*zip).

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

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

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

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

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

  ```
  psft-dpk-setup.bat --env_type midtier --deploy_only --deploy_type app_⇒
  and_tools_home
  ```

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

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

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

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

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

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

   ```
   Starting the PeopleSoft Environment Setup Process:


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

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

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

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

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

   ```
   Verifying if Puppet Software is Installed:

   Puppet Software is not installed on the Windows Host. If PeopleSoft
   ```

```
environment needs to be setup on this Host, Puppet software
should be Installed.

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

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

The script verifies whether the eYAML Hiera files are installed.

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

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

```
Preparing the Windows 2012 Server VM for PeopleSoft Environment:

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

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

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

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

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

Enter the PeopleSoft Base Folder: C:/psft
Are you happy with your answer? [Y|n|q]:
```

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

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

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

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

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

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

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

   Note. The PeopleSoft application name will vary.

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

```
Extracting the PeopleSoft <Product> Application DPK Archives:  [  OK  ]
Extracting the PeopleSoft PeopleTools Server DPK Archives:     [  OK  ]
```

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

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

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

11. Enter FRESH as the installation type.

    Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify the information for your database platform.

    a. For the database platform, enter ORACLE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```
Starting the Deployment of PeopleSoft Components:

Deploying Application Components:                          [FAILED]

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

1. cd /d C:\psft\dpk\puppet\production\manifests
2. "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
C:\psft\dpk\puppet site.pp --debug --trace

Exiting the PeopleSoft environment setup process.
```

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

```
Starting the Deployment of PeopleSoft Components:

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

The PeopleSoft Environment Setup Process Ended.
```

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

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

Task 2-4-2: Installing PS_HOME and PS_APP_HOME on Linux, AIX, or Solaris

To use the DPK setup script for deployment only:

1. Extract the first zip file *(FILENAME*_1of*n*.zip).

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

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

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

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

```
app_and_tools_home
```

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

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

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

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

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

   ```
   Starting the PeopleSoft Environment Setup Process:

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

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

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

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

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

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

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

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

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

   The script verifies whether the eYAML Hiera files are installed:

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

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

   ```
   Preparing the Linux VM for PeopleSoft Environment:

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

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

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

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

```
The base folder is used to extract the PeopleSoft DPKs. It is also
used to deploy the PeopleSoft components. This directory should be
accessible on the Linux VM, must have write permissions and should
have enough free space.
.
Enter the PeopleSoft Base Directory: /opt/oracle/psft
Are you happy with your answer? [Y|n|q]:
```

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

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

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

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

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

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

The PeopleSoft environment setup creates local users on the Linux VM.
The default Home directory [/home] do not have write permission to
create the user's home directory. Please
ensure this directory is writable or provide a new directory on the
Linux VM that is writable.

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

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

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

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

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

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

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

Note. The PeopleSoft application name will vary.

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

```
Extracting the PeopleSoft <Product> Application DPK Archives:  [  OK  ]
```

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

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

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

11. Enter FRESH as the installation type.

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify the information for your database platform.

    a. For the database platform, enter ORACLE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```
Starting the Deployment of PeopleSoft Components:

Setting Up System Settings                                  [FAILED]

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

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

Exiting the PeopleSoft environment setup process.
```

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

See "Completing the DPK Initialization with Customizations."

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

```
Starting the Deployment of PeopleSoft Components:

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

The PeopleSoft Environment Setup Process Ended.
```

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

Task 2-4-3: Reviewing the Deployment Results

This section describes some of the files and folders installed by the script. These are the standard default locations. If you want to change the installation locations, see "Completing the DPK Initialization with Cutomizations."

The script creates the following three sub-directories under the user-specified base directory, *BASE_DIR*:

- *BASE_DIR*/pt

  The script uses this directory to deploy the *PS_HOME* and *PS_APP_HOME* utilities and scripts, including the following:

  - *PS_HOME* installed to the default location under the DPK base directory, *BASE_DIR*/pt/ps_home8.56.*xx*.
  - *PS_HOME*/appserv/PSADMIN.exe

- *PS_HOME/*bin/client/winx86/pscfg.exe (Configuration Manager)
- *PS_HOME/*bin/client/winx86/psdmt.exe (Data Mover)
- *PS_HOME/*bin/client/winx86/pside.exe (Application Designer)
- *PS_HOME/*scripts
- *PS_HOME/*setup/PsMpPIAInstall (PeopleSoft Pure Internet Architecture installer)
- *PS_HOME/*setup/PsMpDbInstall (Database installer)
- *PS_HOME/*setup/PsCA (Change Assistant installer)
- *PS_HOME/*setup/PsCIA (Change Impact Analyzer installer)
- *PS_HOME/*setup/PsMpWebAppDeployInstall (Web Application Deployment installer)
- *PS_APP_HOME* installed to the default location under the DPK base directory, *BASE_DIR/*pt/*<Product>*_app_home, where <Product> is the abbreviation for the PeopleSoft application; for example, hcm_app_home for PeopleSoft Human Capital Management.

  Note. The DPK setup requires a decoupled *PS_APP_HOME*; that is, the installation location of *PS_APP_HOME* is different from *PS_HOME.*

  Files for the specific PeopleSoft application, including files needed for database creation.

  If you answered yes when asked whether you wanted multi-language support during the DPK setup script process, the files required for translations are installed under *BASE_DIR/*pt/*<Product>*_app_home.

- *BASE_DIR/*dpk

  The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment. Do not alter the installed Puppet YAML files.

  See Completing the DPK Initialization with Customizations for information on creating a YAML file to customize the environment.

- *BASE_DIR/*db

  This directory is not used for this deployment.

- Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries.

Task 2-5: Running the DPK Setup Script to Install All Software

This section discusses:

- Understanding the DPK Setup Deploying All Software
- Installing on Microsoft Windows
- Installing on Linux, AIX, or Solaris
- Reviewing the Installed Software

Understanding the DPK Setup Deploying All Software

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

This procedure assumes that you have downloaded all of the required DPKs, and saved them in a location referred to here as *DPK_INSTALL.* This deployment requires the presence of the PeopleSoft application DPK (Application DPK, Part 1) in the deployment folder, *DPK_INSTALL.*

Note. The process to deploy all software includes the installation of Oracle RDBMS client software. If you want exclude that installation, see Preparing the Customization File to Exclude Oracle Database Client Installation in "Completing the DPK Initialization with Customizations."

Task 2-5-1: Installing on Microsoft Windows

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

1. Extract the first zip file *(FILENAME*_1of*n*.zip).

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

   The extraction creates the *DPK_INSTALL/*setup folder and other files.
2. Open a command prompt with Run as Administrator.
3. Change directory to *DPK_INSTALL/*setup.
4. Run the script with the option for deployment only.

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

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

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

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

     ```
     psft-dpk-setup.bat --dpk_src_dir DPK_INSTALL --env_type midtier --⇒
     deploy_only --deploy_type all
     ```
5. Wait while the script locates the valid DPK zip files and extracts them.

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

   After the script completes the extraction, it deletes the original downloaded zip files.

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

```
Starting the PeopleSoft Environment Setup Process:

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

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

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

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

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

```
Verifying if Puppet Software is Installed:

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

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

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

   The script verifies whether the eYAML Hiera files are installed.

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

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

```
Preparing the Windows 2012 Server VM for PeopleSoft Environment:

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

7. At the following prompt, enter a location that is accessible to the host to be used as the PeopleSoft base folder.

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

   Use forward slashes (/) to specify the base folder location; for example, C:/psft. Do not use a name for the base folder that begins with a number.

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

Enter the PeopleSoft Base Folder: C:/psft
Are you happy with your answer? [Y|n|q]:
```

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

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

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

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

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

```
Validating the PeopleSoft DPKs in the Windows VM:
Validating the PeopleSoft <Product> Application DPK:          [  OK  ]
Validating the PeopleSoft PeopleTools Server DPK:             [  OK  ]
Validating the PeopleSoft PeopleTools Client DPK:             [  OK  ]
Validating the Manifest Information in Peoplesoft DPKs:       [  OK  ]
```

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

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

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

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

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

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

    Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify the information for your database platform.
    a. For the database platform, enter ORACLE.

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

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

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

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

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

14. Enter y to continue with the script.

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

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

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

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

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

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

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

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

```
Starting the Deployment of PeopleSoft Components:

Setting Up System Settings:                              [FAILED]

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

1. cd /d C:\psft\dpk\puppet\production\manifests
2. "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
C:\psft\dpk\puppet site.pp --debug --trace

Exiting the PeopleSoft environment setup process.
```

    See "Completing the DPK Initialization with Customizations."

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

```
Starting the Deployment of PeopleSoft Components:

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

The PeopleSoft Environment Setup Process Ended.
```

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

Task 2-5-2: Installing on Linux, AIX, or Solaris

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

1. Extract the first zip file *(FILENAME*_1of*n*.zip).

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

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

2. Open a terminal window and change directory to *DPK_INSTALL/*setup.
3. As a user with root access, run the script with the option for deployment only.
   - If you extracted the first zip file into the same directory where you downloaded the zip files, run the script as follows:

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

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

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

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

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

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

   ```
   Starting the PeopleSoft Environment Setup Process:

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

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

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

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

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

   ```
   Verifying if Puppet Software is Installed:

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

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

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

   The script verifies whether the eYAML Hiera files are installed.

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

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

```
Preparing the Linux VM for PeopleSoft Environment:

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

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

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

   Use forward slashes (/) to specify the directory; for example, /opt/oracle/psft. Do not use a name for the base directory that begins with a number.

```
The base directory is used to extract the PeopleSoft DPKs. It is also
used to deploy the PeopleSoft components. This directory should be
accessible on the Linux VM, must have write permissions and should
have enough free space.
.
Enter the PeopleSoft Base Directory: /opt/oracle/psft
Are you happy with your answer? [Y|n|q]: y
```

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

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

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

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

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

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

The PeopleSoft environment setup creates local users on the Linux VM.
The default Home directory [/home] do not
have write permision to create the user's home directory. Please
ensure this directory is writable or provide a new directory on the
Linux VM that is writable.

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

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

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

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

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

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

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

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

```
Extracting the Peoplesoft DPK Archives in the Linux VM:
Extracting the PeopleSoft PeopleTools Server DPK Archives:    [  OK  ]
Extracting the PeopleSoft <Product> Application DPK Archive:  [  OK  ]
```

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

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

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

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

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify the information for your database platform.
    a. For the database platform, enter ORACLE.

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

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

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

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

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

14. Enter y to continue with the script.

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

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

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

    See "Completing the DPK Initialization with Customizations."

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

```
'apply' command directly to continue with the setup of the PeopleSoft
environment

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

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

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

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

```
Starting the Deployment of PeopleSoft Components:

Setting Up System Settings:                                [FAILED]

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

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

Exiting the PeopleSoft environment setup process.
```

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

See "Completing the DPK Initialization with Customizations."

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

```
Starting the Deployment of PeopleSoft Components:

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

The PeopleSoft Environment Setup Process Ended.
```

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

Task 2-5-3: Reviewing the Installed Software

This section describes some of the files and folders installed by the script. These are the standard default locations. If you want to change the installation locations, see "Completing the DPK Initialization with Customizations."

The script creates the following three sub-directories under the user-specified base directory, *BASE_DIR*:

- *BASE_DIR*/pt

  The script uses this directory to deploy the *PS_HOME* and *PS_APP_HOME* utilities and scripts, including the following:

- *PS_HOME* installed to the default location under the DPK base directory, *BASE_DIR/*pt/ps_home8.56.*xx*.
- *PS_HOME/*appserv/PSADMIN.exe
- *PS_HOME/*bin/client/winx86/pscfg.exe (Configuration Manager)
- *PS_HOME/*bin/client/winx86/psdmt.exe (Data Mover)
- *PS_HOME/*bin/client/winx86/pside.exe (Application Designer)
- *PS_HOME/*scripts
- *PS_HOME/*setup/PsMpPIAInstall (PeopleSoft Pure Internet Architecture installer)
- *PS_HOME/*setup/PsMpDbInstall (Database installer)
- *PS_HOME/*setup/PsCA (Change Assistant installer)
- *PS_HOME/*setup/PsCIA (Change Impact Analyzer installer)
- *PS_HOME/*setup/PsMpWebAppDeployInstall (Web Application Deployment installer)
- *PS_APP_HOME* installed to the default location under the DPK base directory, *BASE_DIR/*pt/*<Product>*_app_home, where <Product> is the abbreviation for the PeopleSoft application; for example, hcm_app_home for PeopleSoft Human Capital Management.

  Note. The DPK setup requires a decoupled *PS_APP_HOME*; that is, the installation location of *PS_APP_HOME* is different from *PS_HOME.*

  Files for the specific PeopleSoft application, including files needed for database creation.

  If you answered yes when asked whether you wanted multi-language support during the DPK setup script process, the files required for translations are installed under *BASE_DIR/*pt/*<Product>*_app_home.
- Oracle Tuxedo software in the standard location, *<BASE_DIR>*/pt/bea/tuxedo
- Oracle Tuxedo services on Microsoft Windows:

  ORACLE ProcMGR VS12.2.2.0.0_VS2015 and Tlisten VS12.2.2.0.0_VS2015
- Oracle WebLogic software in the standard location, *BASE_DIR/*pt/bea/wlserver
- Oracle database client software in the standard location, *BASE_DIR/*pt/oracle-client
- Java software in the standard location, *BASE_DIR/*pt/jdk_1.8.0_*xx.*

- *BASE_DIR/*dpk

  The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment. Do not alter the installed Puppet YAML files.

  See Completing the DPK Initialization with Customizations for information on creating a YAML file to customize the environment.
- *BASE_DIR/*db

  This directory is not used for this deployment.
- Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries.

Task 2-6: Obtaining Operating System Packages Required by Puppet

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

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

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

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

   The log file should not list any missing packages.

Task 2-7: Removing a Deployed PeopleSoft Environment

This section discusses:

- Understanding the Removal Process
- Using the DPK Setup Script to Remove the PeopleSoft Environment on Microsoft Windows
- Using the DPK Setup Script to Remove the PeopleSoft Environment on AIX, Linux, or Solaris
- Using Puppet to Remove the PeopleSoft Environment on Microsoft Windows
- Using Puppet to Remove the PeopleSoft Environment on Linux, AIX, or Solaris
- Troubleshooting the Removal Process on Microsoft Windows
- Troubleshooting the Removal Process on Linux, AIX, or Solaris

Understanding the Removal Process

There will be times when an existing PeopleSoft environment needs to be completely removed. For example, applying a new PeopleSoft PeopleTools patch requires that an existing environment be cleaned up and a new one created. The cleanup process described here conducts an orderly shutdown and removal of all the configured runtime domains — Application Server, Process Scheduler, and PIA domains. Additionally, it will remove all the deployed components. The PeopleSoft environment can be cleaned up either using the PeopleSoft DPK setup script or using a `Puppet apply` command. You can use the PeopleSoft DPK setup script cleanup for environments created with the default initialization or with the psft_customizations.yaml file.

Note. The Puppet software that is installed by the DPK setup script is not removed by the cleanup process.

Task 2-7-1: Using the DPK Setup Script to Remove the PeopleSoft Environment on Microsoft Windows

Use these steps to remove a deployed PeopleSoft environment using the PeopleSoft DPK setup script on Microsoft Windows:

1. Open a command prompt window; for example:
   - Select Start, and navigate to Accessories, Command Prompt.
   - Right-click and select Run as Administrator.
2. Go to *DPK_INSTALL*\setup and run the following command:

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

3. Specify the base directory *(BASE_DIR)* that you want to remove.

   ```
   Enter the PeopleSoft Base Folder specified during setup:
   ```

   You see this prompt only when there is more than one deployment, and you are removing the most recent deployment. If there is a single deployment, or if you are removing a second deployment, the script does not display this prompt. For example:
   - You carried out deployment A followed by deployment B.
   - You removed the second deployment B. For the cleanup of deployment B, you do not see this prompt for the *BASE_DIR*.
   - You run the script a second time. At the prompt, specify the *BASE_DIR* for deployment A.
4. Review the cleanup log file in *DPK_INSTALL*\setup.

The DPK setup script displays [OK] for each step of the process, and [FAILED] if any of the steps are not successful. After completing these steps, verify that the DPK installation directories (*BASE_DIR/*pt and *BASE_DIR/*db) have been cleared. On Microsoft Windows, verify that any services have been removed. If anything remains, the cleanup process was not successful. Try running the process again, and if it is still not successful, you may need to carry out advanced cleanup.

See Troubleshooting the Removal Process on Microsoft Windows.

Task 2-7-2: Using the DPK Setup Script to Remove the PeopleSoft Environment on AIX, Linux, or Solaris

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

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

   ```
   sh psft-dpk-setup.sh --cleanup
   ```

3. Specify the base directory *(BASE_DIR)* that you want to remove.

   ```
   Enter the PeopleSoft Base Folder specified during setup:
   ```

   You see this prompt only when there is more than one deployment, and you are removing the most recent deployment. If there is a single deployment, or if you are removing a second deployment, the script does not display this prompt. For example:

   - You carried out deployment A followed by deployment B.
   - You removed the second deployment B. For the cleanup of deployment B, you do not see this prompt for the *BASE_DIR*.
   - You run the script a second time. At the prompt, specify the *BASE_DIR* for deployment A.
4. Review the cleanup log file in *DPK_INSTALL*\setup.

The DPK setup script displays [OK] for each step of the process, and [FAILED] if any of the steps are not successful. After completing these steps, verify that the DPK installation directories (*BASE_DIR/*pt and *BASE_DIR/*db) have been cleared. On Linux, AIX, or Solaris, check for leftover processes. If anything remains, the cleanup process was not successful. Try running the cleanup process again, and if it is still not successful, you may need to carry out advanced cleanup.

See Troubleshooting the Removal Process on Linux, AIX, or Solaris.

Task 2-7-3: Using Puppet to Remove the PeopleSoft Environment on Microsoft Windows

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

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

To remove the environment manually on Microsoft Windows:

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

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

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

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

6. Run the following command:

```
"C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
BASE_DIR/dpk/puppet site.pp --debug --trace
```

Note. The options require double dashes.

To redirect the output to a file, use the logdest option:

```
"C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
BASE_DIR/dpk/puppet site.pp --debug --trace --logdest "BASE_DIR/dpk⇒
/dpk.log"
```

Task 2-7-4: Using Puppet to Remove the PeopleSoft Environment on Linux, AIX, or Solaris

To remove the environment manually on Linux, AIX, or Solaris:

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

   See "Using the Puppet Hiera YAML Files for Customization."
2. Change the value of the `ensure` attribute from `present` to `absent`.
3. Open a new session and log in as root.
4. Change directory to the *BASE_DIR*/dpk/puppet/production/manifests directory.
5. Run the following command.

   Note. The options require double dashes.

   On Linux:

```
/opt/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet site.pp -⇒
-debug --trace
```

   On AIX or Solaris:

```
/opt/oracle/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet⇒
 site.pp --debug --trace
```

   To redirect the output to a file, use the logdest option:

   On Linux:

```
/opt/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet site.pp -⇒
-debug --trace --logdest "BASE_DIR/dpk/dpk.log"
```

   On AIX or Solaris:

```
/opt/oracle/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet⇒
 site.pp --debug --trace --logdest "BASE_DIR/dpk/dpk.log"
```

Task 2-7-5: Troubleshooting the Removal Process on Microsoft Windows

This section includes advanced steps to be used only if the previous procedures in this section failed. If the cleanup process on Microsoft Windows was not totally successful, the *BASE_DIR* folders may not be entirely cleared, or you may have trouble when carrying out another deployment. Before carrying out the advanced steps in this section:

1. Run the command `psft-dpk-setup.bat --cleanup`.
2. If the script displays a FAILED message, run it again.
3. If it succeeds, check the *BASE_DIR* folders to be sure everything has been deleted.
4. If the *BASE_DIR* folders are not clear, or if a subsequent deployment is not successful, carry out the steps below.

For the advanced manual cleanup on Microsoft Windows, there are several steps. The steps in this section should be performed by someone familiar with modifying the Microsoft Windows registry. Depending upon where the cleanup process failed, some of the items mentioned in these steps may have already been removed. The user should remove whatever remains in this order:

1. Start Services.
2. Stop the services OracleServiceCDB<*Product*> (for example, OracleServiceCDBFSCM) and OracleOraDB12cHomeTNSListener<*Listener_Name*> (for example, OracleOraDB12cHomeTNSListenerpsft_listener) by highlighting the names, right-clicking and selecting Stop.

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

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

   ```
   sc delete OracleServiceCDB<Product>
   sc delete OracleOraDB12cHomeTNSListener<Listener_Name>
   sc delete PsftAppServerDomain<Appserver_domain_name>Service
   sc delete PsftPrcsDomain<ProcSched_domain_name>Service
   sc delete PsftPIADomain<PIA_domain_name>Service
   ```

5. In the Services window, stop ORACLE ProcMGR V12.2.2.0.0_VS2015 and TListen 12.2.2.0.0_VS2015(Port3050) by highlighting the names, right-clicking and selecting Stop.
6. In the Services window, right-click each of the services in step 5, select Properties, and copy the correct service name (rather than the alias).
7. Open a command prompt and remove the two preceding services with the command:

   ```
   sc delete <service_name>
   ```

8. Open the Microsoft Windows registry; for example, select Start, Run, and enter regedit.
9. In the Registry Editor, locate the HKLM\SOFTWARE\ORACLE folder.

   Select the following keys and verify that they contain references to the DPK installation locations in *BASE_DIR*:

   - KEY_OraDB12cHome *(BASE_DIR*\db by default)

- KEY_OraTux1222Home (*BASE_DIR*\pt\bea\tuxedo by default)
- KEY_OraWL1213Home *(BASE_DIR*\pt\bea by default)

10. In the Registry Editor, locate the HKLM\SOFTWARE\ORACLE\TUXEDO folder.

    Select the 12.2.2.0.0_VS2015 key and verify that it contains references to the DPK installation locations in *BASE_DIR (BASE_DIR*\pt\bea\tuxedo by default).

11. In the Registry Editor, only for the keys from step 9 and 10 that reference the DPK installation locations, right-click and select Delete.
12. Close the Registry Editor window.
13. Open the file C:\Program Files\Oracle\Inventory\ContentsXML\inventory.xml in a text editor.
14. Locate the three lines that reference the DPK deployment:

```
<HOME NAME="OraWL1213Home" LOC="C:/psft/pt/bea" TYPE="O" IDX="16"/>
<HOME NAME="OraTux1222Home" LOC="C:\psft\pt\bea\tuxedo" TYPE="O" IDX=⇒
"17"/>
<HOME NAME="OraDB12cHome" LOC="C:\psft\db\oracle-server\12.1.0.2" TYPE=⇒
"O" IDX="18"/>
```

15. Delete only the lines referencing the DPK deployment, and save the file.
16. Remove everything under the *BASE_DIR* folder *(BASE_DIR*\db, *BASE_DIR*\dpk, and *BASE_DIR*\pt).

    Note. You may get a message that some of the file names are too big for the recycle bin. Click OK to accept.

17. Remove C:/User/<*username*>/psft/pt/8.56 (PS_CFG_HOME).

Task 2-7-6: Troubleshooting the Removal Process on Linux, AIX, or Solaris

This section includes advanced steps to be used only if the previous procedures in this section failed. If the cleanup process on Linux, AIX, or Solaris was not totally successful, the *BASE_DIR* folders may not be entirely cleared, or you may have trouble when carrying out another deployment. Before carrying out the advanced steps in this section:

1. Run the command `./psft-dpk-setup.sh --cleanup`.
2. If the script displays a FAILED message, run it again.
3. If it succeeds, check the *BASE_DIR* folders to be sure everything has been deleted.
4. If the *BASE_DIR* folders are not clear, or if a subsequent deployment is not successful, try the following troubleshooting steps.

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

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

     ```
     ps -aux|more
     ```

  2. To stop the processes, for example, use this command with the process ID:

     ```
     kill -STOP <PID>
     ```

- Check for left-over PeopleSoft users.

  When you carry out the cleanup using the DPK setup script, it should remove the PeopleSoft users cleanly.

However, if the users' home directory was deleted by mistake before running the cleanup, the user definition may remain.

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

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

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

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

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

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

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

Chapter 3

Performing a Full-Tier Installation

This chapter discusses:

- Obtaining the PeopleSoft Application Images
- Prerequisites
- Running the DPK Setup Script in Full-tier Mode on Windows
- Running the DPK Setup Script in Full-tier Mode on Linux
- Reviewing the Full-Tier Deployment Results
- Cleaning Up Orphaned Language Data
- Completing Installation Tasks

Task 3-1: Obtaining the PeopleSoft Application Images

If you have not already done so, this section describes how to locate and obtain the PeopleSoft Application Image required for a fresh installation on Microsoft Windows or Linux. The latest PeopleSoft Application Images are available on My Oracle Support. Contact Oracle if you need a user ID and password for My Oracle Support.

To obtain the required PeopleSoft Application Image:

1. Go to the PeopleSoft Update Manager (PUM) Home Page, My Oracle Support, Doc ID 1641843.2, to find the information on locating and downloading the current image for your PeopleSoft application.

   Note. The PUM home page refers to the PeopleSoft Application Images as the PIs.

2. Select the tab PeopleSoft Update Image Home Page, and select the link for your PeopleSoft application.
3. Expand the Update Image Link section, and then select the link for Native OS to find the links to the current PeopleSoft Application Image for Microsoft Windows and Linux.
4. Download all of the zip files for the PeopleSoft Application Image into a single directory, referred to in this documentation as *DPK_INSTALL*.

   Be sure that the *DPK_INSTALL* directory has adequate available space for all the zip files. The multiple files are needed due to size limitations. The contents of the DPKs and file name syntax were discussed earlier.

   See "Preparing for Installation," Understanding the PeopleSoft Installation.

   Note. The downloaded zip files include PeopleSoft PeopleTools client DPKs for all currently supported releases. Download all of the PeopleTools client DPKs, and the Oracle Database client DPK, even if you do not plan to use them. They are required for successful creation of the Samba shared drive folders.

Task 3-2: Prerequisites

Use this procedure to perform a full-tier PeopleSoft installation. This procedure assumes that:

- You want to install a full PeopleSoft environment, including the PeopleSoft application database, and application server, Process Scheduler, and PIA domains, and supporting software.

  See Reviewing the Full-Tier Deployment Results.
- You want to set up a database on Oracle 12c with multitenant architecture.

  The full-tier deployment creates a pre-configured Oracle container database (CDB) and pluggable database (PDB).

  See Oracle Database Concepts, Introduction to the Multitenant Architecture, in the Oracle Help Center, https://docs.oracle.com/en/.
- You have downloaded all of the required DPKs for the PeopleSoft Application Image, and saved them in a location accessible to the Microsoft Windows or Linux host, referred to here as *DPK_INSTALL*.

  See Obtaining the PeopleSoft Application Image.

  Note. After the DPK setup script extracts the downloaded zip files, it will delete the original zip files in *DPK_INSTALL.* If you want to save the original zip files, make a backup copy in a different folder.

- The user running the script *must have administrative permission* on Microsoft Windows, and *root access* on Linux.

  Note. Restarting services for the deployed PeopleSoft environment, such as those for Oracle Tuxedo, must be performed by the same user (with administrative permission) who carried out the installation.

- There is enough space on the host for the PeopleSoft environment.

  See "Prerequisites," Reviewing Hardware Requirements on Microsoft Windows.
- The deployment on Linux sets up users who own the PeopleSoft environment: psadm1, psadm2, psadm3, and oracle2. The deployment on Linux requires that a writable directory be available for the users. The default is /home.

  Note. If you choose to use other Linux users, you must complete your installation using the customizations.

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

- You have the information for environment setup, including the following:
  - Demo or system PeopleSoft application database
  - Whether to install multi-language files
  - PeopleSoft Connect ID
  - PeopleSoft database administrator
  - PeopleSoft operator ID (such as PS or VP1)
  - Database access ID
  - Application Server Domain Connection password (optional)
  - PTWEBSERVER web profile user
  - Oracle WebLogic server administrator

  - Integration Gateway administrator
- You are installing a Unicode database.

  When performing a full-tier installation using the DPK setup script, you must install a Unicode database. If you want to install a non-Unicode database, you must create the database yourself.

  See "Preparing for Installation," Reviewing the Installation Choices.

Task 3-3: Running the DPK Setup Script in Full-tier Mode on Windows

To perform a full-tier deployment for a fresh installation on physical or virtual Microsoft Windows hosts:

1. Extract the first zip file *(FILENAME*-1of*n*.zip).

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

   The extraction creates the *DPK_INSTALL*\setup folder and other files.
2. Open a command prompt window with Run as Administrator.
3. Change directory to *DPK_INSTALL*\setup.
4. Run the psft-dpk-setup.bat script to carry out the full-tier deployment.

   Note. If the script fails to launch with an error such as "File cannot be loaded because the execution of scripts is disabled on this system," you must modify the Microsoft Windows execution policy by running the command `Set-ExecutionPolicy Unrestricted`.

   - If you extracted the first zip file into the same directory where you downloaded the zip files, run the script with no options, as follows:

     ```
     psft-dpk-setup.bat
     ```

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

     ```
     psft-dpk-setup.bat --dpk_src_dir DPK_INSTALL
     ```
5. Wait while the script locates the valid PeopleSoft zip files and extracts them.

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

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

   ```
   Starting the PeopleSoft Environment Setup Process:

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

   Extracting the Zip File FILENAME-1of11.zip:      [  OK  ]
   Extracting the Zip File FILENAME-2of11.zip:      [  OK  ]
   [...]
   Extracting the Zip File FILENAME-11of11.zip:     [  OK  ]
   ```
6. Specify whether to install the Puppet software if necessary at the next prompt.

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

If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in *DPK_INSTALL*\setup. If there are missing operating system packages, you will need to carry out additional steps.

See Obtaining Operating System Packages Required for Puppet.

```
Starting the PeopleSoft Environment Setup Process:

Verifying if Puppet Software is Installed:

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

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

Installing Puppet Software on the Windows Host:                [  OK  ]
Installing eYAML Hiera Backend on the Windows Host:
```

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

```
Preparing the Windows 2012Server VM for PeopleSoft Environment:

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

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

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

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

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

Enter the PeopleSoft Base Folder: C:/psft
Are you happy with your answer? [Y|n|q]:
```

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

Note. The full-tier setup requires 150 GB disk space.

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

   The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

   - *BASE_DIR/*dpk

     The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment.

- *BASE_DIR/*pt

  The script uses this directory to deploy the PeopleSoft environment components.
- *BASE_DIR/*db

  The script uses this directory to deploy Oracle RDBMS software and the database files.

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

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

   Note. The PeopleSoft PeopleTools application name will vary.

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

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

```
Extracting the PeopleSoft DPK Archives in the Windows VM:
Extracting the Oracle Database Server DPK Archive:
Extracting the PeopleSoft <Product> Application DPK Archive:       [ ⇒
 OK  ]
Extracting the PeopleSoft PeopleTools Server DPK Archives:         [ ⇒
 OK  ]
Extracting the 8.56 PeopleSoft PeopleTools Client DPK Archive:     [ ⇒
 OK  ]
Extracting the 8.55 PeopleSoft PeopleTools Client DPK Archive:     [ ⇒
 OK  ]
Extracting the 8.54 PeopleSoft PeopleTools Client DPK Archive:     [ ⇒
 OK  ]
Extracting the Oracle Database Client DPK Archive:                 [ ⇒
 OK  ]
```

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

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

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

11. Specify whether this is a fresh install or for PUM.

    Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify whether you want to install a DEMO or SYS database.

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt. The Upgrade Source Image is DEMO only.

```
Enter the PeopleSoft database [DEMO or SYS] type [SYS]:
```

13. Specify whether this is a multi-language environment.

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

14. Enter the database name, or accept the default name, following the requirements given in the prompt.

```
Enter a new PeopleSoft database name. Ensure that the database
name start with a letter and contains only uppercase letters and
numbers and is no more than 8 characters in length [HCM92026]:
```

15. Enter the database listener port number:

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

16. Enter the password for the database SYS or SYSTEM user.

```
Enter a new PeopleSoft database admin users [SYS/SYSTEM] password.
Ensure that the password is between 8 and 30 characters in length
with at least one lowercase letter, one uppercase letter, one number
and one special character (_,-,#):
Re-Enter the database admin users password:
```

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

    The default is people.

```
Enter a new PeopleSoft database Connect ID. Ensure that the ID
contains only alphanumeric characters and is atmost 8 characters
in length [people]:
```

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

```
Enter a new PeopleSoft database Connect ID [people] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:
Re-Enter the PeopleSoft Connect ID password:
```

19. Enter the password for the Access ID for the database:

```
Enter a new PeopleSoft database Access ID [SYSADM] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:
Re-Enter the PeopleSoft Access ID password:
```

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

```
Enter a new PeopleSoft database Operator ID [VP1] password. Ensure
the password contains only alphanumeric characters and is between 1
and 32 characters in length:
Re-Enter the PeopleSoft Operator ID password:
```

21. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

    The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

```
[Optional] Enter a new Application Server Domain connection password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:
Re-Enter the Application Server Domain connection password:
```

22. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

    The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

```
Enter a new WebLogic Server Admin user [system] password. Ensure
that the password is between 8 and 30 characters in length with at
least one lowercase letter, one uppercase letter, one number or one
one special character (!@#$%^&):
Re-Enter the WebLogic Server Admin user password:
```

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

Note. The guideline in the prompt for the PTWEBSERVER user password does not allow special characters. However, the PeopleSoft system does allow special characters for the PTWEBSERVER password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Portal Technology,* "Working with Passwords."

```
Enter a new PeopleSoft WebProfile user [PTWEBSERVER] password. Ensure
the password contains only alphanumeric characters and is between 8
and 30 characters in length:
Re-Enter the PeopleSoft WebProfile user password:
```

24. Enter the Integration Gateway user ID and password at the following prompt.

    The default user ID is administrator.

Note. The guideline in the prompt for the Integration Gateway user password does not allow special characters. However, the PeopleSoft system does allow special characters for the Integration Gateway password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Portal Technology,* "Working with Passwords."

```
Enter the PeopleSoft Integration Gateway user [administrator]:
Enter the PeopleSoft Integration Gateway user [administrator] password.
Ensure the password contains only alphanumeric characters and is⇒
 between 8
and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user password:
```

25. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

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

26. Review the status messages as the script updates the Puppet YAML files with the user input.

```
Encrypting the Passwords in the User Data:                [  OK  ]
Updating the Puppet Hiera YAML Files with User Data:       [  OK  ]
```

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

Note. If you select the default initialization process, the PeopleSoft environment is created with one Application Server domain, one Process Scheduler domain, and one PIA domain.

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

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

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

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

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

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

```
Starting the Default Initialization of PeopleSoft Environment:

Deploying Application Components:                           [FAILED]

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

1. cd /d C:\psft\dpk\puppet\production\manifests
2. "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
C:\psft\dpk\puppet site.pp --debug --trace

Exiting the PeopleSoft environment setup process.
```

See "Completing the DPK Initialization with Customizations."

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

```
Starting the Default Initialization of PeopleSoft Environment:

Deploying Application Components:                           [  OK  ]
Deploying PeopleTools Components:                           [  OK  ]
Deploying Oracle Database Server:                           [  OK  ]
Setting up PeopleSoft OS Users Environment:                 [  OK  ]
Setting up PeopleSoft Database:                             [  OK  ]
```

```
Setting up PeopleSoft Application Server Domain:            [  OK  ]
Setting up PeopleSoft Process Scheduler Domain:             [  OK  ]
Setting up PeopleSoft PIA Domain:                           [  OK  ]
Changing the Passwords for the Environment:                 [  OK  ]
Configuring Pre-Boot PeopleSoft Environment:                [  OK  ]
Starting PeopleSoft Domains:                                [  OK  ]
Configuring Post-Boot PeopleSoft Environment:               [  OK  ]
Setting up Source Details for PeopleTools Client:           [  OK  ]

The PeopleSoft Environment Setup Process Ended.
```

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

See Also

"Using and Maintaining the PeopleSoft Environment, "Using the PeopleSoft Installation.

Task 3-4: Running the DPK Setup Script in Full-tier Mode on Linux

To perform a full-tier deployment for a fresh installation on physical or virtual Linux hosts:

1. Extract the first zip file *(Filename.*1of*n.*zip).

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

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

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

     ```
     ./psft-dpk-setup.sh --dpk_src_dir DPK_INSTALL
     ```
4. Wait while the script locates the valid PeopleSoft zip files and extracts them.

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

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

   ```
   Starting the PeopleSoft Environment Setup Process:

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

   Extracting the Zip File Filename-1of11.zip:   [  OK  ]
   Extracting the Zip File Filename-2of11.zip:   [  OK  ]
   [...]
   ```

```
Extracting the Zip File Filename-11of11.zip:  [  OK  ]
```

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

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

   If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in *DPK_INSTALL/*setup. If there are missing operating system packages, you will need to carry out additional steps.

   See Obtaining Operating System Packages Required for Puppet.

```
Verifying if Puppet Software is Installed:

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

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

Installing Puppet Software on the Host:                      [  OK  ]
Installing eYAML Hiera Backend on the Linux Host:            [  OK  ]
```

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

```
Preparing the Linux VM for PeopleSoft Environment:

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

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

   Do not use a name for the base directory that begins with a number.

   The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The directory /cs1/psft is used in this example:

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

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

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

   Note. The full-tier setup requires 150 GB disk space.

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

   The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

   - *BASE_DIR/*dpk

The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment.

- *BASE_DIR/*pt

  The script uses this directory to deploy PeopleSoft environment components.

- *BASE_DIR/*db

  The script uses this directory to deploy Oracle RDBMS software and the database files.

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

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

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

The PeopleSoft environment setup creates local users on the Linux VM.
The default Home directory [/home] do not have write permssion to
create the user's home directory. Please
ensure this directory is writable or provide a new directory on the
Linxu VM that is writable.

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

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

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

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

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

Note. The PeopleSoft PeopleTools application name will vary.

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

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

```
Extracting the PeopleSoft DPK Archives in the Linux VM:
Extracting the Oracle Database Server DPK Archive:                  [ ⇒
 OK  ]
Extracting the PeopleSoft <Product> Application DPK Archive:        [ ⇒
 OK  ]
Extracting the PeopleSoft PeopleTools Server DPK Archives:          [ ⇒
 OK  ]
Extracting the 8.56 PeopleSoft PeopleTools Client DPK Archive:      [ ⇒
 OK  ]
Extracting the 8.55 PeopleSoft PeopleTools Client DPK Archive:      [ ⇒
```

```
 OK  ]
Extracting the 8.54 PeopleSoft PeopleTools Client DPK Archive:       [ ⇒
 OK  ]
Extracting the Oracle Database Client DPK Archive:                   [ ⇒
 OK  ]
```

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

    The script sets up Puppet on the host or VM. As part of this setup, if the EYAML files are installed, it will generate the encryption keys. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR*/dpk) and updates the YAML files to reflect the type of PeopleSoft environment setup.

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

11. Specify whether this is a fresh install or for PUM.

    Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

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

12. Specify whether you want to install a DEMO or SYS database.

    Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt. The Upgrade Source Image is DEMO only.

```
Enter the PeopleSoft database [DEMO or SYS] type [SYS]:
```

13. Specify whether this is a multi-language environment.

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

14. Enter the database name, or accept the default name, following the requirements given in the prompt.

```
Enter a new PeopleSoft database name. Ensure that the database
name start with a letter and contains only uppercase letters and
numbers and is no more than 8 characters in length [HCM92026]:
```

15. Enter the database listener port number:

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

16. Enter the password for the database SYS or SYSTEM user.

```
Enter a new PeopleSoft database admin users [SYS/SYSTEM] password.
Ensure that the password is between 8 and 30 characters in length
with at least one lowercase letter, one uppercase letter, one number
and one special character (_,-,#):
Re-Enter the database admin users password:
```

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

    The default is people.

```
Enter a new PeopleSoft database Connect ID. Ensure that the ID
contains only alphanumeric characters and is atmost 8 characters
```

```
in length [people]:
```

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

```
Enter a new PeopleSoft database Connect ID [people] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:
Re-Enter the PeopleSoft Connect ID password:
```

19. Enter the password for the Access ID for the database:

```
Enter a new PeopleSoft database Access ID [SYSADM] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:
Re-Enter the PeopleSoft Access ID password:
```

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

```
Enter a new PeopleSoft database Operator ID [VP1] password. Ensure
the password contains only alphanumeric characters and is between 1
and 32 characters in length:
Re-Enter the PeopleSoft Operator ID password:
```

21. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

    The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

```
[Optional] Enter a new Application Server Domain connection password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:
Re-Enter the Application Server Domain connection password:
```

22. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

    The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

```
Enter a new WebLogic Server Admin user [system] password. Ensure
that the password is between 8 and 30 characters in length with at
least one lowercase letter, one uppercase letter, one number or one
one special character (!@#$%^&):
Re-Enter the WebLogic Server Admin user password:
```

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

Note. The guideline in the prompt for the PTWEBSERVER user password does not allow special characters. However, the PeopleSoft system does allow special characters for the PTWEBSERVER password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Portal Technology,* "Working with Passwords."

```
Enter a new PeopleSoft WebProfile user [PTWEBSERVER] password. Ensure
the password contains only alphanumeric characters and is between 8
and 30 characters in length:
```

```
Re-Enter the PeopleSoft WebProfile user password:
```

24. Enter the Integration Gateway user ID and password at the following prompt.

    The default user ID is administrator.

    Note. The guideline in the prompt for the Integration Gateway user password does not allow special characters. However, the PeopleSoft system does allow special characters for the Integration Gateway user password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

    See *PeopleTools: Portal Technology,* "Working with Passwords."

```
Enter the PeopleSoft Integration Gateway user [administrator]:
Enter the PeopleSoft Integration Gateway user [administrator] password.
Ensure the password contains only alphanumeric characters and is⇒
 between 8
and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user password:
```

25. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

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

26. Review the status messages as the script updates the Puppet YAML files with the user input.

```
Encrypting the Passwords in the User Data:                [  OK  ]
Updating the Puppet Hiera YAML Files with User Data:      [  OK  ]
```

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

    Note. If you select the default initialization process, the PeopleSoft environment is created with one Application Server domain, one Process Scheduler domain, and one PIA domain.

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

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

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

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

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

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

```
Starting the Default Initialization of PeopleSoft Environment:

Setting Up System Settings:                          [FAILED]

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

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

Exiting the PeopleSoft environment setup process.
```

See "Completing the DPK Initialization with Customizations."

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

```
Starting the Default Initialization of PeopleSoft Environment:

Setting Up System Settings:                                [  OK  ]
Deploying Application Components:                          [  OK  ]
Deploying PeopleTools Components:                          [  OK  ]
Deploying Oracle Database Server:                          [  OK  ]
Setting up PeopleSoft OS Users Environment:                [  OK  ]
Setting up PeopleSoft Database:                            [  OK  ]
Setting up PeopleSoft Application Server Domain:           [  OK  ]
Setting up PeopleSoft Process Scheduler Domain:            [  OK  ]
Setting up PeopleSoft PIA Domain:                          [  OK  ]
Changing the Passwords for the Environment:                [  OK  ]
Configuring Pre-Boot PeopleSoft Environment:               [  OK  ]
Starting PeopleSoft Domains:                               [  OK  ]
Configuring Post-Boot PeopleSoft Environment:              [  OK  ]
Setting up Source Details for PeopleTools Client:          [  OK  ]

The PeopleSoft Environment Setup Process Ended.
```

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

See Also

"Using and Maintaining the PeopleSoft Environment," Using the PeopleSoft Installation.

Task 3-5: Reviewing the Full-Tier Deployment Results

This section describes some of the files and folders installed by the script running with the full-tier option. These are the standard default locations, those created under the user-specified base directory, *BASE_DIR,* as well as other installations. If you want to change the installation locations, see "Completing the DPK Initialization with Customizations."

- *BASE_DIR*/pt

The script uses this directory to deploy the *PS_HOME* and *PS_APP_HOME* utilities and scripts, including the following:

- *PS_HOME* installed to the default location under the DPK base directory, *BASE_DIR/*pt/ps_home8.56.*xx.*
- *PS_HOME/*appserv/PSADMIN.exe
- *PS_HOME/*bin/client/winx86/pscfg.exe (Configuration Manager)
- *PS_HOME/*bin/client/winx86/psdmt.exe (Data Mover)
- *PS_HOME/*bin/client/winx86/pside.exe (Application Designer)
- *PS_HOME/*scripts
- *PS_HOME/*setup/PsMpPIAInstall (PeopleSoft Pure Internet Architecture installer)
- *PS_HOME/*setup/PsMpDbInstall (Database installer)
- *PS_HOME/*setup/PsCA (Change Assistant installer)
- *PS_HOME/*setup/PsCIA (Change Impact Analyzer installer)
- *PS_HOME/*setup/PsMpWebAppDeployInstall (Web Application Deployment installer)
- *PS_APP_HOME* installed to the default location under the DPK base directory, *BASE_DIR/*pt/*<Product>*_app_home, where <Product> is the abbreviation for the PeopleSoft application; for example, hcm_app_home for PeopleSoft Human Capital Management.

  Note. The DPK setup requires a decoupled *PS_APP_HOME*; that is, the installation location of *PS_APP_HOME* is different from *PS_HOME.*

  The *PS_APP_HOME* directory includes files for the specific PeopleSoft application, including files needed for database creation.

  If you answered yes when asked whether you wanted multi-language support during the DPK setup script process, the files required for translations are installed under *BASE_DIR/*pt/*<Product>*_app_home.
- Oracle Tuxedo software in the standard location, *BASE_DIR/*pt/bea/tuxedo
- Oracle Tuxedo services on Microsoft Windows:

  ORACLE ProcMGR VS12.2.2.0.0_VS2015 and Tlisten VS12.2.2.0.0_VS2015
- Oracle WebLogic software in the standard location, *BASE_DIR/*pt/bea/wlserver
- Oracle database client software in the standard location, *BASE_DIR/*pt/oracle-client
- Java software in the standard location, *BASE_DIR/*pt/jdk_1.8.0_*xx.*

- *BASE_DIR/*dpk

  The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment. Do not alter the installed Puppet YAML files.

  See Completing the DPK Initialization with Customizations for information on creating a YAML file to customize the environment.
- *BASE_DIR/*db
  - *BASE_DIR/*db/oracle-server

    This directory includes the Oracle RDBMS database server and client connectivity software, including the SQL*Plus program.
  - *BASE_DIR/*db/oradata

    This directory includes the Oracle database files and tables for the PeopleSoft application. The deployment creates a pre-configured Oracle container database (CDB) and pluggable database (PDB).

- *PS_CFG_HOME*
  - The full-tier deployment creates a single Application Server, Process Scheduler, and PIA domain. The *PS_CFG_HOME* directory includes the Application Server and Process Scheduler server configuration files, as well as the web server (PIA) installation.
  - On Linux, *PS_CFG_HOME* is installed in /home/psadm2/psft/pt/*<peopletools_major_version>*.
  - On Microsoft Windows, *PS_CFG_HOME* is installed in C:\%USERPROFILE%\ psft\pt\ *<peopletools_major_version>*.
- Users

  On Linux, the DPK setup script creates four default users, psadm1, psadm2, psadm3, and oracle2.
- Services

  On Microsoft Windows, the DPK setup script creates services for starting the PeopleSoft domains, as well as the Oracle Tuxedo services.

See Also

"Completing the Installation," Using the PeopleSoft Installation

Task 3-6: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology,* "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLEANLNG removes any orphaned related language objects that do not have a matching base language object.

1. Run the following SQL statement using the appropriate SQL query tool for your RDBMS.

   For <Log Path>, specify the path where you want the log for the application engine program in step 2 to be generated, such as c:\temp\.

   ```
   UPDATE PS_PTIASPDMPARAM SET PTIASPPROPVAL ='<Log Path>' WHERE
   PTIASPPROPNM='DMLOGPATH';
   ```

2. Run the PTIACLEANLNG application engine program.

   From the command line utility, the syntax is::

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

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

Task 3-7: Completing Installation Tasks

After completing the installation process, be sure to go to the chapter "Completing the Installation." This chapter includes information on accessing the PeopleSoft environment, as well as post-installation steps.

It is important that you perform the tasks in the section Completing Post-Installation Steps that apply to your environment.

Chapter 4

Completing the DPK Initialization with Customizations

This chapter discusses:

- Understanding PeopleSoft Environment Customizations
- Preparing Customization Files for Linux, AIX, or Solaris Users and Groups
- Preparing the Customization File for PeopleSoft Domain Definitions
- Preparing the Customization File to Create PeopleSoft Domains Without Configuration
- Preparing the Customization File for JDK on AIX
- Preparing the Customization File for Component Software Locations
- Preparing the Customization File for Unicode
- Preparing the Customization File for the PeopleSoft Homes
- Preparing the Customization File to Exclude Oracle Database Client Installation
- Preparing the Customization File for Jolt SSL and WSL SSL Ports
- Completing the Customized Deployment

Understanding PeopleSoft Environment Customizations

The PeopleSoft DPK setup script allows setup of a PeopleSoft environment quickly using the default data from the packaged Hiera YAML files. This section gives a few examples of ways to use the YAML files for customization, but is not meant to be an exhaustive list of the possible customizations.

Always use the documented procedures to make changes to your environment. Doing so will allow you to retain your customizations when removing a deployment before deploying a new patch or version.

Use these guidelines when customizing your environment:

- Do not change any of the original delivered YAML files.

  This practice enables you to retain your customizations after deploying a new patch or update.

  When you deploy the PeopleSoft DPKs, the YAML files associated with the deployment are installed in the following location:

  - *BASE_DIR/*dpk/puppet/production/data/defaults.yaml
  - *BASE_DIR/*dpk/puppet/production/data/psft_configuration.yaml
  - *BASE_DIR/*dpk/puppet/production/data/psft_deployment.yaml
  - *BASE_DIR/*dpk/puppet/production/data/psft_unix_system.yaml
- Start with the DPK setup script and choose not to continue with the default initialization.

Answer *no* at the prompt "Do you want to continue with the default initialization process? [y|n]:" to exit the script and bypass the default initialization process.

To set up a customized PeopleSoft environment, the DPK setup script can still be used to automate the tasks of extracting the DPK zip files, installing Puppet (if not installed), and copying the Puppet modules and Hiera data YAML files from the DPK into the location where Puppet looks for these files during the orchestration process.

- Always use the customizations for these setups:
  - Installing on an AIX operating system
  - Connecting to a non-Oracle RDBMS platform.
- Always create a psft_customizations.yaml file to use for modified parameters.

  Never modify the delivered YAML files. Instead, copying the parameters that you want to modify into the psft_customizations.yaml file gives you the option to save the customization.
- Verify the content of the delivered YAML files with each release.

  The YAML files may have changed since this document was published. It is important that you copy the appropriate section of code from the YAML files you install with each new deployment, and use it as the basis for your psft_customizations.yaml file.
- Do not create new parameters for psft_customizations.yaml.

  The deployment recognizes only those parameters in the delivered YAML files or given in the product documentation.
- Use a single psft_customizations.yaml file.

  You can copy sections from more than one of the delivered YAML files and include them in a single psft_customizations.yaml file.
- Include the `remove: false` attribute to retain your customizations through the clean up process.

  To ensure that your customizations are not removed when removing a deployed environment:
  - For each segment of customization parameters in the psft_customizations.yaml file, include the `remove: false` attribute at the end of the segment.
  - If you remove the environment using the `puppet apply` command, set the `ensure` attribute to *absent* in default.yaml.

    If you remove the environment using the `--cleanup` option for the PeopleSoft DPK setup script, you do not need to set the attribute first because it is part of the script process.
  - Remove the environment using the `--cleanup` option for the PeopleSoft DPK setup script, as described in this documentation.

    See "Installing the PeopleSoft Homes," Removing a Deployed PeopleSoft Environment.
- Copy an entire section containing the parameter to be modified, and be sure to retain the indentation from the delivered YAML file.

  The hierarchy and alignment of the YAML files are very important to the correct operation. In addition to the brief overview given here, review the information in the appendix "Using the Puppet Hiera YAML Files for Customization."
  - The YAML files include scalar type and collection type parameters.

    Scalar parameters are of the form `key: value`; for example:

    ```
    db_platform: ORACLE
    ```

    Collection type parameters include a parameter name followed by one or more indented lists of `key:value` pairs. In this case, the value of the collection parameter is defined by the indented list of

values; for example:

```
ps_home:
  db_type:    "%{hiera('db_platform')}"
  unicode_db: "%{hiera('unicode_db')}"
  location:   "%{hiera('ps_home_location')}"
```

- When you locate a parameter that you want to modify, be sure to locate the section heading that begins at the first column of the YAML file. This ensures that the deployment operation modifies the correct parameter.
- Be sure to retain the indentation from the delivered YAML file.

  Typically there is an indentation of 2 or 3 spaces for each successive subsection. This is necessary in order for the parameters to be correctly interpreted.

  Note. Be sure when copying and pasting that you retain the indentation. Depending upon the authoring or editing tools you use, the desired indentation may be lost when you copy and paste. It is a good idea to double-check the final psft_customizations.yaml file, especially for the special cases where you copy a sample from this documentation.

- When copying and modifying collection type parameters, use only spaces, not tabs, to indent the subsections.

- Use the encrypted passwords from the generated YAML files.

  The DPK setup script encrypts user-supplied passwords and includes them in the generated YAML files. If you copy a section of a YAML file with encrypted passwords, do not replace or remove the encrypted text.

  The encrypted passwords are quite long. Be sure to copy the entire string, without adding spaces, tabs, or line feeds.

  Note. For the majority of the customizations described in this documentation, you copy the encrypted passwords from the generated YAML files. If that is not possible, see the appendix "Encrypting Passwords for Customizations on Linux, AIX, or Solaris."

- Replace the entire attribute string.

  The parameters in the delivered YAML files are written with Hiera interpolation functions that act as variables. To modify each parameter, you must replace the entire string after the colon, and enclose your new value in double quotes. For example, in the psft_deployment.yaml file, the location for an Oracle WebLogic installation is given by the following parameters

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

  The second Hiera function refers to the first. When `pt_location` is set as C:/psft, Oracle WebLogic will be installed in C:/psft/bea. To change this, remove both strings of text `"%{hiera('pt_location')}/bea"` and `"%{hiera('weblogic_location')}"`, and replace them with the full path to the new location. Retain the two-space indentation, and use a forward slash (/) for paths on Microsoft Windows, Linux; AIX, or Solaris; for example:

  On Microsoft Windows:

```
weblogic_location:  "C:/psft/weblogic"
weblogic:
  location: "C:/psft/weblogic"
```

  On Linux, AIX, or Solaris:

```
weblogic_location:  "/opt/bea/weblogic"
weblogic:
  location: "/opt/bea/weblogic"
```

- Do not use the customizations to set up a non-Unicode environment if you are deploying the PeopleSoft Update Image DPKs for use with PeopleSoft Update Manager.

  The environments for the PeopleSoft Update Images are required to be Unicode.

- Verify existing installations before beginning deployment.

  You have the option to use existing installations, for example for Oracle WebLogic, but you have the responsibility to ensure that the installation is supported, complete, and correct. The deployment script does not verify whether an installation directory includes a valid, working installation.

- Set the Puppet environment if necessary.

  The last step in the examples given in this chapter is to run the `puppet apply` command. If you receive a message saying that the term "puppet" is not recognized when running this command, it probably means that the Puppet software is not included in your system's path. You should also set the Puppet environment if you need to run `puppet apply` after the script execution has ended with an error.

  - On Microsoft Windows, to set the Puppet environment, run this command:

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

  - On Linux, specify the following environment variables before running the `puppet apply` command:

    ```
    export PUPPET_DIR=/opt/puppetlabs
    export PUPPET_BIN=${PUPPET_DIR}/bin
    export PUPPET_LIB=${PUPPET_DIR}/lib
    export PATH=${PUPPET_BIN}:$PATH
    export LD_LIBRARY_PATH=${PUPPET_LIB}:$LD_LIBRARY_PATH
    ```

  - On AIX, specify the following environment variables before running the `puppet apply` command:

    ```
    export PUPPET_DIR=/opt/oracle/puppetlabs
    export PUPPET_BIN=${PUPPET_DIR}/bin
    export PUPPET_LIB=${PUPPET_DIR}/lib
    export PATH=${PUPPET_BIN}:$PATH
    export LIBPATH=${PUPPET_LIB}:$LIBPATH
    ```

  - On AIX or Solaris operating systems, instead of using the export commands above, you can use the pspuppet.sh script to set the Puppet environment.

    Use this method if the DPK setup script is interrupted, either intentionally to apply customizations, or by an error, and you need to proceed by running `puppet apply`. The script will set the Puppet PATH and LIBRARY environment variables. The pspuppet.sh script is installed by the DPK setup script in /opt/oracle/puppetlabs. Source the script by entering the following command:

    ```
    . /opt/oracle/puppetlabs/pspuppet.sh
    ```

    The dot, or period (".") at the beginning of the command is a source operator that ensures that the script commands persist in the shell environment that you are deploying from. After sourcing the script, continue with the deployment by running the `puppet apply` command.

- See the Puppet Labs documentation if you want to save the log files.

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

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

Task 4-1: Preparing Customization Files for Linux, AIX, or Solaris Users and Groups

This section discusses:

- Preparing the Customization File for a Single User and Single Group
- Preparing the Customization File for a New Single User, New Primary Group, and Existing Secondary Group
- Preparing the Customization File for Existing Users and Groups

Note. If you want to set up your environment to use existing LDAP or existing users and groups on Linux, AIX, or Solaris, you must meet these requirements: 1) The user home directory should have read/write/execute permission for the root user. 2) The user default shell should be bash.

Note. To use an encrypted password with one of the customization files in this section, note that the successful use of the encrypted password depends on the presence of the public and private keys in the *BASE_DIR/* dpk/puppet directory referred to in the eyaml encrypt command. You cannot save an encrypted password and use it with an installation with a different *BASE_DIR*.

Task 4-1-1: Preparing the Customization File for a Single User and Single Group

This user customization applies to Linux, AIX, and Solaris OS platforms only. If you choose the default initialization when running the DPK setup script, the Puppet framework creates local users and default groups, which are contained in the generated psft_unix_system.yaml file. Use the sample customization file in this section if you do not want to use the default users and groups, and instead want to set up your environment with a different single user and single group for the whole PeopleSoft environment. This user customization applies to the following scenarios:

- New single user + new single group
- New single user + existing single group
- Existing single user + new single group
- Existing single user + existing single group

This customization will create a single user and single group. You must specify values for two parameters that are not included in the generated psft_unix_system.yaml file, `psft_user` and `psft_group`.

- `groups/psft_group`
  - Use the groups/psft_group collection parameter only if you want to create a group for a single user. The DPK process will create the group. If there is an existing group with the same name, the script will skip it.
  - Specify the same value for groups/psft_group/name and for users/psft_user/gid.

    Use a group name (string), not a GID (number), for both the name in the group collection parameter, and the gid in the users collection parameter.
  - Note that you must use the parameters exactly as given in this documentation. If you try to create a different parameter name or alter the parameter, the DPK process will not recognize it.
- `users/psft_user`
  - Use the users/psft_user collection parameter to create a new user and add that user to the group specified by groups/psft_group.

  - This group is the primary group for the new user.
  - Specify the same value for users/psft_user/name and for the scalar parameter psft_runtime_user_name.
- `users/psft_user/home_dir`

  When you run the DPK setup script, it includes a prompt for the users' home directory. That value is included in the generated psft_unix_system.yaml file. You can accept that same value in this customization file for users/psft_user/home_dir, or you can change it here. If you change it, the DPK process will create the new home directory.

To prepare the customization file:

1. Create a psft_customizations.yaml using a standard editing tool such as vi, and save it in the same location as the psft_unix_system.yaml file.

   By default, the DPK setup script installs the YAML files in *BASE_DIR/*dpk/puppet/production/data.
2. Use the sample below in creating the psft_customizations.yaml file, and modify the values as needed.

   Note. Be sure that your final psft_customizations.yaml file includes the indentation shown here. The indentation may be lost if you copy from this documentation and paste into the file.

   In this example, the new single user *newusr* will be created and assigned to the primary group *newgrp*.

```
---
groups:
  psft_group:
    name: newgrp
    remove: false

psft_runtime_user_name: newusr

users:
  psft_user:
    name: newusr
    gid: newgrp
    home_dir: /dpk_base/home/userhome
    password: ENC[PKCS7,MIIBeQYJKoZIhvcNA...........]
    remove: false
```

   - Ensure that the file begins with three dashes (`---`).
   - Replace the password sample above with an encrypted password.

     Enter the encrypted password on a single line. Do not include spaces or line feeds. See the instructions later in this documentation to generate the encrypted password.

     See "Encrypting Passwords for Customizations on Linux, AIX, or Solaris."
3. Save the file.

Task 4-1-2: Preparing the Customization File for a New Single User, New Primary Group, and Existing Secondary Group

This user customization applies to Linux, AIX, and Solaris OS platforms only. If you choose the default initialization when running the DPK setup script, the Puppet framework creates local users and default groups, which are contained in the generated psft_unix_system.yaml file. Use the sample customization file in this section if you do not want to use the default users and groups, and instead want to set up your environment with a new single user assigned to two groups.

This customization will create a new single user and a new group, the primary group. The new user is also assigned to an existing, secondary group. You must specify values for two parameters that are not included in the generated psft_unix_system.yaml file, `psft_user` and `psft_group`.

- `groups/psft_group`
  - Use the groups/psft_group collection parameter only if you want to create a new group for a single user. The DPK process will create the group. If there is an existing group with the same name, the script will try to overwrite it.
  - Specify the same value for groups/psft_group/name and for users/psft_user/gid.

    Use a group name (string), not a GID (number), for both the name in the group collection parameter, and the gid in the users collection parameter.
  - Note that you must use the parameters exactly as given in this documentation. If you try to create a different parameter name or alter the parameter, the DPK process will not recognize it.
- `users/psft_user`
  - Use the users/psft_user collection parameter to create a new user and add that user to the new group specified by groups/psft_group/name.
  - Specify the same value for users/psft_user/name and for the scalar parameter psft_runtime_user_name.
  - The new group specified by users/psft_user/gid and groups/psft_group/name is the primary group for the new user.
  - The existing group specified by users/psft_user/groups is the secondary group for the new user.
- `users/psft_user/home_dir`

  When you run the DPK setup script, it includes a prompt for the users' home directory. That value is included in the generated psft_unix_system.yaml file. You can accept that same value in this customization file for users/psft_user/home_dir, or you can change it here. If you change it, the DPK process will create the new home directory.

To prepare the customization file:

1. Create a psft_customizations.yaml using a standard editing tool such as vi, and save it in the same location as the psft_unix_system.yaml file.

   By default, the DPK setup script installs the YAML files in *BASE_DIR/*dpk/puppet/production/data.
2. Use the sample below in creating the psft_customizations.yaml file, and modify the values as needed.

   Note. Be sure that your final psft_customizations.yaml file includes the indentation shown here. The indentation may be lost if you copy from this documentation and paste into the file.

   In this example, the new single user *newusr2* will be created and assigned to the newly created primary group *primgrp* and the existing secondary group *secgrp*.

```
---
groups:
  psft_group:
    name: primgrp
    remove: false

psft_runtime_user_name: newusr2

users:
  psft_user:
    name: newusr2
```

```
gid: primgrp
groups: secgrp
home_dir: /dpk_base/home/userhome
password: ENC[PKCS7,MIIBeQYJKoZIhvcNA...........]
remove: false
```

- Ensure that the file begins with three dashes (`---`).
- Replace the password sample above with an encrypted password.

  Enter the encrypted password on a single line. Do not include spaces or line feeds. See the instructions later in this documentation to generate the encrypted password.

  See "Encrypting Passwords for Customizations on Linux, AIX, or Solaris."

3. Save the file.

Task 4-1-3: Preparing the Customization File for Existing Users and Groups

This user customization applies to Linux, AIX, and Solaris OS platforms only. If you choose the default initialization, the Puppet framework creates default local users and groups. However, your security policies may prohibit creating these OS users. In such a scenario, you can override these default users using the customizations file. The customizations file can refer to one or more existing users or existing groups and Puppet will use them instead of the delivered users.

Ensure you fulfill these requirements:

- The users, groups, and GIDs that you specify in the psft_customizations.yaml file are present before you begin the installation.
- Do not use the same name for the four group parameters. Ensure that the names that you specify for these parameters in psft_cutomizations.yaml are different.
  - psft_runtime_group_name
  - psft_app_install_group_name
  - oracle_install_group_name
  - oracle_runtime_group_name
- The customizations file does not specify new passwords, because it is assumed that the passwords associated with the existing users will be used.
- When you run the DPK setup script, you must specify a user home directory in which the existing user resides.

1. Locate the psft_unix_system.yaml file, which includes default users and groups.

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

   ---

2. If necessary, create a psft_customizations.yaml using a standard editing tool such as vi, and save it in the same location as the psft_unix_system.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the entire section for the users and groups from the psft_unix_system.yaml file into the psft_customizations.yaml file and modify the values as needed.

Note. Be sure that your final psft_customizations.yaml file includes the indentation from the generated YAML file. The indentation may be lost when you copy and paste.

For example:

```
---
psft_install_user_name:     psadmx5
psft_runtime_user_name:     psadmx6
psft_app_install_user_name: psadmx7
oracle_user_name:           oraclex3

psft_runtime_group_name:     psftrungrp
psft_app_install_group_name: psftappgrp
oracle_install_group_name:   orainstgrp
oracle_runtime_group_name:   orarungrp

user_home_dir:   /data1/home
users:
  tools_install_user:
    name:     "%{hiera('psft_install_user_name')}"
    gid:      orainstgrp
    groups:   "%{hiera('psft_runtime_group_name')}"
    home_dir: "%{hiera('user_home_dir')}/%{hiera('psft_install_user_⇒
name')}"

  psft_runtime_user:
    name:     "%{hiera('psft_runtime_user_name')}"
    gid:      orainstgrp
    home_dir: "%{hiera('user_home_dir')}/%{hiera('psft_runtime_user_⇒
name')}"

  app_install_user:
    name:     "%{hiera('psft_app_install_user_name')}"
    gid:      psftappgrp
    home_dir: "%{hiera('user_home_dir')}/%{hiera('psft_app_install_user_⇒
name')}"

  oracle_user:
    name:     "%{hiera('oracle_user_name')}"
    gid:      orainstgrp
    home_dir: "%{hiera('user_home_dir')}/%{hiera('oracle_user_name')}"

  es_user:
    name:     esuserx3
    gid:      users
    home_dir: /data1/home/esuserx3
```

- The four default users psadm1, psadm2, psadm3, and oracle2 have been replaced by psadmx5, psadmx6, psadmx7, and oraclex3, respectively.
- The default psft_runtime_group_name has been replaced by psftrungrp. This group is the primary group for the psft_runtime_user.
- The default psft_app_install_group_name has been replaced by psftappgrp. This group is the primary

group for the app_install_user.

- The tools_install_user must belong to the psft runtime group as a secondary group. To satisfy this requirement, the value for users/tools_install_user/groups is set to the interpolation function "%{hiera('psft_runtime_group_name')}".
- The oracle_install_group_name has been replaced by orarungrp. This group is the primary group for the oracle_user.

4. Save the file.

Task 4-2: Preparing the Customization File for PeopleSoft Domain Definitions

This section discusses:

- Preparing the psft_customizations.yaml file
- Reviewing the Domain Definitions in psft_configuration.yaml
- Reviewing the Customization File for a Single Application Server Domain
- Reviewing the Customization File for an Application Server Domain with Custom PS_CFG_HOME
- Reviewing the Customization File for a PIA Domain on a Separate Host
- Reviewing the Customization File for Multiple Domains

Task 4-2-1: Preparing the psft_customizations.yaml file

Use this information if you want to customize the PeopleSoft domains — the application server, Process Scheduler, and PIA domains. For example, you may want to create multiple Application Server domains rather than a single domain.

1. Locate the psft_configuration.yaml file, which was installed by the deployment, in *BASE_DIR/*dpk/puppet/production/data.

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_configuration.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the sections that you want to customize from the psft_configuration.yaml file into the psft_customizations.yaml file and modify the values as needed.

   The following sections include sample psft_customizations.yaml files.

4. Save the file.

Task 4-2-2: Reviewing the Domain Definitions in psft_configuration.yaml

To customize the PeopleSoft domains, you begin with the psft_configuration.yaml file, which lists the attributes pertinent to the PeopleSoft domains.

Note. The psft_configuration.yaml file includes definitions for Automated Configuration Manager (ACM) plug-ins, which configure components such as Integration Broker and Report Distribution. Depending upon the PeopleSoft domain being set up, certain ACM configurations will run as part of the deployment.

This sample shows a portion of a psft_configuration.yaml file, with annotations added (marked by ###) for the purposes of this explanation. The default application server name, APPDOM, is defined in the first portion of the file for the parameter `appserver_domain_name`, which is then referenced with an interpolation token `"%{hiera('appserver_domain_name')}"` in the `appserver_domain_list section`.

The DPK setup script encrypts user-supplied passwords and includes them in the generated YAML files. The encrypted text will be a long single line of letters and numbers. Be sure to copy the text in one unbroken line, with no spaces or line feeds. This sample includes short strings of text beginning with "ENC" to represent encrypted passwords.

```
---
db_name:           FS85606C
db_user:           VP1

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
db_user_pwd:       ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]


db_connect_id:     people

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
db_connect_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

domain_user:           "%{hiera('psft_runtime_user_name')}"
ps_config_home:        "C:/Users/%{::env_username}/psft/pt/8.56"
appserver_template:    small
appserver_domain_name: APPDOM
prcs_domain_name:      PRCSDOM
prcs_domain_id:        "PRCS%{::rand}"
report_node_name:      "%{hiera('prcs_domain_id')}"
pia_domain_name:       peoplesoft
pia_site_name:         ps
pia_http_port:         8000
pia_https_port:        8443
jolt_port:             9033
wsl_port:              7000
db_port:               1521
gateway_node_name:     QE_LOCAL
pia_gateway_user:      administrator

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
```

```
pia_gateway_user_pwd:  ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]


webserver_type:        weblogic
pia_webprofile_name:   PROD
pia_psserver_list:     "%{::fqdn}:%{hiera('jolt_port')}"
report_repository_dir: "%{hiera('ps_config_home')}/psreports"


#################################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
#################################################################
domain_conn_pwd:       ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]



help_uri:              pt854pbh1
tns_dir:               "%{hiera('db_location')}"
tns_admin_list:
  "%{hiera('db_name')}":
    db_host:         "%{::fqdn}"
    db_port:         "%{hiera('db_port')}"
    db_protocol:     TCP
    db_service_name: "%{hiera('db_name')}"

db2_server_list:
  "%{hiera('db_name')}":
    db2_type:        "%{hiera('db_platform')}"
    db2_host:        "%{::fqdn}"
    db2_port:        "%{hiera('db_port')}"
    db2_node:        TCPLNX01
    db2_target_db:   "%{hiera('db_name')}"

mssql_server_list:
  "%{hiera('db_name')}":
    mss_server_name: "%{::fqdn}"
    mss_odbc_name:   "ODBC Driver 11 for SQL Server"

#####################################################################
# Copy the entire section beginning here for                        #
# application server customization.                                 #
#####################################################################

appserver_domain_list:
  "%{hiera('appserver_domain_name')}":
    os_user:         "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"
    template_type:   "%{hiera('appserver_template')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
```

```
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Domain ID:    "%{hiera('appserver_domain_name')}"
      PSAPPSRV/Min Instances:       2
      PSAPPSRV/Max Instances:       2
      PSAPPSRV/Max Fetch Size:      15000
      Security/DomainConnectionPwd: "%{hiera('domain_conn_pwd')}"
      JOLT Listener/Port:           "%{hiera('jolt_port')}"
      JOLT Listener/Address:        0.0.0.0
      Workstation Listener/Port:    "%{hiera('wsl_port')}"

    feature_settings:
      PUBSUB:        "Yes"
      QUICKSRV:      "No"
      QUERYSRV:      "No"
      JOLT:          "Yes"
      JRAD:          "No"
      WSL:           "Yes"
      DBGSRV:        "No"
      RENSRV:        "No"
      MCF:           "No"
      PPM:           "Yes"
      PSPPMSRV:      "Yes"
      ANALYTICSRV:   "No"
      SERVER_EVENTS: "Yes"
      DOMAIN_GW:     "No"
#####################################################################
# End application server section.                                   #
#####################################################################

#####################################################################
# Copy the entire section beginning here for                        #
# Process Scheduler customization                                   #
#####################################################################

prcs_domain_list:
  "%{hiera('prcs_domain_name')}":
    os_user:         "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
```

```
      Process Scheduler/PrcsServerName: "%{hiera('prcs_domain_id')}"
      Security/DomainConnectionPwd:     "%{hiera('domain_conn_pwd')}"

    feature_settings:
      MSTRSRV:      "Yes"
      APPENG:       "Yes"
#################################################################
# End Process Scheduler section.                                #
#################################################################

#################################################################
# Copy the entire section beginning here for PIA customization.    #
#################################################################
pia_domain_list:
  "%{hiera('pia_domain_name')}":
    os_user:                "%{hiera('domain_user')}"
    ps_cfg_home_dir:        "%{hiera('ps_config_home')}"
    gateway_user:           "%{hiera('pia_gateway_user')}"
    gateway_user_pwd:       "%{hiera('pia_gateway_user_pwd')}"
    auth_token_domain:      ".%{::domain}"

    webserver_settings:
      webserver_type:           "%{hiera('webserver_type')}"
      webserver_home:           "%{hiera('weblogic_location')}"
      webserver_admin_user:     system

#############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
#############################################################
      webserver_admin_user_pwd:  ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

      webserver_admin_port:     "%{hiera('pia_http_port')}"
      webserver_http_port:      "%{hiera('pia_http_port')}"
      webserver_https_port:     "%{hiera('pia_https_port')}"

    site_list:
      "%{hiera('pia_site_name')}":
        appserver_connections: "%{hiera('pia_psserver_list')}"
        domain_conn_pwd:       "%{hiera('domain_conn_pwd')}"

        webprofile_settings:
          profile_name:        "%{hiera('pia_webprofile_name')}"
          profile_user:        PTWEBSERVER

#############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
#############################################################
          profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]
```

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

ohs_domain:
    name:                       ohsdom

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

Task 4-2-3: Reviewing the Customization File for a Single Application Server Domain

This sample shows a psft_customizations.yaml file for a single application server domain with the domain name APPDOM1. Note that the indentation in the original psft_configuration.yaml file must be maintained when creating a psft_customizations.yaml file.

Note. Do not modify the `ps_cfg_home_dir` parameter. If you want to customize the *PS_CFG_HOME* location, see the next section.

```
---
appserver_domain_list:

### Custom domain name ###
  "APPDOM1":
    os_user:         "%{hiera('domain_user')}"
    template_type:   "%{hiera('appserver_template')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Domain ID:    IBUPG0
      PSAPPSRV/Min Instances:       3
      PSAPPSRV/Max Instances:       5
      JOLT Listener/Port:           "%{hiera('jolt_port')}"
      Workstation Listener/Port:    "%{hiera('wsl_port')}"

    feature_settings:
      PUBSUB:        "Yes"
      QUICKSRV:      "No"
      QUERYSRV:      "No"
      JOLT:          "Yes"
      JRAD:          "No"
```

```
      WSL:            "Yes"
      DBGSRV:         "No"
      RENSRV:         "No"
      MCF:            "No"
      PPM:            "Yes"
      PSPPMSRV:       "Yes"
      ANALYTICSRV:    "No"
      SERVER_EVENTS:  "Yes"
      DOMAIN_GW:      "No"
```

Task 4-2-4: Reviewing the Customization File for an Application Server Domain with Custom PS_CFG_HOME

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

```
---
### Custom PS_CFG_HOME location ###
ps_config_home:       C:/user/psft_config/8.56
appserver_domain_list:
### Custom domain name ###
  "APPDOM2":
    os_user:          "%{hiera('domain_user')}"
    template_type:    "%{hiera('appserver_template')}"

### Custom PS_CFG_HOME location ###
    ps_cfg_home_dir:  C:/user/psft_config/8.56

    db_settings:
      db_name:         "%{hiera('db_name')}"
      db_type:         "%{hiera('db_platform')}"
      db_opr_id:       "%{hiera('db_user')}"
      db_opr_pwd:      "%{hiera('db_user_pwd')}"
      db_connect_id:   "%{hiera('db_connect_id')}"
      db_connect_pwd:  "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Domain ID:    IBUPG0
      PSAPPSRV/Min Instances:       3
      PSAPPSRV/Max Instances:       5
      JOLT Listener/Port:           "%{hiera('jolt_port')}"
      Workstation Listener/Port:    "%{hiera('wsl_port')}"

    feature_settings:
      PUBSUB:         "Yes"
      QUICKSRV:       "No"
      QUERYSRV:       "No"
      JOLT:           "Yes"
      JRAD:           "No"
      WSL:            "Yes"
      DBGSRV:         "No"
      RENSRV:         "No"
```

```
      MCF:           "No"
      PPM:           "Yes"
      PSPPMSRV:      "Yes"
      ANALYTICSRV:   "No"
      SERVER_EVENTS: "Yes"
      DOMAIN_GW:     "No"
```

Task 4-2-5: Reviewing the Customization File for a PIA Domain on a Separate Host

If you want to set up an environment in which the PIA domain and web server are not on the same machine as the application server domain, you must use customizations to specify the machine where the application server is installed. This customization is required for the Integration Broker configuration.

The generated psft_configuration.yaml includes the following parameter, which sets the host for Integration Broker to the PIA host, which by default is the machine where the DPK setup script is run:

```
env.ib_appserver_host:            "%{hiera('pia_host_name')}"
```

If you use the DPK setup script to set up a PIA domain only, and the PIA domain is not on the same machine as your application server domain, the value for the `env.ib_appserver_host` parameter must be set to application server machine name.

See "Deploying the PeopleSoft PeopleTools Deployment Packages," Running the DPK Setup Script to Deploy a PIA Domain.

Copy the entire `component_postboot_setup_list` collection section from psft_configuration.yaml and paste it into psft_customizations.yaml. Change the value for `env.ib_appserver_host` to point to the host where the application server is set up, for example `ps_app_server1`.

This sample shows a sample psft_customizations.yaml file, with annotations added (marked by ###) for the purposes of this explanation.

```
---
component_postboot_setup_list:
  integration_broker:
    run_control_id:                        intbroker
    os_user:                               "%{hiera('domain_user')}"

    db_settings:
      db_name:                             "%{hiera('db_name')}"
      db_type:                             "%{hiera('db_platform')}"
      db_opr_id:                           "%{hiera('db_user')}"
      db_opr_pwd:                          "%{hiera('db_user_pwd')}"
      db_connect_id:                       "%{hiera('db_connect_id')}"
      db_connect_pwd:                      "%{hiera('db_connect_pwd')}"

    acm_plugin_list:
      PTIBActivateDomain:
        domain.activate_retry_count:       10
        domain.activate_wait_time:         10

      PTIBConfigureGatewayNodes:
        env.gateway_host:                  "%{hiera('pia_host_name')}"
        env.gateway_port:                  "%{hiera('pia_http_port')}"
```

```
        env.gateway_ssl_port:             "%{hiera('pia_https_port')}"
        env.use_ssl_gateway:              false
        env.default_local_node:           "%{hiera('gateway_node_name')}"
        env.gateway_user:                 "%{hiera('pia_gateway_user')}"
        env.gateway_password:             "%{hiera('pia_gateway_user_⇒
pwd')}"

###Custom application server name ###
        env.ib_appserver_host:            ps_app_server1
        env.ib_jolt_port:                 "%{hiera('jolt_port')}"
        env.ib_node_proxy_userid:         "%{hiera('db_user')}"
        env.ib_node_proxy_password:       "%{hiera('db_user_pwd')}"
        env.tools_release:                "%ToolsRelease"
        env.ib_appserver_domain_password: "%{hiera('domain_conn_pwd')}"
        env.ib_set_as_default_node:       true

      PTIBConfigureGatewayProperties:
        env.gateway_keystore_password:    password

      PTWebServerConfigUpdate:
        env.domainname:                   "%{hiera('pia_domain_name')}"
        env.sitename:                     "%{hiera('pia_site_name')}"
        env.piahome:                      "%{hiera('ps_config_home')}"
        env.psserver:                     ""
        env.KeyStorePwd:                  ""

    acm_plugin_order:
      - PTIBActivateDomain
      - PTIBConfigureGatewayNodes
      - PTIBConfigureGatewayProperties
      - PTWebServerConfigUpdate
```

Task 4-2-6: Reviewing the Customization File for Multiple Domains

For multiple domains, duplicate the entire domain section, again maintaining the indentation from the original psft_configuration.yaml file. This sample shows a psft_customizations.yaml file for two application server domains, two PIA domains, and two Process Scheduler domains, with annotations added (marked by ### characters) for the purposes of this explanation.

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

- (A) For more than one application server, include the `pia_psserver_list` entry at the top of the psft_customizations.yaml definitions. List the application server domains that are used by the PIA domains, using the format *<application_server_host>:<Jolt port>*. Separate the entries with a comma.
- (B) Copy the entire section for the domains that you want to customize.
- (C) Specify unique names for each domain.
- (D) Specify unique ports for each domain.
- (E) If specifying more than one application server domain, you must configure the REN server to use a unique port by setting the attribute `PSRENSRV/default_http_port` to a value other than the default, 7180 in the psft_customizations.yaml.

Note. The REN server setting is also a requirement for a traditional PeopleSoft installation when setting up more than one application server on a single machine.

- (F) If specifying more than one Process Scheduler domain, you must specify unique Process Scheduler server names.

  In this sample, the first Process Scheduler server uses the default value, which is defined as an interpolation token. The second Process Scheduler server has a different name, `PRCS222`.

  (G) In addition, the Master Scheduler Server should be enabled for the first Process Scheduler domain (`MSTRSRV: "Yes"`), and disabled for subsequent Process Scheduler domains (`MSTRSRV: "No"`).

  See *PeopleTools: Process Scheduler*, "Understanding PeopleSoft Master Scheduler Server."

- (H) If specifying more than one PIA domain, you must specify different site names for each.

  In this sample, the first PIA site name uses the default value, which is defined as an interpolation token. The second PIA site name has a different name, `ps222`.

```
---
pia_psserver_list:   "hostname.example.com:9033,hostname.example.com:9043"
### (A) ###

appserver_domain_list:
  "APPDOM111":                                                  ###(B), (C)###
    os_user:         "%{hiera('domain_user')}"
    template_type:   "%{hiera('appserver_template')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Domain ID:    IBUPG0
      PSAPPSRV/Min Instances:       3
      PSAPPSRV/Max Instances:       5
      JOLT Listener/Port:           9033                        ###(D)###
      Workstation Listener/Port:    7000                        ###(D ###

    feature_settings:
      PUBSUB:        "Yes"
      QUICKSRV:      "No"
      QUERYSRV:      "No"
      JOLT:          "Yes"
      JRAD:          "No"
      WSL:           "Yes"
      DBGSRV:        "No"
      RENSRV:        "No"
      MCF:           "No"
      PPM:           "Yes"
      PSPPMSRV:      "Yes"
```

```
      ANALYTICSRV:   "No"
      SERVER_EVENTS: "Yes"
      DOMAIN_GW:     "No"

  "APPDOM222":                                                  ###(B), (C)###
    os_user:         "%{hiera('domain_user')}"
    template_type:   "%{hiera('appserver_template')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Domain ID:    IBUPG0
      PSAPPSRV/Min Instances:       3
      PSAPPSRV/Max Instances:       5
      JOLT Listener/Port:           9043                        ###(D)###
      Workstation Listener/Port:    7001                        ###(D)###
      PSRENSRV/default_http_port:   7191                        ###(E)###

    feature_settings:
      PUBSUB:        "Yes"
      QUICKSRV:      "No"
      QUERYSRV:      "No"
      JOLT:          "Yes"
      JRAD:          "No"
      WSL:           "Yes"
      DBGSRV:        "No"
      RENSRV:        "No"
      MCF:           "No"
      PPM:           "Yes"
      PSPPMSRV:      "Yes"
      ANALYTICSRV:   "No"
      SERVER_EVENTS: "Yes"
      DOMAIN_GW:     "No"


pia_domain_list:
  "PIADOM111":                                                  ###(B), (C)###
    os_user:               "%{hiera('domain_user')}"
    ps_cfg_home_dir:       "%{hiera('ps_config_home')}"
    gateway_user:          "%{hiera('pia_gateway_user')}"
    gateway_user_pwd:      "%{hiera('pia_gateway_user_pwd')}"
    auth_token_domain:     ".%{::domain}"

    webserver_settings:
      webserver_type:           "%{hiera('webserver_type')}"
      webserver_home:           "%{hiera('weblogic_location')}"
```

```
      webserver_admin_user:     system

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
      webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

      webserver_admin_port:     8000                           ###(D)###
      webserver_http_port:      8000                           ###(D)###
      webserver_https_port:     8443                           ###(D)###

    site_list:
      "%{hiera('pia_site_name')}":                             ###(H)###
        appserver_connections: "%{hiera('pia_psserver_list')}"
        domain_conn_pwd:       "%{hiera('domain_conn_pwd')}"

        webprofile_settings:
          profile_name:        "%{hiera('pia_webprofile_name')}"
          profile_user:        PTWEBSERVER

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
          profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

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

  "PIADOM222":                                             ###(B), (C)###
    os_user:               "%{hiera('domain_user')}"
    ps_cfg_home_dir:       "%{hiera('ps_config_home')}"
    gateway_user:          "%{hiera('pia_gateway_user')}"
    gateway_user_pwd:      "%{hiera('pia_gateway_user_pwd')}"
    auth_token_domain:     ".%{::domain}"

    webserver_settings:
      webserver_type:           "%{hiera('webserver_type')}"
      webserver_home:           "%{hiera('weblogic_location')}"
      webserver_admin_user:     system

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
      webserver_admin_user_pwd: ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]

      webserver_admin_port:     8002                           ###(D)###
      webserver_http_port:      8002                           ###(D)###
      webserver_https_port:     8445                           ###(D)###

    site_list:
      "ps222":                                                 ###(H)###
```

```
        appserver_connections: "%{hiera('pia_psserver_list')}"
        domain_conn_pwd:       "%{hiera('domain_conn_pwd')}"

        webprofile_settings:
          profile_name:        "%{hiera('pia_webprofile_name')}"
          profile_user:        PTWEBSERVER

##############################################################
# Replace this password sample with encrypted text from the  #
# generated psft_configuration.yaml file                     #
##############################################################
          profile_user_pwd:    ENC[xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx]


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


prcs_domain_list:
  "PRCSDOM111":
    os_user:         "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Process Scheduler/PrcsServerName: "%{hiera('prcs_domain_id')}" ###⇒
(F)###
      Security/DomainConnectionPwd:     "%{hiera('domain_conn_pwd')}"

    feature_settings:
      MSTRSRV:      "Yes"                                        ###(G)###
      APPENG:       "Yes"

  "PRCSDOM222":
    os_user:         "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Process Scheduler/PrcsServerName: PRCS222                   ###(F)###
```

```
    Security/DomainConnectionPwd:     "%{hiera('domain_conn_pwd')}"

  feature_settings:
    MSTRSRV:      "No"                                          ###(G)###
    APPENG:       "Yes"
```

Task 4-3: Preparing the Customization File to Create PeopleSoft Domains Without Configuration

The default DPK initialization includes pre-boot and post-boot processes that use Automated Configuration Manager (ACM) plug-ins to configure and start the PeopleSoft domains. The ACM configuration, for example, sets up Integration Broker and the report repository for the Process Scheduler.

Use this customization if you want to install the necessary software for the PeopleSoft Application Server, PIA, and Process Scheduler servers without configuring and running the domains. After you complete the DPK deployment with this customization, you can use the PSADMIN utility to set up and start the domains.

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

The generated psft_configuration.yaml file includes the parameters for the ACM plug-ins. However, note that the two parameters specified in this section for this customization are not included in the generated psft_configuration.yaml file.

To prepare the customization file:

1. Create a psft_customizations.yaml using a standard editing tool such as Notepad for Microsoft Windows or vi for Linux, AIX, or Solaris, and save it in the same location as the generated YAML files.

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

2. Use the sample below in creating the psft_customizations.yaml file, and modify the values as needed.

   Ensure that the file begins with three dashes (---), and add the two parameters shown here.

   ```
   ---
   run_preboot_config_setup: false
   run_postboot_config_setup: false
   ```

3. Save the file.

Task 4-4: Preparing the Customization File for JDK on AIX

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

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

   The installation location for JDK is defined in the psft_deployment.yaml file that is installed with the deployment.

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as vi, and save it in the same location as the psft_deployment.yaml file.

If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the `jdk_location` scalar parameter, and the entire `jdk` collection-type section from the psft_deployment.yaml file into the psft_customizations.yaml file. Be sure to set the locations to the same value. Do not indent `jdk_location` or `jdk`, as shown in this example:

   As previously mentioned, setting the optional attribute `remove: false` means that the parameters in this section will not be deleted when the deployed environment is removed.

```
---
jdk_location:    /home/java/ibm-java-ppc64-80
jdk:
  location:     /home/java/ibm-java-ppc64-80
  remove:        false
```

4. Save the file.

Task 4-5: Preparing the Customization File for Component Software Locations

Use the information in this section if you want to customize an installation location, for example to use an existing installation of Oracle Tuxedo or Oracle WebLogic.

Use this information to customize the installation location for the Oracle database client. For example, if you carried out a full-tier DPK deployment, the DPK setup script installed the Oracle database server software. You can specify that location instead of using the separate Oracle database client. Also, if you installed the Oracle database software separate from the DPK deployment, you can specify that installation location.

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

   The installation locations for Oracle Tuxedo, Oracle WebLogic, JDK, and Oracle database client are defined in the psft_deployment.yaml file that is installed with the deployment.

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_deployment.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Select one or more of the sections corresponding to the components that you want to customize, and copy them to the psft_customizations.yaml file.

   As previously mentioned, setting the optional attribute `remove: false` means that the parameters in this section will not be deleted when the deployed environment is removed.

   - For JDK, copy the `jdk_location` scalar parameter, and the entire `jdk` collection-type section from the psft_deployment.yaml file into the psft_customizations.yaml file. Be sure to set the locations to the same value. Do not indent `jdk_location` or `jdk`, as shown in this example:

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

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

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

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

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

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

```
---
oracle_client_location: <Oracle_Home>
oracle_client:
  location: <Oracle_Home>
```

  For example, to specify the location of pre-existing Oracle database server software:

```
---
oracle_client_location:  C:/oracle/product/12.1.2/dbhome_1
oracle_client:
  location:  C:/oracle/product/12.1.2/dbhome_1
```

- If you want to customize JDK, Oracle Tuxedo, and Oracle WebLogic, add all three entries to psft_customizations.yaml; for example:

```
---

jdk_location:    C:/jdk
jdk:
  location:      C:/jdk
  remove:        false

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

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

```
    remove:           false
```

4. Save the file.

Task 4-6: Preparing the Customization File for Unicode

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

1. Locate the psft_deployment.yaml file.

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

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

   The `unicode_db` parameter is part of the `ps_home` section.

   ```
   ps_home:
     db_type:    "%{hiera('db_platform')}"
     unicode_db: "%{hiera('unicode_db')}"
     location:   "%{hiera('ps_home_location')}"
   ```

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_deployment.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the entire `ps_home` section from psft_deployment.yaml, maintaining the indentation, into the psft_customizations.yaml file.

   For a Unicode database, set the value for `unicode_db` to true:

   ```
   ---
   ps_home:
     db_type:    "%{hiera('db_platform')}"
     unicode_db: true
     location:   "%{hiera('ps_home_location')}"
   ```

   For a non-Unicode database, set the value for `unicode_db` to false:

   ```
   ---
   ps_home:
     db_type:    "%{hiera('db_platform')}"
     unicode_db: false
     location:   "%{hiera('ps_home_location')}"
   ```

4. Save the file.

Task 4-7: Preparing the Customization File for the PeopleSoft Homes

This section discusses:

- Preparing the Customization File for the PS_HOME Location

- Preparing the Customization File for the PS_APP_HOME Location
- Preparing the Customization File for the PS_CFG_HOME Location

Task 4-7-1: Preparing the Customization File for the PS_HOME Location

By default, the DPK setup script creates the *PS_HOME* directory in *BASE_DIR/*pt/ps_home*<release>,* where <release> is the PeopleSoft PeopleTools patch release, such as 8.56.12. Use these steps to specify a different *PS_HOME* location.

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

   The *PS_HOME* installation location is specified by the `ps_home` section.

   ```
   ps_home:
     db_type:    "%{hiera('db_platform')}"
     unicode_db: "%{hiera('unicode_db')}"
     location:   "%{hiera('ps_home_location')}"
   ```

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_deployment.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the entire section from the psft_deployment.yaml file into the psft_customizations.yaml file and modify the location value as needed.

   For example, on Linux, AIX, or Solaris:

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

   For example, on Microsoft Windows:

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

4. Save the file.

Task 4-7-2: Preparing the Customization File for the PS_APP_HOME Location

By default, the DPK setup script creates the *PS_APP_HOME* directory in *BASE_DIR/*pt/*<Product>*_app_home, where <Product> is the abbreviation for the PeopleSoft application, such as fscm for PeopleSoft Financials and Supply Chain Management.

Here are two scenarios where you might use this customization:

- If you are performing a new installation using the PeopleSoft DPKs, and you do not want to use the default *PS_APP_HOME* location created by the DPK setup script, use this customization to specify and create the desired *PS_APP_HOME* directory.
- If you are performing a mid-tier deployment to connect to an existing environment, use this customization to specify the existing *PS_APP_HOME*.

Use these steps to specify the *PS_APP_HOME* location.

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

   The *PS_APP_HOME* installation location is specified by the `ps_app_home` section.

   ```
   ps_app_home:
     db_type: "%{hiera('db_platform')}"
     include_ml_files: false
     location: "%{hiera('ps_apphome_location')}"
   ```

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_deployment.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. To override the location, copy the entire section from the psft_deployment.yaml file into the psft_customizations.yaml file and modify the location value as needed.

   For example, on Linux, AIX, or Solaris:

   ```
   ---
   ps_app_home:
     db_type: "%{hiera('db_platform')}"
     include_ml_files: false
     location: "/home/hcm92_home"
   ```

   For example, on Microsoft Windows:

   ```
   ---
   ps_app_home:
     db_type: "%{hiera('db_platform')}"
     include_ml_files: false
     location: "C:/hcm92_home"
   ```

4. Save the file.

Task 4-7-3: Preparing the Customization File for the PS_CFG_HOME Location

By default, the DPK setup script creates the *PS_CFG_HOME* directory in <*user_profile*>/psft/pt/8.56, such as C:/users/username/psft/pt/8.56 on Microsoft Windows, and /home/psadm2/psft/pt/8.56 on Linux, AIX, or Solaris. Note that you cannot specify different *PS_CFG_HOME* locations for different PeopleSoft domains. The DPK installation requires the same *PS_CFG_HOME* be used for all domains. Use these steps to specify the *PS_CFG_HOME* location.

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

Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

The *PS_CFG_HOME* installation location is specified by the ps_config_home parameter.

```
ps_config_home:        "%{hiera('user_home_dir')}/%{hiera('domain_⇒
user')}/psft/pt/8.56"
```

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_configuration.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the entire section from the psft_configuration.yaml file into the psft_customizations.yaml file and modify the location value as needed.

   For example, on Linux, AIX, or Solaris:

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

   For example, on Microsoft Windows:

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

4. Save the file.

Task 4-8: Preparing the Customization File to Exclude Oracle Database Client Installation

The DPK setup script command to deploy all software (`psft-dpk-setup.<ext> --env_type midtier --deploy_only --deploy_type all`) includes the installation of Oracle database client. Use the customization in this section to exclude that installation.

See "Installing the PeopleSoft Homes," Running the DPK Setup Script to Install All Software.

1. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on AIX, Linux, or Solaris, and save it in the same location as the installed YAML files, .

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

2. Add the content below to the psft_customizations.yaml file.

   ```
   ---
   oracle_client:
     ensure: absent
   ```

3. Save the file.

Task 4-9: Preparing the Customization File for Jolt SSL and WSL SSL Ports

You have the option to use the Secure Socket Layers/Transport Layer Security (SSL/TSL) protocol for Workstation Listener and Jolt Listener ports for the application server configuration. To use this protocol you must set up an Oracle wallet for the digital certificates.

See *PeopleTools: Integration Broker,* "Installing Web Server-Based Digital Certificates."

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

   Note. The code examples in this topic are for illustrative purposes only. Remember to use the text from the YAML files you install with each new deployment as the basis for your psft_customizations.yaml file.

2. If necessary, create a psft_customizations.yaml using a standard editing tool, such as Notepad on Microsoft Windows or vi on Linux, AIX, or Solaris, and save it in the same location as the psft_configuration.yaml file.

   If this is the first entry in the psft_customizations.yaml file, ensure that the file begins with three dashes (`---`).

3. Copy the entire `appserver_domain_list` section from psft_configuration.yaml to psft_customizations.yaml:

4. Add the following parameters to the psft_customizations.yaml file:

   Note. These parameters are not included in the delivered psft_configuration.yaml file.

   - Specify the SSL/TSL port for the Jolt listener; for example 9010.

     ```
     JOLT Listener/SSL Port:                9010
     ```

   - Specify the SSL/TSL port for the Workstation listener, for example 9010:

     ```
     Workstation Listener/SSL Port:        9010
     ```

   - Specify the location of the wallet containing the certificates:

     ```
     Oracle Wallet/SEC_PRINCIPAL_LOCATION: test/security
     ```

   - Specify the wallet name, for example psft:

     ```
     Oracle Wallet/SEC_PRINCIPAL_NAME:     psft
     ```

   - Specify the wallet password:

     ```
     Oracle Wallet/SEC_PRINCIPAL_PASSWORD:
     ```

5. Modify the psft_customizations.yaml file, including the added parameters from the previous step, with values for your environment.

   Note. Be sure to retain the indentation shown in this example.

   This sample psft_customizations.yaml file shows the parameters added from step 4 in bold font:

   ```
   ---

   appserver_domain_list:
     "%{hiera('appserver_domain_name')}":
   ```

```
    os_user:         "%{hiera('domain_user')}"
    ps_cfg_home_dir: "%{hiera('ps_config_home')}"
    template_type:   "%{hiera('appserver_template')}"

    db_settings:
      db_name:        "%{hiera('db_name')}"
      db_type:        "%{hiera('db_platform')}"
      db_opr_id:      "%{hiera('db_user')}"
      db_opr_pwd:     "%{hiera('db_user_pwd')}"
      db_connect_id:  "%{hiera('db_connect_id')}"
      db_connect_pwd: "%{hiera('db_connect_pwd')}"

    config_settings:
      Domain Settings/Allow Dynamic Changes:    Y
      Domain Settings/Domain ID:            "%{hiera('appserver_domain_⇒
name')}"
      PSAPPSRV/Min Instances:               2
      PSAPPSRV/Max Instances:               2
      PSAPPSRV/Max Fetch Size:              15000
      Security/DomainConnectionPwd:         "%{hiera('domain_conn_⇒
pwd')}"
      JOLT Listener/Port:                   "%{hiera('jolt_port')}"
      JOLT Listener/Address:                 0.0.0.0
      JOLT Listener/SSL Port:                9010
      Workstation Listener/Port:            "%{hiera('wsl_port')}"
      Workstation Listener/SSL Port:        9010

      Oracle Wallet/SEC_PRINCIPAL_LOCATION: test/security

      Oracle Wallet/SEC_PRINCIPAL_NAME:     psft

      Oracle Wallet/SEC_PRINCIPAL_PASSWORD:


    feature_settings:
      PUBSUB:        "Yes"
      QUICKSRV:      "No"
      QUERYSRV:      "No"
      JOLT:          "Yes"
      JRAD:          "No"
      WSL:           "Yes"
      DBGSRV:        "No"
      RENSRV:        "No"
      MCF:           "No"
      PPM:           "Yes"
      PSPPMSRV:      "Yes"
      ANALYTICSRV:   "No"
      SERVER_EVENTS: "Yes"
      DOMAIN_GW:     "No"
```

6. Save the file.

Task 4-10: Completing the Customized Deployment

Use these steps to complete the customized deployment of the PeopleSoft environment:

1. Run the DPK setup script as previously described.
2. Answer *n* (no) to the following prompt:

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

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

   The debug and trace messages appear in the window where you run the command. See the next step if you want to capture them.

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

   On Microsoft Windows:

   ```
   "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
   BASE_DIR/dpk/puppet site.pp --debug --trace
   ```

   On Linux:

   ```
   /opt/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet site.pp -⇒
   -debug --trace
   ```

   On AIX or Solaris:

   ```
   /opt/oracle/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet⇒
    site.pp --debug --trace
   ```

6. To redirect the output to a log file, add the logdest option.

   Note. Since these commands redirect the output to a log file, you cannot follow the progress. The process is complete when the prompt returns.

   On Microsoft Windows:

   ```
   "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
   BASE_DIR/dpk/puppet site.pp --debug --trace --logdest "BASE_DIR\dpk⇒
   \dpklog.log"
   ```

   On Linux:

   ```
   /opt/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet site.pp ⇒
    --debug --trace --logdest "BASE_DIR/dpk/dpklog.log"
   ```

   On AIX or Solaris:

```
/opt/oracle/puppetlabs/bin/puppet apply --confdir=BASE_DIR/dpk/puppet⇒
 site.pp  --debug --trace --logdest "BASE_DIR/dpk/dpklog.log"
```

Chapter 5

Setting Up the Install Workstation

This chapter discusses:

- Understanding the Install Workstation
- Prerequisites
- Starting Configuration Manager
- Setting Startup Options
- Editing the Default Profile
- Running Client Setup

Understanding the Install Workstation

This chapter describes how to set up a PeopleSoft Windows-based client for connecting to the database server in two-tier mode, specifically for the purpose of performing install-related tasks from the workstation. You must configure at least one two-tier Windows-based client for running the Data Mover and SQR processes required for setting up the batch server and for creating the PeopleSoft database. For some installations you may wish to set up multiple install workstations, so that you can perform asynchronous tasks at the same time; for example, you could create and populate multiple databases simultaneously. You can quickly configure multiple workstations by exporting a configuration file from one workstation and importing it to another workstation.

See Also

PeopleTools: System and Server Administration

Prerequisites

The following tasks are prerequisites for setting up the install workstation:

- The workstation must have database connectivity software installed.
- You must have planned your database creation strategy. You should know the precise names of the databases that you intend to create.
- Make sure that you have created your connect strategy. You must use a Connect ID. You should know both the Connect ID and Connect password.

  For information on PeopleSoft Connect ID and Connect password, consult the *PeopleTools: System and Server Administration* product documentation for information on setting Application Server domain parameters.
- The workstation must have a logical drive mapped to *PS_HOME* on the file server (or, if the file server and

install workstation are one and the same, *PS_HOME* can be installed on a local drive).

- The person performing the installation must have read access to the *PS_HOME* directory.

If this is the same workstation on which the PeopleSoft PeopleTools installation was performed, it should have a PeopleTools 8.5 installation program group, which was created when you loaded the PeopleTools software. This isn't a requirement, but it does make it more convenient to run the PeopleTools install applications.

See Also

"Preparing for Installation"

"Using the PeopleSoft Installer"

Task 5-1: Starting Configuration Manager

Configuration Manager is a utility for configuring workstations being used as the PeopleTools Development Environment. These are its principal functions:

- Sets up and make changes to PeopleSoft configuration settings.
- Creates a program group containing Microsoft Windows shortcuts to PeopleSoft applications.
- Installs local DLLs.

The first time you run Configuration Manager on the client, it will populate certain fields with default values specified in a configuration file stored on the file server, specifically: *PS_HOME*\setup\pstools.cfg. This configuration file was set up when you ran the installation. Once you set up and run Configuration Manager, it will populate fields using values that are stored in the Windows system registry.

To start Configuration Manager, do one of the following:

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

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

- If the *PeopleTools 8.56* program group was not installed on this workstation, run pscfg.exe directly from the *PS_HOME*\bin\client\winx86 directory on the file server.

Task 5-2: Setting Startup Options

The Startup tab of Configuration Manager sets the default options for the PeopleSoft sign-on screen that is used for connecting to a PeopleSoft database. It also contains a setting that specifies the local directory for storing cached PeopleSoft data.

To set Startup options:

1. Confirm that you are viewing the Configuration Manager Startup tab (this tab is what you see if you started Configuration Manager as described in the previous task).
2. Set the following options:
   - *Database type* — Verify the type of RDBMS. This should already be set to Oracle.

- *Application Server Name* — This option appears if you select a database type of Application Server. It is where you enter your application server name if you are setting up a three-tier connection.
- *Database name* — The name of the default database to connect to. Enter the name of one of the databases that you intend to create.
- *User ID* — The name of the default user that will appear in the sign-on screen. This can be any valid user name, although for installation setup it normally matches the name of one of the built-in PeopleSoft users (typically PS or VP1) that will be installed in the database.
- *Connect ID and Connect Password* — Type your connect ID and password into these fields.

Task 5-3: Editing the Default Profile

Begin by editing the default profile for the workstation. Among other things, this will verify that the paths to *PS_HOME* and its subdirectories are correctly set, which is required for subsequent tasks.

For more information on using Configuration Manager, see the *PeopleTools: System and Server Administration* product documentation for configuring user profiles.

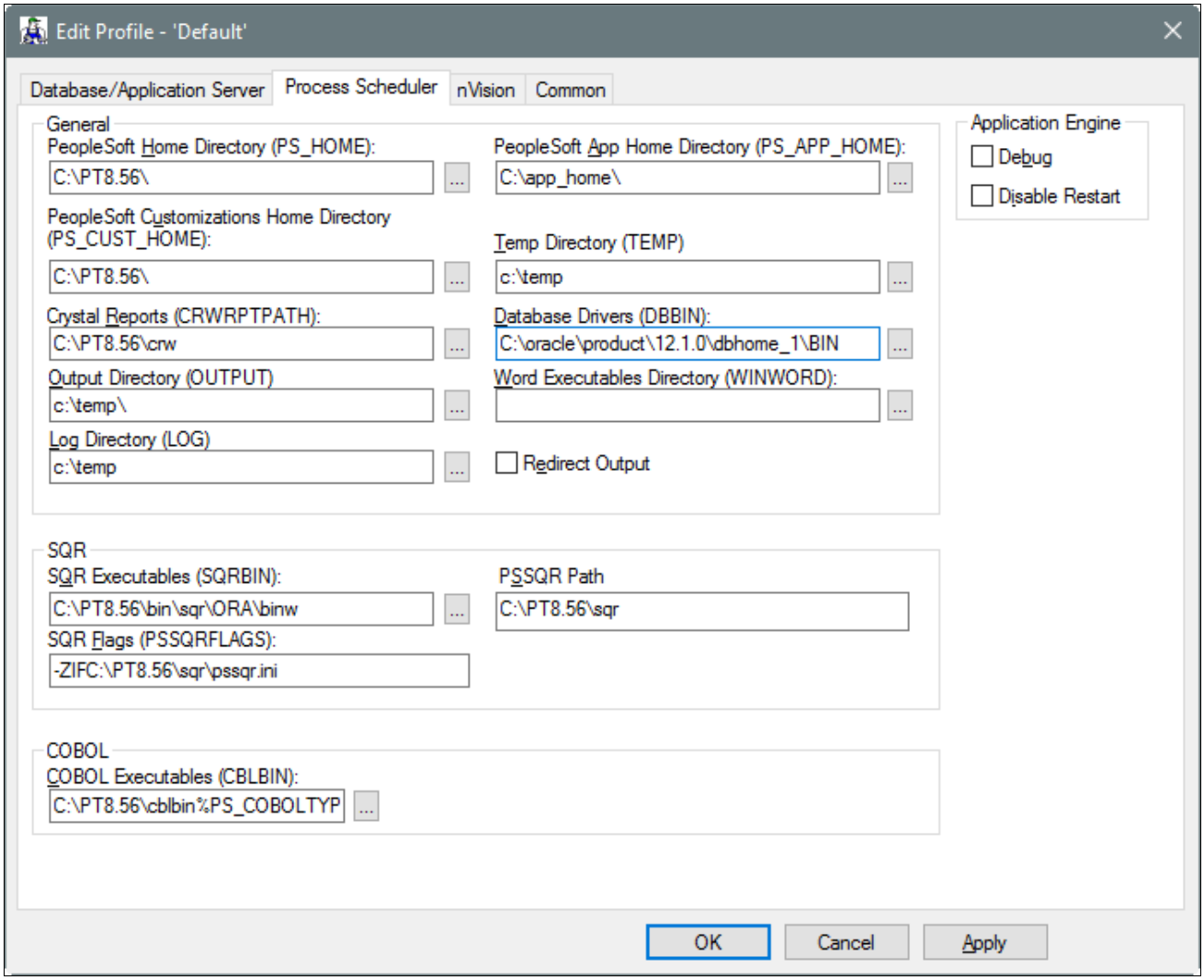
To edit the default profile:

1. Select the Profile tab in Configuration Manager.

   Only one profile, the Default Profile, has been defined.
2. Select Edit to display the Edit Profile dialog box, and then select the Process Scheduler tab.

3. In the Process Scheduler tab verify the options listed below the example.

   These should have been set correctly by the PeopleSoft installation program.



Edit Profile dialog box: Process Scheduler tab

- Verify that the PeopleSoft Home Directory (PS_HOME) field is set to the path to *PS_HOME* on the file server.
- Verify that the PeopleSoft Apps Home Directory (PS_APP_HOME) field is set to the path to *PS_APP_HOME* on the file server, C;\app_home in this example.

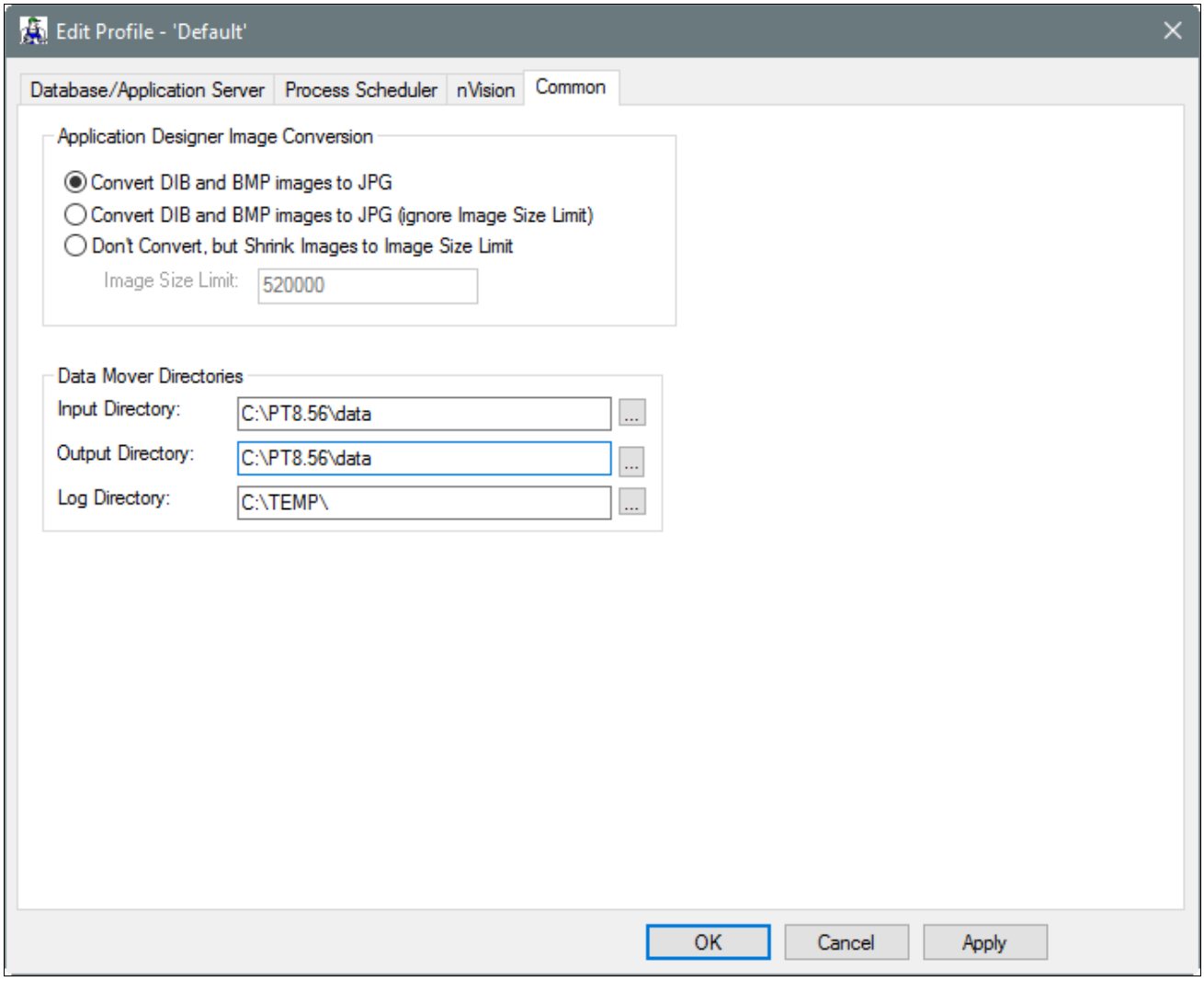
  Note. The installation using PeopleSoft DPKs requires that *PS_APP_HOME* and *PS_HOME* be different.

- On Microsoft Windows operating systems, set the Database Drivers (DBBIN) field to the path for the 64-bit database connectivity files, if necessary.

  The example shows the default for Oracle, C:\oracle\product\11.2.0\dbhome_1\bin.
- Set the SQR Executables (SQRBIN) field to the file server directory where SQR for Windows was installed when you ran the PeopleSoft Installer.
- Set the SQR Flags (PSSQRFLAGS) field to *-ZIF<PS_HOME>\sqr\pssqr.ini.*
- Set the SQR Report Search 1 (PSSQR1) field to *PS_HOME\sqr*. The remaining SQR Report Search fields

can be left blank, because no additional SQR report directories have been created yet.

4. Select the Common tab of the Edit Profile dialog box, shown in this example:



Edit Profile dialog box: Common tab

The following fields on the Common tab are used to set Data Mover default input, output, and log directories.

- Verify that the Input Directory and Output Directory fields are set to *PS_HOME*\data. This directory will store the Data Mover scripts and .DAT files required to populate the PeopleSoft database.
- Set the Log Directory to a local workstation directory to store the Data Mover log files. The default is C:\TEMP.

  Data Mover will not create a new directory under *PS_APP_HOME* or *PS_HOME* for log files. If you want Data Mover to write log files into *PS_APP_HOME*, you must create a new directory named log under *PS_APP_HOME*.

5. Select OK to close the Edit Profile dialog box.

Task 5-4: Running Client Setup

The Client Setup tab does the following:

- Installs a PeopleSoft program group on the workstation.
- Installs system DLLs on the workstation.

These Client Setup functions are performed when you click OK or Apply from Configuration Manager only if the Install Workstation option on the Client Setup tab is selected.

Note. Any files installed by Client Setup on the workstation from the file server use the paths specified in the default profile.

To run Client Setup:

1. Select the Client Setup tab in Configuration Manager.
2. In the Group Title text box enter the name of the program group for the icons you want on the client workstation. (A program group name cannot contain any of the following characters: \ / : * ? " < > |)

   You can call the program group anything you want, but this documentation uses *PeopleTools 8.56.*
3. If you do not have a PeopleTools 8.56 program group set up on the workstation, be sure to check the following two options for installing shortcuts to applications essential for installation.

   Note. When you run Client Setup, it will uninstall any existing shortcuts in the PeopleTools 8.56 program group, and install shortcuts for the applications you have selected. If you subsequently want to install or uninstall shortcuts, you can always re-run Client Setup.

   - *Data Mover*
   - *Configuration Manager*
4. Select the option Install Workstation.

   This check box determines whether Client Setup runs when you click Apply or OK in Configuration Manager. If this option is not selected, Client Setup will create or update settings in the registry, but it will not set up the PeopleTools 8.56 program group or install local DLLs.
5. Click OK to run Client Setup and close Configuration Manager.

Chapter 6A

Creating a Database Manually on Windows

This chapter discusses:

- Understanding Database Creation
- Preparing for the PeopleSoft Database Installation
- Creating the Windows Service for the Database Instance
- Using SQL Tools
- Editing Database Scripts (non-Multitenant)
- Creating an Oracle Instance (non-Multitenant)
- Creating Catalog Views and Utility Tablespaces (non-Multitenant)
- Creating PS.PSDBOWNER Table (non-Multitenant)
- Creating Application-Specific Dbspaces and Tablespaces (non-Multitenant)
- Creating PeopleSoft Database Roles (non-Multitenant)
- Creating the PeopleSoft Database Owner ID (non-Multitenant)
- Setting Up Connect ID (non-Multitenant)
- Editing Database Scripts (Multitenant Architecture)
- Creating an Oracle Instance (Multitenant Architecture)
- Creating Catalog Views and Utility Tablespaces (Multitenant Architecture)
- Creating PS.PSDBOWNER Table (Multitenant Architecture)
- Creating Application-Specific Dbspaces and Tablespaces (Multitenant Architecture)
- Creating PeopleSoft Database Roles (Multitenant Architecture)
- Creating the PeopleSoft Database Owner ID (Multitenant Architecture)
- Setting Up Connect ID (Multitenant Architecture)
- Updating Connection Information
- Setting NLS_LANG in the Windows Registry
- Creating Data Mover Import Scripts
- Running Data Mover Import Scripts
- Cleaning Up Orphaned Language Data
- Checking the Log Files and Troubleshooting
- Changing the Base Language

Understanding Database Creation

This section describes the tasks required to create a PeopleSoft product database. During a standard PeopleSoft installation you will execute these tasks to create two distinct types of databases.

- *System:* The System (SYS) database has no company specific data, and can be used to load your data and begin development of your production database.
- *Demo:* The Demo (DMO) database contains data for a sample company, and can be used immediately for demonstration, for testing, and as a development reference.

Note. The PeopleTools System Database (PTSYS) is not available with the current release. As an alternative, install the latest PeopleSoft Interaction Hub database.

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

The requirements for these databases vary, so not all of this section's tasks apply to each database. The instructions will note any distinctions between creating a Demo and a System database.

- You must have installed the Database component of your PeopleSoft application installation software to your database server.
- You must have the PeopleTools Development Environment set up to create your database.

This section includes tasks to create pluggable databases and for non-pluggable databases, as well as tasks that apply to both types. The pluggable database tasks create an Oracle Container Database (CDB) and a Pluggable Database (PDB), and are labelled "(Multitenant Architecture)." The tasks specific to non-pluggable databases are labelled "(non-Multitenant)." Choose which tasks to use according to the RDBMS you installed, as follows:

- If you installed Oracle 12c Enterprise Edition RDBMS, you can choose to create either CDBs or non-CDBs.
- If you installed Oracle 11gR2 RDBMS, you can create only a non-CDB. For installations on Oracle 11gR2, pluggable databases are not supported. In this case, use the non-multitenant sections.

Important! Do not forget that application-specific installation steps are provided in a separate document specific to the application. For instance, if you are performing PeopleSoft CRM installation, you need both this documentation for the basic installation of PeopleSoft PeopleTools and the PeopleSoft Application, and any additional instructions provided by CRM. Search in My Oracle Support for the installation documentation specific to your application.

Important! If you are installing the PeopleSoft software on an Oracle RAC database, there are additional configuration procedures that you must follow.

See *PeopleTools: Data Management,* "Setting Up the PeopleSoft Installation with Oracle RAC."

Note. The Database Configuration Wizard cannot be used on a Microsoft Windows operating system. You must use the manual method of creating a database for this configuration.

After you complete the tasks in this chapter, read the chapter "Completing the Database Setup." Depending upon your environment, you may not need to carry out every task in that chapter. However it is important that you evaluate the requirements and perform the necessary tasks.

See Also

"Preparing for Installation," Planning Database Creation

"Setting Up the Install Workstation"

Task 6A-1: Preparing for the PeopleSoft Database Installation

This section discusses:

- Installing the PeopleSoft Database Server Components on the Database Server
- Installing the Oracle RDBMS Software
- Identifying the Oracle RDBMS Trace and Alert File Locations
- Obtaining Windows Administrator Authority
- Creating an INIT<SID>.ORA File
- Creating an INIT<SID>.ORA File (Multitenant Architecture)
- Creating Target Directory Paths
- Creating Target Directory Paths (Multitenant Architecture)
- Setting the ORACLE_SID Environment Variable

Task 6A-1-1: Installing the PeopleSoft Database Server Components on the Database Server

To create a PeopleSoft Database you *must have installed* the PeopleSoft application software on your database server.

Note. Remember, you need to have the PeopleTools Development Environment set up to create your database.

See the information on using PeopleSoft Configuration Manager in the *PeopleTools: System and Server Administration* product documentation.

Task 6A-1-2: Installing the Oracle RDBMS Software

The rest of this chapter assumes that the Oracle RDBMS software is installed on your database server. If you have not already done so, install the Oracle RDBMS software now. During the database creation process, we refer to an existing Oracle RDBMS installation. Specifically:

ORACLE_HOME and *ORACLE_HOME*\bin

Note. If you are creating pluggable databases, you must install Oracle 12c Enterprise Edition.

Task 6A-1-3: Identifying the Oracle RDBMS Trace and Alert File Locations

For Oracle 11gR2 and later releases, all diagnostic data, including the alert log, are stored in the Automatic Diagnostic Repository (ADR), whose location is set by the DIAGNOSTIC_DEST initialization parameter. Due to this change, the initialization parameter settings for background dump (BACKGROUND_DUMP_DEST), core dump (CORE_DUMP_DEST), and user dump (USER_DUMP_DEST) are replaced by the diagnostic destination parameter DIAGNOSTIC_DEST. For information on the DIAGNOSTIC_DEST parameter and the default location for the ADR, see the Oracle RDBMS documentation.

See the information on managing diagnostic data in the Oracle Database Administrator's Guide.

Task 6A-1-4: Obtaining Windows Administrator Authority

To create a database instance on Microsoft Windows, you must be a Windows administrator of the target server. This is necessary because creating an instance on Microsoft Windows requires creating a SERVICE using the Oracle `ORADIM` command. On UNIX, an Oracle SID is comprised of many different processes. On Microsoft Windows, an Oracle SID is run as a single Windows service and you need to be an administrator to create that service.

Note. You must also be part of the ORA_DBA group.

Task 6A-1-5: Creating an INIT<SID>.ORA File

You must create an init.ora with the naming convention of init<SID>.ora in the *ORACLE_HOME*\database directory of the Oracle installation. The init<SID>.ora file is referenced in the following places during the database creation process:

- Using the ORADIM command to create the Windows Service
- Executing the CREATEDB.SQL script

  Note. PeopleSoft PeopleTools 8.55 supports Oracle 11g and Oracle 12c on Microsoft Windows. The PeopleSoft scripts are delivered to work across all versions of the Oracle RDBMS that Oracle supports for this release of PeopleSoft PeopleTools. To support these versions the PeopleSoft installation is delivered with the CREATEDB.SQL script for Oracle 11g or later installations.

  Note. If you are creating pluggable databases, see the following section Creating an INIT<SID>.ORA File (Multitenant Architecture) after completing this section.

Add or modify the following parameters in the init<SID>.ora file:

- DB_NAME = <SID>
- DB_FILES

  Specify the maximum allowed for your operating system, typically 1021.
- OPEN_CURSORS = 1000

  This is a minimum value. You may choose to set this higher.
- DB_BLOCK_SIZE = 8192

Review the following init<SID>.ora parameters and if necessary modify them for your environment:

DB_BLOCK_SIZE

The default DB_BLOCK_SIZE in the init.ora file is 8192 or 8K. For PeopleSoft ANSI databases this is more than adequate. For PeopleSoft Unicode databases (for example, CHARACTER_SET AL32UTF8), a DB_BLOCK_SIZE value of 8K is required.

NLS_LENGTH_SEMANTICS

Use these guidelines to set the `NLS_LENGTH_SEMANTICS` init<SID>.ora parameter:

- Set `NLS_LENGTH_SEMANTICS=CHAR` if you are installing a Unicode database with PeopleSoft application 9.0 or higher releases on PeopleTools 8.48 or higher.
- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing any non-Unicode database (such as a Western European or Shift-JIS database).

- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing a Unicode database with PeopleSoft application prior to release 9.0 on PeopleSoft PeopleTools prior to release 8.48.

If necessary, verify the PeopleSoft PeopleTools release for your PeopleSoft application using this SQL query:

```
select TOOLSREL from PSSTATUS
```

Unicode databases on PeopleSoft PeopleTools 8.48 and later, with PeopleSoft application 9.0 or later, use character length semantics. When character length semantics is used, a field of VARCHAR2(10) will store 10 characters. Prior to PeopleSoft PeopleTools 8.48 and PeopleSoft applications 9.0, byte length semantics was used, meaning a VARCHAR2(10) stored 10 bytes. If you are upgrading from a release before PeopleSoft PeopleTools 8.48 and PeopleSoft application 9.0 to one after 8.48 and 9.0, a database conversion is necessary for utilizing CHARACTER LENGTH SEMANTICS. This conversion process is covered in all PeopleSoft application 9.0 or higher upgrade paths.

It is very important that you set this parameter at the correct point during database creation. Database creation consists of running several scripts before loading the database with Data Mover, as follows:

- CREATEDB.SQL
- UTLSPACE.SQL
- *XX*DDL.SQL
- DBOWNER.SQL
- PSROLES.SQL
- PSADMIN.SQL
- CONNECT.SQL

Set the parameter `NLS_LENGTH_SEMANTICS` at the beginning of database creation or right before the Data Mover load.

To do this, modify the init<SID>.ora to add the `NLS_LENGTH_SEMANTICS` parameter, and then shut down and restart the database instance.

Oracle Password

If you choose to use an Oracle Password file, create one using the ORAPWD utility, as illustrated in this example:

```
set ORACLE_SID=FDMO
orapwd file=$ORACLE_HOME\dbs\pwdtemp2.ora password=manager entries=5
```

If you choose not to use an Oracle Password file, you must make one of the following changes to the init<SID>.ora file before running the CREATEDB.SQL script:

- Remove the line beginning with `remote_login_passwordfile`, or add a comment character to the beginning as shown in this example:

  ```
  #remote_login_passwordfile=EXCLUSIVE
  ```

- Set the parameter to *NONE,* as shown in this example:

  ```
  remote_login_passwordfile=NONE
  ```

For more parameters that may be required for the init<SID>.ora file, consult My Oracle Support.

See Operating System, RDBMS & Additional Component Patches Required for Installation PeopleTools, My Oracle Support (search for the title and select your release).

Task 6A-1-6: Creating an INIT<SID>.ORA File (Multitenant Architecture)

If you are creating pluggable databases, set <SID> to the database name for the CDB (root database). This documentation uses *PDB_SERVICE_NAME* to refer to the PDB.

Create an init<SID>.ora file as described in Creating an INIT<SID>.ORA File, and append the following line in the init<SID>.ora:

```
enable_pluggable_database=true
```

Note. It is strongly advisable to set the value of the parameter MEMORY_TARGET, otherwise you may get the error "ORA-04031: unable to allocate *string* bytes of shared memory" (where *string* represents memory size) while creating the database . For information on the MEMORY_TARGET environment variable, see the Oracle Database documentation.

Task 6A-1-7: Creating Target Directory Paths

You must create the directory path structure for the target directories referenced in the scripts that are executed by the database creation process. The referenced directories are not created on the fly, so they need to exist when referenced.

Note. If you want to use something other than the delivered directory paths, you need to modify the CREATEDB.SQL, UTLSPACE.SQL, and *XX*DDL.SQL scripts in the *PS_HOME*\scripts directory, replacing the delivered paths with paths that are appropriate for your site installation prior to creating the database.

Here are some examples of directory path structure references.

- The delivered CREATEDB.SQL script makes the following directory path structure references, where <drive> refers to the Microsoft Windows drive letter:

  ```
  startup nomount pfile=%ORACLE_HOME%\database\init<SID>.ora

  DATAFILE       '<drive>:\oradata\<SID>\system01.dbf'   SIZE   400M
  LOGFILE       '<drive>:\oradata\<SID>\log01.dbf'         SIZE   70M,
                '<drive>:\oradata\<SID>\log02.dbf'         SIZE   70M;
  ```

  Note. Portions of the script have been omitted for clarity.

- The init<SID>.ora parameter file that is referenced in the CREATEDB.SQL script makes the following directory path structure references.

  Note. Portions of the init<SID>.ora parameter file have been omitted for clarity. These paths are inserted manually by the user creating the init<SID>.ora parameter file.

  Control file references:

  ```
  control_files = ("c:\apps\db\Oracle11g\oradata\ORC1\control01.ctl", "c:⇒
  \apps\db⇒
  \Oracle11g\oradata\ORC1\control02.ctl", "c:\apps\db\Oracle11g\oradata⇒
  \ORC1⇒
  \control03.ctl")
  ```

- The delivered UTLSPACE.SQL script makes the following directory path structure references:

Note. Portions of the script have been omitted for clarity.

```
CREATE  TEMPORARY TABLESPACE       PSTEMP
TEMPFILE                '<drive>:\oradata\<SID>\pstemp01.dbf'     SIZE⇒
 300M
EXTENT MANAGEMENT LOCAL UNIFORM SIZE 128K;

CREATE TABLESPACE       PSDEFAULT
DATAFILE                '<drive>:\oradata\<SID>\psdefault.dbf'     SIZE⇒
 10M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

- The delivered *XX*DDL.SQL scripts make the following directory path structure references:

Note. This is a sample of the first several Create Tablespace SQL statements in the *XX*DDL.SQL script. The rest of the script has been omitted here for clarity.

```
CREATE TABLESPACE PSIMAGE DATAFILE '<drive>:\oradata\<SID>\psimage.dbf'⇒
 SIZE 8M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
CREATE TABLESPACE PSINDEX DATAFILE '<drive>:\oradata\<SID>\psindex.dbf'⇒
 SIZE 64M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
CREATE TABLESPACE PTAPP DATAFILE '<drive>:\oradata\<SID>\ptapp.dbf' SIZE⇒
 4M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
```

Task 6A-1-8: Creating Target Directory Paths (Multitenant Architecture)

In addition to the directory structure discussed in the previous section, if you are creating a PDB, you must add the following target directories, where <*SID*> refers to the ORACLE_SID for the CDB, and <*PDB_SERVICE_NAME*> refers to the PDB database name.

- <*drive*>:\oradata\<*SID*>\pdbseed
- <*drive*>:\oradata\<*SID*>\logs
- <*drive*>:\oradata\<*SID*>\<*PDB_SERVICE_NAME*>

Task 6A-1-9: Setting the ORACLE_SID Environment Variable

Make sure that you have the ORACLE_SID parameter set in your user or system environment variables.

Note. If you are creating pluggable databases, set ORACLE_SID to <*SID*> for the CDB (root database).

For example (the navigation may vary depending upon the operating system):

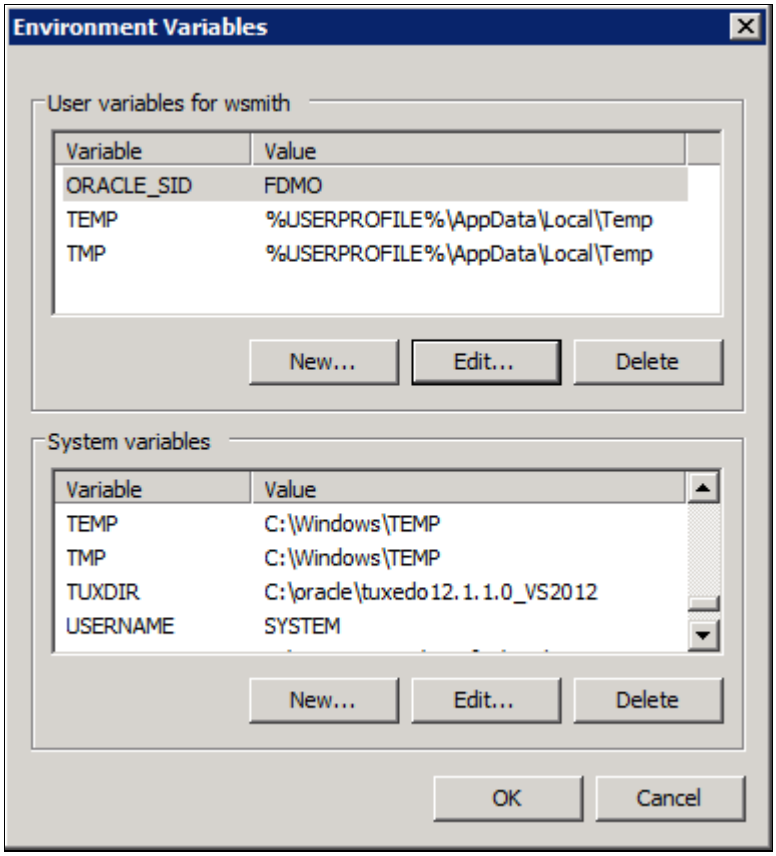
1. Select Start, Control Panel, System and Security, System on Microsoft Windows 7.

   Click the Start button, then Control Panel, System and Security, System, on Microsoft Windows 8 or 2012 R2.

2. Select Advanced system settings.
3. On the System Properties dialog box, select the Advanced tab.
4. Click Environment Variables.

   Verify that the ORACLE_SID variable is set correctly.

This example shows the Environment Variables dialog box with the variable ORACLE_SID and value FDMO.



Setting the ORACLE_SID environment variable

Task 6A-2: Creating the Windows Service for the Database Instance

Before running the CREATEDB.SQL script and all other scripts needed to create a database, you must first create a Microsoft Windows service. This is necessary because creating an instance on Windows requires creating a SERVICE using the Oracle `ORADIM` command. On UNIX, an Oracle SID is comprised of many different processes. On Microsoft Windows operating systems, an Oracle SID is run as a single Windows service and you need to be an administrator to create that service. You must also be part of the ORA_DBA group.

To create a Windows service:

1. Log on to your database server using an ID that is both a Server Administrator and part of the ORA_DBA administrative group.
2. To create the Windows service, open up a command prompt window.
3. Set the ORACLE_SID value to the Oracle database SID you are going to create, <*SID*> in this example:

```
Set ORACLE_SID=<SID>
```

4. If you choose to use an Oracle Password file, you need to create one using the ORAPWD utility, as illustrated in this example:

```
Set ORACLE_SID=<SID>
orapwd file=%ORACLE_HOME%\database\pwdtemp2.ora password=manager⇒
 entries=5
```

Note. If you choose not to use an Oracle Password file, don't forget to comment out or remove the following parameter in the init.ora file:

```
remote_login_passwordfile=EXCLUSIVE
```

5. Use the ORADIM utility as directed in the following example to create the Windows Oracle Service associated with the SID you are creating:

```
oradim -new -sid <SID> -intpwd manager -startmode
auto -pfile %ORACLE_HOME%⇒ \database\init<SID>.ora
```

Task 6A-3: Using SQL Tools

When you execute PeopleSoft SQL scripts, use the appropriate tool included with your version of the RDBMS. You should use SQL*Plus, which is available with each version of the Oracle RDBMS that is supported by Oracle for PeopleSoft installations.

There are various ways to connect to the database with SQL*Plus. For information on using SQL*Plus, see the Oracle database documentation.

Task 6A-4: Editing Database Scripts (non-Multitenant)

This section discusses:

- Understanding Database Scripts
- Modifying Database Scripts

Understanding Database Scripts

The scripts required for creating the database scripts reside in the *PS_HOME*\scripts\nt directory on the file server. You need to edit a few of these scripts for your environment before you execute them and go on with the following procedures.

Typically, you need to modify the file system locations and the Oracle SID name.

Note. If you are creating a PDB, follow the instructions for modifying the database scripts in the section Editing Database Scripts for CDBs later in this chapter.

Task 6A-4-1: Modifying Database Scripts

To edit required database scripts:

1. Go to the *PS_HOME*\scripts\nt directory on the file server.
2. Edit the scripts to conform to your environment.

   The following list presents the necessary scripts:

   - CREATEDB.SQL

     Edit CREATEDB.SQL to remove the REMARK from the following line:

     ```
     REMARK startup nomount pfile=%ORACLE_HOME%\dbs\init<SID>.ora
     ```

     Note. When editing CREATEDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set supported by the PeopleSoft software. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to either AL32UTF8 or UTF8.

   - CONNECT.SQL.

     Edit CONNECT.SQL only if you do not wish to use the default CONNECT_ID.
   - UTLSPACE.SQL.
   - *XX*DDL.SQL, where XX is a two-letter code for your product line or PeopleSoft PeopleTools, as listed in the table below

Code	Description
CS	PeopleSoft Campus Solutions
CR	PeopleSoft Customer Relationship Management
LM	PeopleSoft Enterprise Learning Management
PF	PeopleSoft Enterprise Performance Management
EP	PeopleSoft Financials / Supply Chain Management
EA	PeopleSoft Financials / Supply Chain Management Argentina
EB	PeopleSoft Financials / Supply Chain Management Brazil
HC	PeopleSoft Human Capital Management
PA	PeopleSoft Portal Solutions
PT	PeopleSoft PeopleTools

Note. This is a complete list of available product lines for PeopleSoft PeopleTools 8.55. Note that not all products go out on all PeopleSoft PeopleTools releases, so you may not see a script corresponding to every product line. In addition, some bolt-on products reference their own scripts within their application installation documentation. Search My Oracle Support to confirm that the product is supported for a specific release and database platform.

See My Oracle Support, Certifications.

Note. Compare the sizes of the PeopleTools tablespaces in *XX*DDL.SQL with the tablespaces in PTDDL.SQL. If the tablespace sizes in PTDDL.SQL are larger, increase the PeopleTools tablespace sizes in *XX*DDL.SQL to be at least as large as those in PTDDL.SQL.

Note. For multilanguage installs, you need to increase the size of the PTTBL, PSIMAGE, and PSINDEX tablespaces. Refer to the comments in the DDL scripts for further details regarding the incremental increase for each additional language.

See Also

"Using the PeopleSoft Installer"

Task 6A-5: Creating an Oracle Instance (non-Multitenant)

Run the CREATEDB.SQL script from SQL*Plus to create an Oracle database.

To create an Oracle database:

1. Invoke SQL*PLUS (sqlplus), connecting as sysdba.

   ```
   sqlplus / as sysdba
   ```

2. Run the CREATEDB.SQL script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\createdb.sql
   ```

Note. When editing CREATEDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set that is supported by Oracle. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to AL32UTF8 or UTF8.

Task 6A-6: Creating Catalog Views and Utility Tablespaces (non-Multitenant)

Run the UTLSPACE.SQL script from SQL*Plus to create catalog views and utility tablespaces, as follows:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the UTLSPACE.SQL script:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\utlspace.sql
   ```

Task 6A-7: Creating PS.PSDBOWNER Table (non-Multitenant)

Run the DBOWNER.SQL script from SQL*Plus to create the PS.PSDBOWNER table, as follows:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the DBOWNER.SQL script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\dbowner.sql
   ```

Task 6A-8: Creating Application-Specific Dbspaces and Tablespaces (non-Multitenant)

To create tablespaces for the product you are installing, run the appropriate *XX*DDL.SQL scripts, logged on as the system user, where *XX* stands for your product line or PeopleSoft PeopleTools, as listed in the table in the section Editing Database Scripts.

To create application-specific tablespaces:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the appropriate DDL scripts.

   For example:

   ```
   sqlplus>@<PS_APP_HOME>\scripts\nt\epddl.sql
   ```

Task 6A-9: Creating PeopleSoft Database Roles (non-Multitenant)

Run the PSROLES.SQL script from SQL*Plus to create the PeopleSoft database roles, as follows:

1. Log on to SQL*Plus, connecting as sysdba.

   ```
   sqlplus / as sysdba
   ```

2. Run the PSROLES.SQL script:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\psroles.sql
   ```

Task 6A-10: Creating the PeopleSoft Database Owner ID (non-Multitenant)

This task creates the PeopleSoft database owner ID that will be referenced in future tasks. It grants the roles, created in the previous step, to this owner ID.

Note. You must run the PSADMIN.SQL script for each PeopleSoft database that you are going to create. When prompted for a default tablespace name, select PSDEFAULT if you are using PeopleSoft naming conventions, or your site equivalent if you are not using PeopleSoft naming conventions.

To create the PeopleSoft database owner ID:

1. Log on to SQL*Plus, connecting as the System user.

   ```
   sqlplus system/manager
   ```

2. Run the PSADMIN.SQL script.

   ```
   SQLPLUS>@<PS_HOME>\scripts\nt\psadmin.sql
   ```

3. Supply values for Access ID, Access ID password, and the default tablespace name when prompted.

   Note. The password for Access ID must be between 6 and 30 characters.

Task 6A-11: Setting Up Connect ID (non-Multitenant)

This section discusses:

- Understanding Connect ID
- Understanding Connect ID and the Login Process
- Creating the Connect ID

Understanding Connect ID

With the current PeopleSoft PeopleTools release, you establish connections to a database simply by using the connect ID, which allows you to associate multiple PeopleSoft operators to the same connect ID. The connect ID has the minimum privileges required to connect to the database—that is, it has only SELECT privileges on specific PeopleTools tables. After connection, PeopleSoft Security uses the operator ID to control access to objects in the database. The PeopleSoft sign-on process validates the connect ID on the server, rather than the operator ID. Connect ID simplifies database security maintenance. You don't have to maintain access for all PeopleSoft users, just for the connect ID.

The connect ID is granted access using the *Connect.sql* script. This script creates the connect ID and grants CREATE SESSION privilege to the connect ID. Access to the PeopleSoft database is then granted to the connect ID explicitly via the initial Data Mover load script generated by DBSETUP to include the following grants.

```
grant select on PSSTATUS to <CONNECT_ID>;
grant select on PSOPRDEFN to <CONNECT_ID>;
grant select on PSACCESSPROFILE to <CONNECT_ID>;
```

In order to work, the connect ID and connect password must be specified at the client Configuration Manager or the configuration file of any two-tier client accessing the application.

Understanding Connect ID and the Login Process

When logging into a PeopleSoft database in two-tier mode, the user enters a Database Name, User ID, and Password in the PeopleSoft Signon dialog box. This table lists the steps and related database SQL operations associated with logging in.

Log-in Processing Steps	Related Database SQL Operations
The access to the PeopleSoft Database is established with the Connect ID not the User ID.	Connect=PT84/<*ConnectID*>/<*ConnectIDPassword*>
Check PSSTATUS	SELECT OWNERID, TOOLSREL, LASTREFRESHDTTM, LASTCHANGEDTTM FROM PSSTATUS
Validate the User ID and Password	SELECT VERSION, OPERPSWD, ENCRYPTED, SYMBOLICID, ACCTLOCK FROM PSOPRDEFN WHERE OPRID =:1
Get the Access ID and Password	SELECT ACCESSID, ACCESSPSWD, ENCRYPTED FROM PSACCESSPROFILE WHERE SYMBOLICID =:1

Log-in Processing Steps	Related Database SQL Operations
Disconnect Connect ID	Disconnect
Login using the Access ID	Connect=PT84/ACCESSID/ACCESSPWD

At this point, access is governed by PeopleSoft security, which determines what applications a specific user ID has access to.

Task 6A-11-1: Creating the Connect ID

To create connect ID:

1. Log on to SQL*Plus as the System user.
2. Run the connect.sql script.

   ```
   sqlplus>@<PS_HOME>\scripts\nt\connect.sql
   ```

3. Supply values for the connect ID and connect ID password when prompted.

   The connect ID password must be between 6 and 30 characters with no forward-slash characters (/).
4. The script will then create the connect ID and grant it CREATE Session privileges only.

Task 6A-12: Editing Database Scripts (Multitenant Architecture)

Edit the scripts listed in this section for your environment before you execute them and continue with the procedure to create a database. You can locate the *XX*DDL.SQL scripts in the *PS_HOME*\scripts\nt directory on the file server. The remainder of the scripts listed here reside in the *PS_HOME*\scripts\nt\pdb directory on the file server.

- CONNECT.SQL

  No changes are required.
- CREATEDBCDB.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <drive> variable with the Microsoft Windows drive letter, for example C or D.

Note. When editing CREATEDBCDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set supported by the PeopleSoft software. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to AL32UTF8.

- CREATEPDB.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <drive> variable with the Microsoft Windows drive letter, for example C or D.
- DBOWNER.SQL
  - Replace the <MANAGERPWD> variable with the System user password.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PSADMIN.SQL

  - Replace the <MANAGERPWD> variable with the System user password.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PSROLES.SQL

  No changes are required.
- PSROLES2.SQL

  Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PTDDL.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <drive> variable with the Microsoft Windows drive letter, for example C or D.
  - Remove the REMARK from the line for Autoextend.
- UTLSPACE.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <drive> variable with the Microsoft Windows drive letter, for example C or D.
- *XX*DDL.SQL, where *XX* is a two-letter code for your PeopleSoft Application product line.

  See the section Editing Database Scripts for a table listing the codes with the PeopleSoft product lines.
  - Replace <SID> with the combined name *<SID>/<PDB_SERVICE_NAME>*.

    In this combined name, specify ORACLE_SID, that is, the CDB database name, for *<SID>*, and the PDB database name for *<PDB_SERVICE_NAME>*.
  - Replace the <drive> variable with the Microsoft Windows drive letter, for example C or D.
  - Remove the REMARK from all the lines for Autoextend.

After you edit the scripts, continue with the steps in this chapter to run these scripts and to run the Data Mover import.

Task 6A-13: Creating an Oracle Instance (Multitenant Architecture)

This section discusses:

- Creating a Root Container Database
- Creating a PDB

Task 6A-13-1: Creating a Root Container Database

To create a (root container database) CDB for pluggable databases:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba:

   ```
   sqlplus / as sysdba
   ```

2. Run the createdbcdb.sql script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\pdb\createdbcdb.sql
   ```

3. Exit from SQL*Plus.
4. Open the script ptperlcat.bat for editing, and make the following changes for PDBs:
   - Replace the <SID> variable with ORACLE_SID
   - Replace the <drive> variable with the Microsoft Windows drive letter.
5. Run the script ptperlcat.bat.

   This scripts runs the scripts catalog.sql and catproc.sql.
6. To verify that the database was created successfully, log in to SQL*Plus again and run the following command

   ```
   select name,cdb from v$database;
   ```

   If the value of CDB is "YES" in the response, it means that the database with ID <SID> (FSDMO in this example) can be used as a pluggable database:

   ```
   NAME      CDB
   --------  ---
   FSDMO      YES
   ```

Task 6A-13-2: Creating a PDB

To create a PDB:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba:

   ```
   sqlplus / as sysdba
   ```

2. Run the createpdb.sql script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>\scripts\nt\pdb\createpdb.sql
   ```

   You should see a message "Pluggable database created".
3. Execute the following command:

   ```
   sqlplus>select name, open_mode from v$pdbs;
   ```

   The following response indicates that the PDB is open and is ready to use:

   ```
   NAME                OPEN_MODE
   ----------------    ---------
   PDB$SEED            READ ONLY
   PDB_SERVICE_NAME    READ WRITE
   ```

   The PDB_SERVICE_NAME is created by the Oracle server for a new PDB.
4. To verify the service name for the PDB, execute the following command:

   ```
   lsnrctl status;
   Service "PDB_SERVICE_NAME" has 1 instance(s).
   Instance "PDB_SERVICE_NAME", status READY, has 1 handler(s) for this⇒
    service.
   ```

5. Add an entry for the PDB service name to the tnsnames.ora file.

   This example shows a portion of the tnsnames.ora file. Replace <*PDB_SERVICE_NAME*> with the PDB database name:

   ```
   <PDB_SERVICE_NAME> =
   ```

```
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP)(HOST = servername.com)(PORT = 1521))
  )
  (CONNECT_DATA =
    (SERVICE_NAME = <PDB_SERVICE_NAME>)
  )
)
```

6. Log in to the PDB in SQL*Plus with the following command:

```
sqlplus / as sysdba
SQL> ALTER SESSION SET CONTAINER = <PDB_SERVICE_NAME>
```

Task 6A-14: Creating Catalog Views and Utility Tablespaces (Multitenant Architecture)

To create catalog views and utility tablespaces:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.

```
sqlplus / as sysdba
```

2. Run the UTLSPACE.SQL script:

```
sqlplus>@<PS_HOME>\scripts\nt\pdb\utlspace.sql
```

Task 6A-15: Creating PS.PSDBOWNER Table (Multitenant Architecture)

Run the DBOWNER.SQL script from SQL*Plus to create the PS.PSDBOWNER table, as follows:

1. Log on to SQL*Plus (sqlplus), connecting as the System user to the PDB.

   The PDB name in this example is <*PDB_SERVICE_NAME*>:

```
sqlplus system/manager@<PDB_SERVICE_NAME>
```

2. Run the DBOWNER.SQL script, using the following example as a guide:

```
sqlplus>@<PS_HOME>\scripts\nt\pdb\dbowner.sql
```

Task 6A-16: Creating Application-Specific Dbspaces and Tablespaces (Multitenant Architecture)

To create tablespaces for the product you are installing, run the appropriate *XX*DDL.SQL scripts, logged on as the system user, where *XX* stands for your product line or PeopleSoft PeopleTools, as listed in the table in the section Editing Database Scripts (Multitenant Architecture).

To create application-specific tablespaces:

1. Log on to SQL*Plus (sqlplus), connecting as the System user to the PDB.

The PDB name in this example is <*PDB_SERVICE_NAME*>:

```
sqlplus system/manager@<PDB_SERVICE_NAME>
```

2. Run the appropriate DDL scripts.

   For example, for PeopleSoft Financials/Supply Chain Management:

```
sqlplus>@<PS_APP_HOME>\scripts\nt\epddl.sql
```

Task 6A-17: Creating PeopleSoft Database Roles (Multitenant Architecture)

To create the roles for your PeopleSoft database:

1. Log on to SQL*Plus, connecting as sysdba.

```
sqlplus / as sysdba
```

2. Run the PSROLES.SQL script:

```
sqlplus>@<PS_HOME>\scripts\nt\pdb\psroles.sql
```

3. Run the PSROLES2.SQL script:

```
sqlplus>@<PS_HOME>\scripts\nt\pdb\psroles2.sql
```

Task 6A-18: Creating the PeopleSoft Database Owner ID (Multitenant Architecture)

This task creates the PeopleSoft database owner ID that will be referenced in future tasks. It grants the roles, created in the previous step, to this owner ID.

Note. You must run the PSADMIN.SQL script for each pluggable database that you are going to create. When prompted for a default tablespace name, select PSDEFAULT if you are using PeopleSoft naming conventions, or your site equivalent if you are not using PeopleSoft naming conventions.

To create the PeopleSoft database owner ID:

1. Log on to SQL*Plus, connecting as the System user to the PDB.

   The PDB name in this example is <*PDB_SERVICE_NAME*>.

```
sqlplus system/manager@<PDB_SERVICE_NAME>
```

2. Run the PSADMIN.SQL script.

```
sqlplus>@<PS_HOME>\scripts\nt\pdb\psadmin.sql
```

3. Supply values for Access ID, Access ID password, and the default tablespace name when prompted.

   Note. The password for Access ID must be between 6 and 30 characters.

Task 6A-19: Setting Up Connect ID (Multitenant Architecture)

This section discusses:

- Understanding Connect ID
- Understanding Connect ID and the Login Process
- Creating the Connect ID

Understanding Connect ID

With the current release of PeopleSoft PeopleTools, you establish connections to a database simply by using the connect ID, which allows you to associate multiple PeopleSoft operators to the same connect ID. The connect ID has the minimum privileges required to connect to the database—that is, it has only SELECT privileges on specific PeopleTools tables. After connection, PeopleSoft Security uses the operator ID to control access to objects in the database. The PeopleSoft sign-on process validates the connect ID on the server, rather than the operator ID. Connect ID simplifies database security maintenance. You do not have to maintain access for all PeopleSoft users, just for the connect ID.

The connect ID is granted access using the *Connect.sql* script. This script creates the connect ID and grants CREATE SESSION privilege to the connect ID. Access to the PeopleSoft database is then granted to the connect ID explicitly through the initial Data Mover load script generated by DBSETUP to include the following grants.

```
grant select on PSSTATUS to <CONNECT_ID>;
grant select on PSOPRDEFN to <CONNECT_ID>;
grant select on PSACCESSPROFILE to <CONNECT_ID>;
```

In order to work, the connect ID and connect password must be specified at the client Configuration Manager or the configuration file of any two-tier client accessing the application.

Understanding Connect ID and the Login Process

When logging into a PeopleSoft database in two-tier mode, the user enters a Database Name, User ID, and Password in the PeopleSoft Signon dialog box. This table lists the steps and related database SQL operations associated with logging in.

Log-in Processing Steps	Related Database SQL Operations
The access to the PeopleSoft Database is established with the Connect ID not the User ID.	Connect=PT84/<*ConnectID*>/<*ConnectIDPassword*>
Check PSSTATUS	SELECT OWNERID, TOOLSREL, LASTREFRESHDTTM, LASTCHANGEDTTM FROM PSSTATUS
Validate the User ID and Password	SELECT VERSION, OPERPSWD, ENCRYPTED, SYMBOLICID, ACCTLOCK FROM PSOPRDEFN WHERE OPRID =:1
Get the Access ID and Password	SELECT ACCESSID, ACCESSPSWD, ENCRYPTED FROM PSACCESSPROFILE WHERE SYMBOLICID =:1

Log-in Processing Steps	Related Database SQL Operations
Disconnect Connect ID	Disconnect
Login using the Access ID	Connect=PT84/ACCESSID/ACCESSPWD

At this point, access is governed by PeopleSoft security, which determines what applications a specific user ID has access to.

Task 6A-19-1: Creating the Connect ID

To create connect ID:

1. Log on to SQL*Plus as the System user to the PDB.

   The PDB name in this example is <*PDB_SERVICE_NAME*>.

   ```
   sqlplus system/manager@<PDB_SERVICE_NAME>
   ```

2. Run the connect.sql script.

   ```
   sqlplus>@<PS_HOME>\scripts\nt\pdb\connect.sql
   ```

3. Supply values for the connect ID and connect ID password when prompted.

   The connect ID password must be between 6 and 30 characters with no forward-slash characters (/).

4. The script will then create the connect ID and grant it CREATE Session privileges only.

Task 6A-20: Updating Connection Information

You must update connection information on the client. To do this, update the connection information in TNSNAMES.ORA on your client to reflect your Database Name, Oracle SID, and Server Name.

Note. If you are creating pluggable databases, create an entry for the CDB, using the SID. Create another entry for the PDB, using the PDB_SERVICE_NAME.

Task 6A-21: Setting NLS_LANG in the Windows Registry

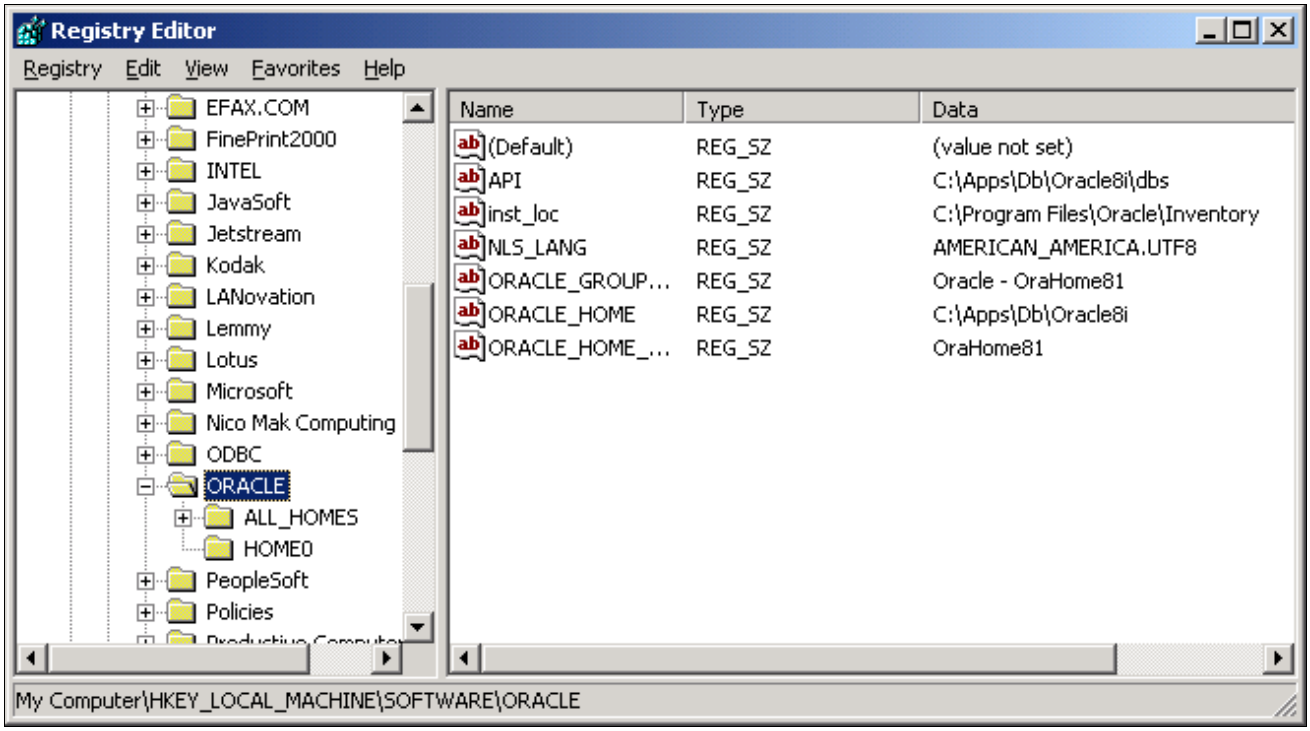
You must set the NLS_LANG Oracle registry key to indicate the Oracle language and character set. The PeopleSoft Application Server and reporting tools run in Unicode regardless of the database character set or the NLS_LANG character set component. However, the NLS_LANG character set component does affect the transmission of data in non-PeopleTools connections, such as SQL*Plus and direct COBOL. NLS_LANG has three components, a language, a territory, and a character set in the form LANGUAGE_TERRITORY.CHARACTERSET. For example, for American English, the correct NLS_LANG setting for a PeopleSoft installation would be AMERICAN_AMERICA.AL32UTF8. See the Oracle National Language Support guide for full details.

The NLS_LANG parameter should be set on *each* workstation you use to access the PeopleSoft application in two-tier mode, and on your application server machine.

Note. When using SQL*Plus to query data, set NLS_LANG on the client side to match the OS character set rather than the database character set.

To set NLS_LANG in the Windows registry:

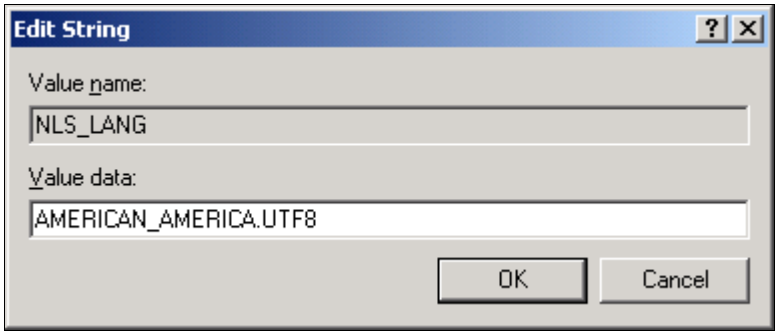
1. Open the Windows Registry Editor by selecting *Run* from the Microsoft Windows Start menu.
2. Type REGEDIT in the Run dialog.
3. Navigate to the key HKEY_LOCAL_MACHINE\Software\Oracle.



Navigating to NLS_LANG

4. Double-click on the NLS_LANG key in the right hand side of the window.

   The Edit String dialog box appears as in this example.



Entering the Value data

5. Enter <*language*>_<*territory*>.AL32UTF8 in the Value Data field, substituting <language> and <territory> for your preferred language and territory settings.

   If unsure, use AMERICAN_AMERICA.AL32UTF8.
6. Click *OK* and close the Registry Editor.

Task 6A-22: Creating Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Working with Multilingual Databases
- Running Database Setup to Create Data Mover Import Scripts

Understanding Data Mover Import Scripts

The Data Mover Import scripts are used to populate the PeopleSoft database with data. You use the Database Setup feature of the PeopleSoft Data Mover utility to create the Data Mover import scripts.

Note. This task and the next one (Running Data Mover Import Scripts) should be executed from a Microsoft Windows client machine. Before you can load PeopleSoft data from a Microsoft Windows client machine, you need to install PeopleSoft PeopleTools and your PeopleSoft Application to the Microsoft Windows client machine and be sure to select File Server and Database Server.

To complete the database creation procedure you must supply information on various authorization IDs and passwords, including Access ID, Connect ID, Symbolic ID, and User IDs. Before beginning this procedure, review the information in the section Planning Database Creation and make a note of the authorization information for your environment. For PeopleSoft PeopleTools 8.53 and later releases, the user profiles in PeopleTools demo databases are delivered disabled. During the procedure to create Data Mover import scripts you will choose whether to enable the delivered user profiles, and how to assign passwords for the profiles. In addition, you will supply several passwords that were previously provided as defaults. Be sure to note the passwords that you supply, as they will be needed for subsequent installation procedures.

See the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

See "Preparing for Installation," Planning Database Creation.

Task 6A-22-1: Working with Multilingual Databases

All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. After the installation is complete, you can change the database's base language to the language that you plan to use most frequently, or leave the base language as English.

Read the section Planning Multilingual Strategy for information on installing multiple languages and changing your base language.

See "Preparing for Installation," Planning Multilingual Strategy.

If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.

If you are creating a non-Unicode database, you must ensure that the languages you select are all supported by the character set you used to create your database.

Note. During the database setup process, you have the option to select the database's base language. Select the language that you plan to use most frequently. If the database's base language is different than that set in this database setup process, generate the SWAP_BASE_LANGUAGE command in the Data Mover Import script to swap the language.

See *PeopleTools: Global Technology.*

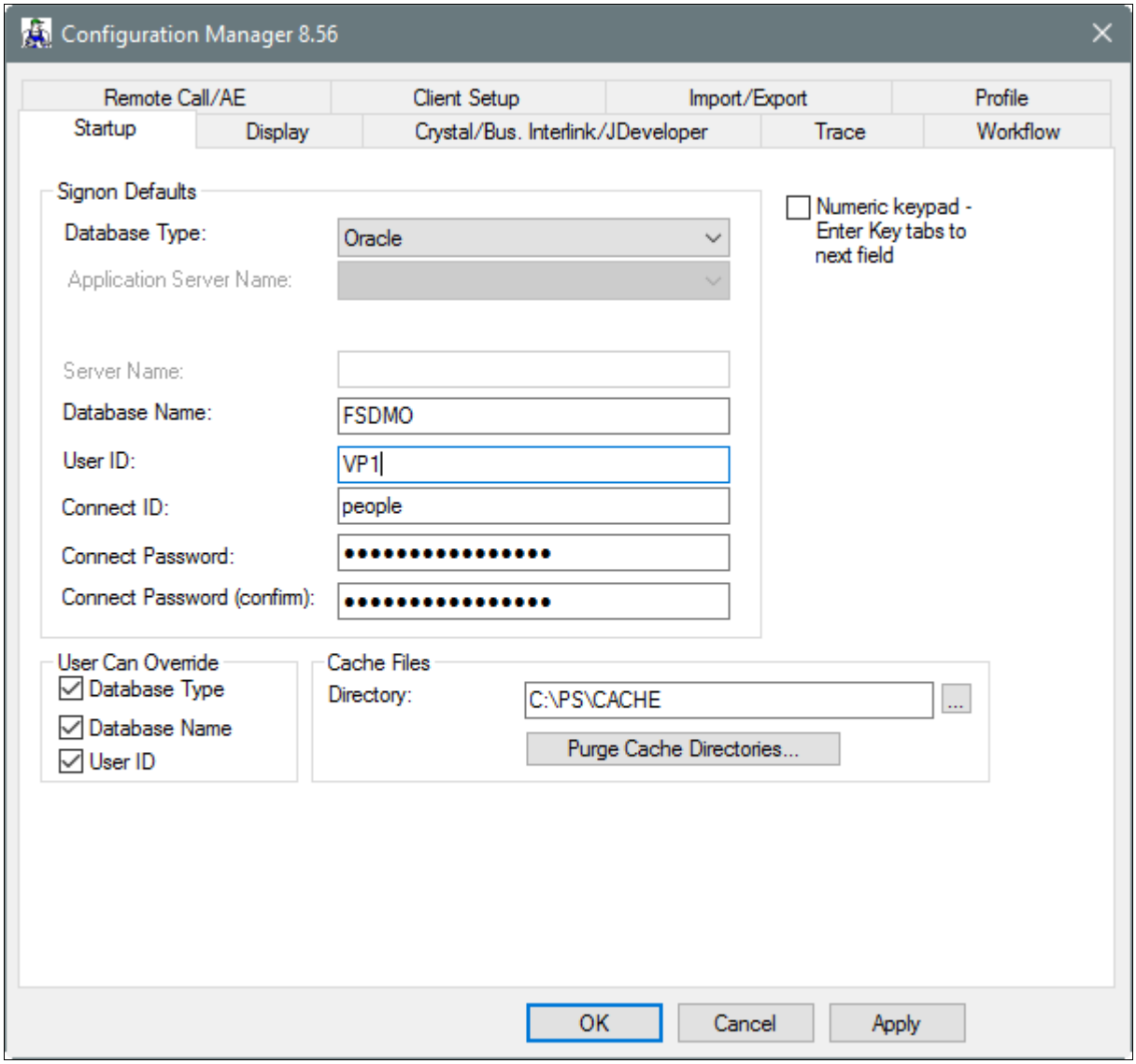
Task 6A-22-2: Running Database Setup to Create Data Mover Import Scripts

To create the import scripts using Data Mover:

See *PeopleTools: Data Management.*

1. Run Configuration Manager by using one of the following methods:
   - On Microsoft Windows 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Configuration Manager.
   - Run *PS_HOME*\bin\client\winx86\pscfg.exe.

2. Verify in the Signon Defaults on the Startup page that the Database Type of Oracle is selected, as shown in the example.



Startup tab on the Configuration Manager dialog box

3. Verify that the connect ID is correct.

   If you accepted all defaults, the connect ID is people. Enter and confirm a value for the connect ID password.

4. If the *PS_APP_HOME* location is not the same as *PS_HOME*, make sure it is set in Configuration Manager, as follows:

   a. In Configuration Manager, select Profile.

   b. Highlight the Default Profile and select Edit.

   c. On the Edit Profile dialog box, select the Process Scheduler tab.

   d. Verify that the *PS_APP_HOME* value is correct.

   See "Setting Up the Install Workstation," Editing the Default Profile.

5. Run Data Mover by using one of these methods:

- On Microsoft Windows 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Data Mover.
- Run *PS_HOME*\bin\client\winx86\psdmt.exe.

6. Log on using the access ID as the user id to start Data Mover in bootstrap mode; this should be the user that creates the database.

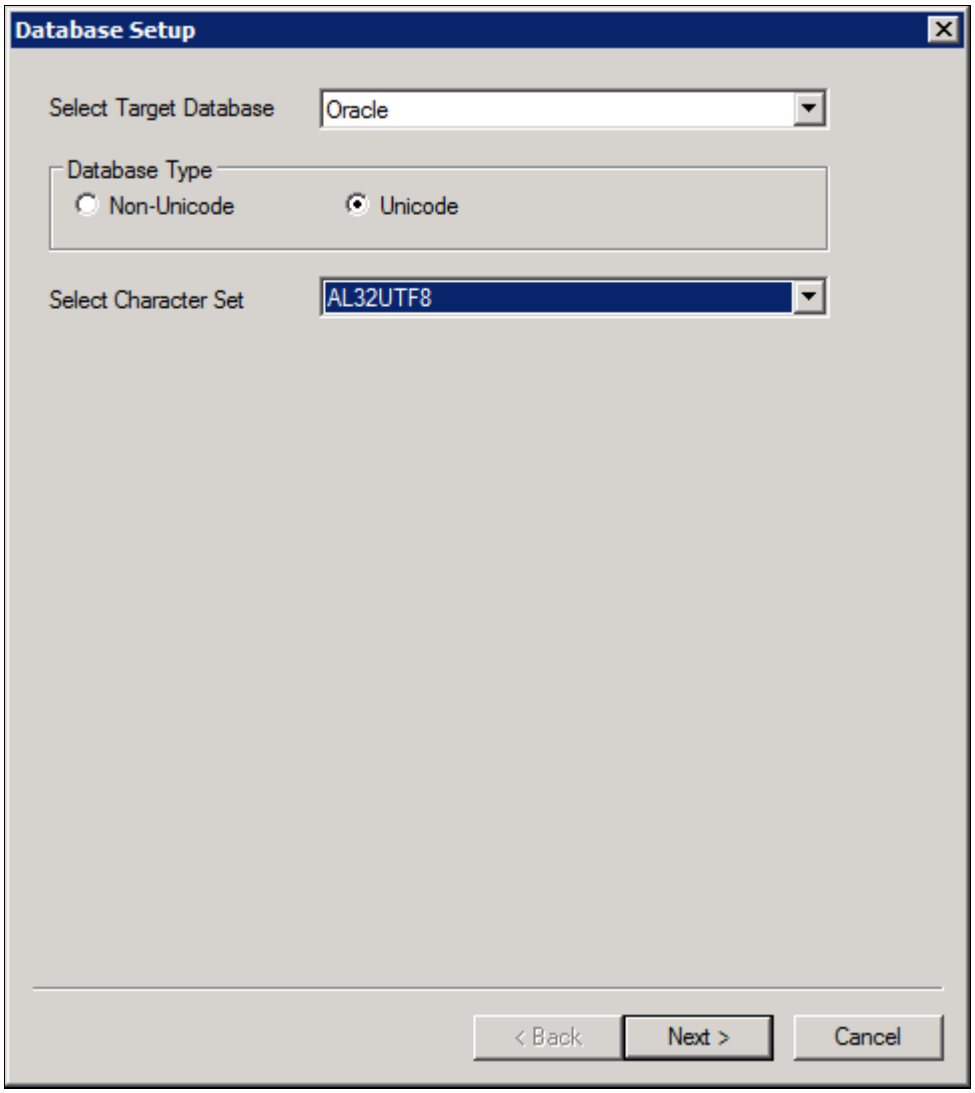
   See Checking the Log Files and Troubleshooting, Running Data Mover.

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

---

7. Select File, Database Setup.

   The Database Setup dialog box appears, as shown in this example:



Selecting target database and character set on the Database Setup dialog box

8. Select your database platform from the Select Target Database drop-down list.
9. Select your database type, Unicode or non-Unicode, and character set.

   Choose the Database Type—Unicode or Non-Unicode—that you selected in the section on multilingual strategy. If you choose Non-Unicode, select the character set that you decided upon in that section from the

drop-down list.

Note. When you select a non-Unicode character set, only the characters within that character set can be stored in your database. Oracle recommends that you create your database using Unicode.

See "Preparing for Installation," Planning Multilingual Strategy.

The character set you select here must match the character set you used to create your database in the task Creating an Oracle Database. If you choose to create a Unicode database, you must have created your instance using the AL32UTF8 or UTF8 character set in the step Creating an Oracle Instance.

Note. The database setup does not actually modify the character set of your database. That is done by the DBA during database creation. The database setup process only creates customized scripts based on your selection.

---

10. Select the Demo or System radio button, depending on which type of PeopleSoft database you are installing.

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

---

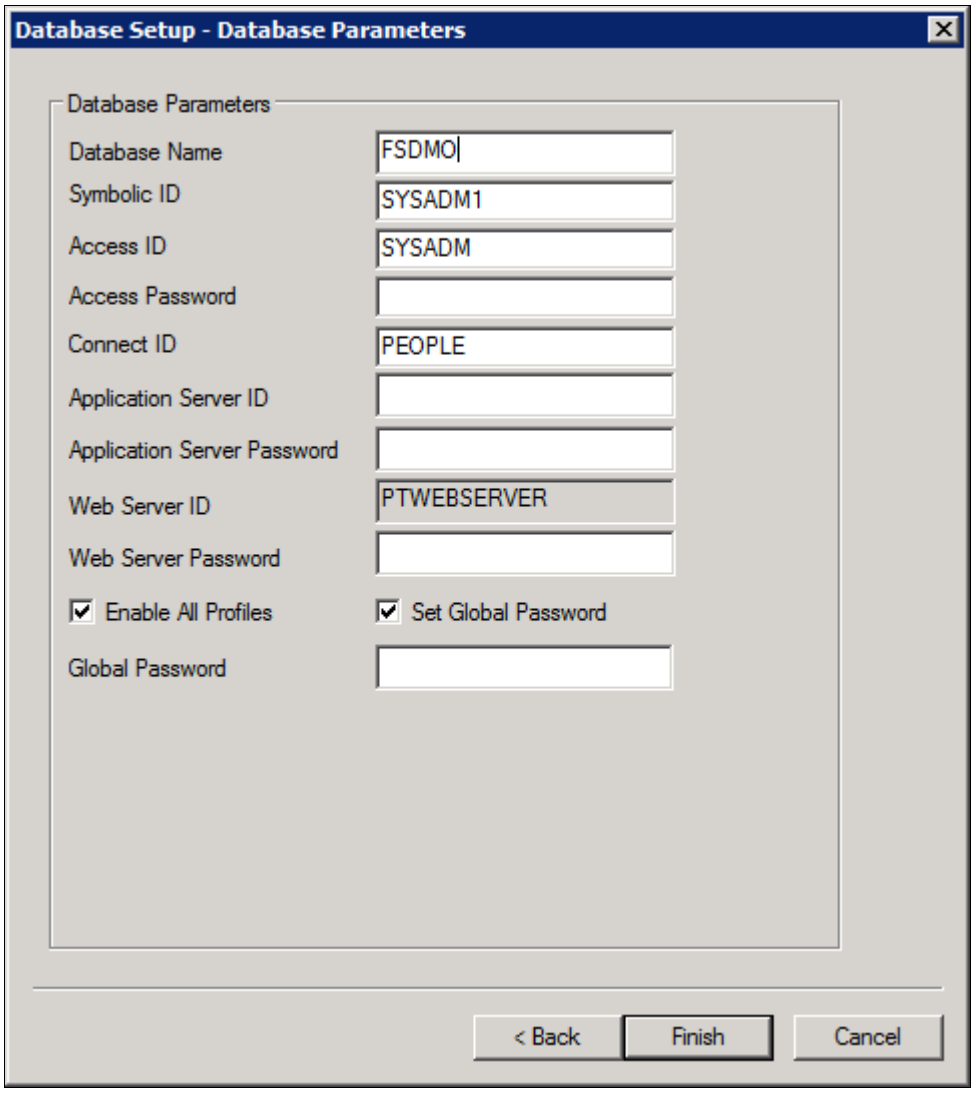
11. Select the Products for which you want to create a Data Mover script from the PeopleSoft Application list box, and move the items you have selected into the Data Mover Scripts to Create list box by clicking on the Add or Add All button.

    If you installed the Multilanguage software, each application will be listed several times, once for each language. If you are installing languages other than English, make sure to select the appropriate language data files for each application you select in English. This will load the translated database objects.

    See "Preparing for Installation," Planning Multilingual Strategy.

    If you are installing an application in any language other than English, you must also select the English component of the application. For example, if you select PeopleSoft Fin/SCM - French, you must also select PeopleSoft Fin/SCM Database - US English. This ensures that you install the necessary base-language components.

12. Set the database parameters described below and then click Finish.



Specifying Database Parameters on the Database Setup dialog box

- *Database Name:* Specify the database name that users will enter on the PeopleSoft signon screen. This corresponds to the owner ID. It can be up to eight characters long and must be entered in uppercase.
- *Symbolic ID:* This is used as the key to retrieve ACCESSID and ACCESSPSWD from PSACCESSPROFILE.

  For initial installation set it equal to the Database Name. The symbolic ID cannot be longer than eight characters.
- *Access ID:* Specify the user you used to create the database. Limit this to eight characters or less.

  This value is case sensitive. You will use the access ID every time you want to sign on to Data Mover in bootstrap mode. Limit this to eight characters or less.
- *Access Password:* This is the PeopleSoft access ID password defined in the chapter "Preparing for Installation." Limit this to 30 characters or less.
- *Connect ID:* For Oracle, this is the connect ID that is used for the initial connection to Oracle. This ID is used for connecting to the database. Limit this to eight characters or less.
- *Application Server ID*: The Application Server ID has privileges to start or shut down the Application

Server domain. It is also used during the Application Server configuration. Enter one of the delivered PeopleSoft user IDs.

- *Application Server Password*: Specify a password for the Application Server ID.
- *Web Server Password*: Specify a password for the Web Server ID.

  The default Web Server ID, as displayed in the example, is PTWEBSERVER. The Web Server ID, also referred to in this documentation as Web Profile User ID, is used to access the web profile information from the database through the Application Server Jolt service.
- *Enable All Profiles*: Select this option to leave the User profiles (other than the Application Server profile and the Web Server User profiles) unchanged.

  If you do not select this option, all of the User profiles in the database, with the exception of the Application Server profile and Web Server User profiles, remain disabled as delivered.
- *Set Global Password*: If you enabled all profiles, you can choose to set the same password for all of the profiles.

  Note. This option is enabled when the Enable All Profiles option is selected, as shown in the example.

- *Global Password*: Enter the password to be used for all user profiles.

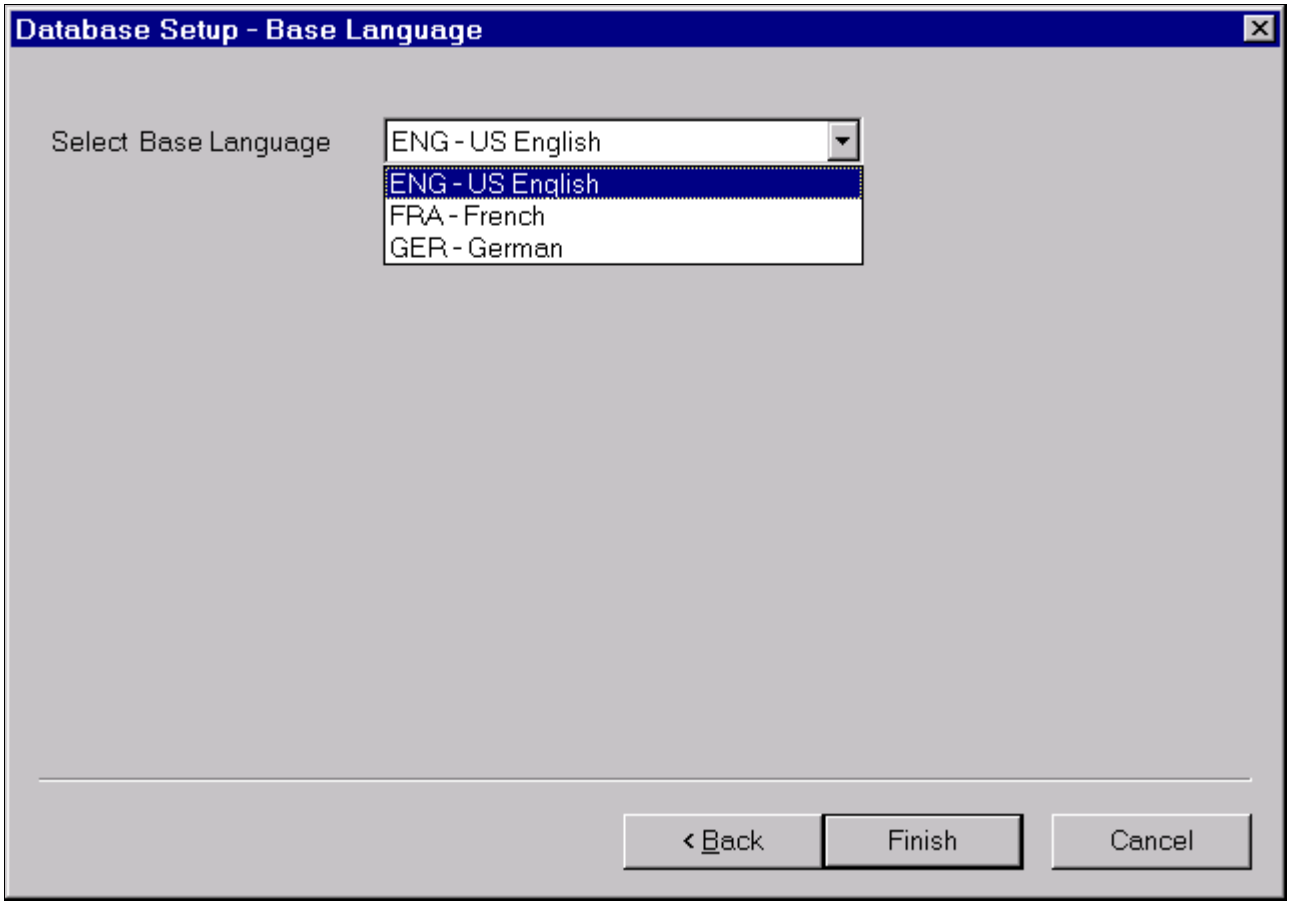
  Note. This option is enabled when the Set Global Password option is selected, as shown in the example.

13. Select your database's base language.

Note. This window appears only if you selected a database for a language other than English. If you see this window it is critical to select the correct base language. When you select a base language other than ENG, DBSETUP generates the Data Mover import script with the SWAP_BASE_LANGUAGE command to swap the base language.

See "Preparing for Installation," Planning Multilingual Strategy.

See Working with Multilingual Databases.



Selecting a base language in the Database Setup dialog box

Use the following information in making your selection:

- If you have not already done so, read the earlier section on multilingual strategy before determining whether to install multiple languages and whether to change your base language.
- If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.
- All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. During the Database Setup wizard, you need to select the database's base language that you plan to use most frequently. If your database's base language is different than the Database Setup wizard generate the SWAP_BASE_LANGUAGE command in the Data Mover Import script to swap the language.
- If you are creating a non-Unicode database, you must ensure that the languages you select are all

supported by the character set you used to create your database.

14. Click Finish.

Note. If the Database Setup - Base Language window does not appear, click Finish after supplying the parameters on the Database Setup - Database Parameters window.

At this point you are in Data Mover, with the DMS script you just created ready to run.

See Also

PeopleTools: Data Management

PeopleTools: Security Administration, "PeopleSoft Authorization IDs"

Task 6A-23: Running Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Populating Tables in the PeopleSoft Database

Understanding Data Mover Import Scripts

Now you will run the Data Mover scripts (DMS) that you created in the preceding task to import the data for your PeopleSoft database. The Data Mover script creates either a system (SYS) or a demo (DMO) database.

When you initially logged onto Data Mover to create the DMS scripts, you logged in with the Access ID and password, using bootstrap mode. You need to use bootstrap mode to run the Data Mover import script, because there are not yet any PeopleSoft security tables in the database.

When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

See *PeopleTools: Data Management.*

See Also

Checking the Log Files and Troubleshooting, Running Data Mover

Task 6A-23-1: Populating Tables in the PeopleSoft Database

To populate tables in the PeopleSoft database:

1. The DMS import script for your application will contain hard-coded file names for log files and data files.

   Modify the DMS script if you have moved any files from the delivered directories or want to write log files to another location than that specified in the script.

2. Select File, Run to execute the script.

When you run the script, Data Mover typically performs the following actions:

- IMPORT *

  Create all the PeopleTools and application tables with their indexes.

- ENCRYPT_PASSWORD *

  Encrypt security information for the database.
- CREATE_TRIGGER *

  Create application required triggers.
- REPLACE_VIEW *

  Create PeopleSoft views.
- CREATE_TEMP_TABLE *

  Create PeopleSoft temporary tables.

Task 6A-24: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology,* "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLEANLNG removes any orphaned related language objects that do not have a matching base language object.

1. Run the following SQL statement using the appropriate SQL query tool for your RDBMS.

   For <Log Path>, specify the path where you want the log for the application engine program in step 2 to be generated, such as c:\temp\.

   ```
   UPDATE PS_PTIASPDMPARAM SET PTIASPPROPVAL ='<Log Path>' WHERE
   PTIASPPROPNM='DMLOGPATH';
   ```

2. Run the PTIACLEANLNG application engine program.

   From the command line utility, the syntax is::

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

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

Task 6A-25: Checking the Log Files and Troubleshooting

This section discusses:

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

Task 6A-25-1: Checking the Log Files

After running each Data Mover script, examine the .LOG files to make sure that all the commands were executed successfully. The log files are located in the directory you specified in the Data Mover script.

See "Setting Up the Install Workstation," Editing the Default Profile.

Task 6A-25-2: Running Data Mover

Use one of these methods to run Data Mover.

Microsoft Windows

- On Microsoft Windows 2012 R2, access the Apps screen, and navigate to PeopleTools 8.56, Data Mover to run a graphical user interface (GUI mode).
- Run *PS_HOME*\bin\client\winx86\psdmt.exe from the command line.

If you use the access ID that you specified during the database configuration to log on, you log on in "bootstrap mode." When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

If you use a valid PeopleSoft Operator ID, such as PS for Human Capital Management or VP1 for Financials/Supply Chain Management, you log on in "user mode." In this mode, no designation appears in the Data Mover status bar.

See Also

PeopleTools: Data Management

Task 6A-25-3: Troubleshooting

If the DMS script has stopped midway (this can happen for a number of reasons) you need to edit the script and start again.

To edit and restart the DMS script:

1. Determine the record that was being imported (that is, which IMPORT command was running) when the script stopped, and use the following guidelines to edit and rerun the DMS scripts.

   When building a DMO database or a multilingual database, adding the SET START statement can be tricky because the Data Mover script used to load the database will include more than one IMPORT statement. The key is to view the log files and determine which IMPORT section of the script Data Mover failed on.

   - If the failure occurred during the first IMPORT statement, add the SET START statement before the first IMPORT *; statement.
   - If the failure occurred during a subsequent IMPORT statement, comment out all statements preceding the IMPORT *; statement where the failure occurred and add the SET START statement before the IMPORT *; statement of the section in which the failure occurred.
   - *This is very important:* If you see any "unique index constraint" error messages in the "Building required indexes" section, your IMPORT script failed during a subsequent IMPORT but the SET START statement was added to the first IMPORT. In this situation, you can run the Data Mover script in its originally generated form, with only one modification. In the first IMPORT section, change the statement "IMPORT *;" to "REPLACE_DATA *;". This will delete all the data in the tables, and re-import it. This process will take some time to run, and you will need to separately create each of the indexes that failed.

2. Run Data Mover as previously described.

   See Running Data Mover.

   The PeopleSoft Logon dialog box appears.
3. Log on using the Access ID to start Data Mover in *bootstrap mode*.

   Use the Access ID you specified when you created the Data Mover scripts with the Database Setup utility.

   The input window should display the DMS import script for the database. The script has the format <dbname>ora.dms.
4. If necessary, select File, Open, and browse to the *PS_HOME*/scripts directory to find the appropriate DMS script.
5. Add the following line before the offending IMPORT command (the one being executed when the failure occurred):

   ```
   SET START <RECORD NAME>;
   ```

   <RECORD NAME> is the name of the record that failed. Make sure to review the Data Mover log file to see where the script failed and locate the last record that imported successfully. The SET START command will begin the Data Mover import at the specified record name.

   Note. It is a good idea to change the name of the log file in the script before each attempt at running it. This ensures that you have a separate log file for each attempt, if you run the import more than once.

   For example, if the script stops and the table is partially inserted with a message similar to this one:

   ```
   Importing  PSPNLFIELD
   Rows inserted into PSPNLFIELD

   3000
   ```

   First drop the partially inserted table (for example, record) by using the DROP TABLE command, and then restart Data Mover at the record that failed using the SET START command and continue the Data Mover import. This can be done in a single pass.

   Add the following lines before the offending IMPORT *; command (the one being executed when the failure occurred):

   ```
   SET START <RECORD NAME>;
   DROP TABLE <RECORD NAME>;
   ```

   where <RECORD NAME> is the name of the record that failed. The SET START statement will begin the Data Mover import at the specified <RECORD NAME>.

   Example of the original script:

   ```
   REM - PeopleSoft Database - US English
   /
   SET LOG epengs.log;
   SET INPUT epengs.db;
   SET COMMIT 30000;
   SET NO VIEW;
   SET NO SPACE;
   SET NO TRACE;
   SET UNICODE ON;
   IMPORT *;
   ```

   Example of script after modification, with changes in bold font:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs2.log;
SET INPUT epengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET START PSPNLFIELD;
DROP TABLE PSPNLFIELD;
IMPORT *;
```

For the DROP statement, for records with a recname without a leading PS, add PS_ to the beginning of the recname; otherwise the table will not be found. For example, PS_<RECNAME>.

6. Restart the script (File, Run Script).

See Also

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

Task 6A-25-4: Improving Performance

The following tips can help you save time when running the Data Mover scripts:

- Run Data Mover from the fastest workstation available.
- Run Data Mover on the database server.
- Run only a single instance of Data Mover, and do not have any other applications running during the import.
- In the PeopleSoft Configuration Manager, turn off all trace options.

  Tracing during a DMS load will add considerable time to the process.
- Copy the database file over to the workstation so that Data Mover can access it locally instead of over the network.
- Run Data Mover on the database server with the .db or .dat file located locally.

If you are comfortable changing the options available for an Oracle instance, you might consider "tuning" the instance used for the import. Some of these options are appropriate only during the import, so you may not want to keep them in effect after the import is complete.

For best performance during a Data Mover import, set these options as follows:

- Increase the number of database blocks.
- Use an 8K Oracle block size.
- Use very large rollback segments.
- Increase the size of the UNDO tablespace or the number of UNDO Segments.
- Use asynchronous read and write.
- Use multiple db_writers.

Task 6A-26: Changing the Base Language

The information in the earlier task Planning Multilingual Strategy will help you determine whether you should change your base language, and lists the currently supported languages.

See "Preparing for Installation," Planning Multilingual Strategy.

See PeopleTools Certifications — Supported Languages, My Oracle Support (search for article name).

This task applies only if your users will be operating PeopleSoft applications *primarily* in one particular language other than English. It gives a performance boost to the language you designate as the base language, but requires more administrative overhead than leaving English as the base language. The details are spelled out in the *PeopleTools: Global Technology* product documentation.

Chapter 6B

Creating a Database on UNIX

This chapter discusses:

- Understanding the Database Configuration Wizard
- Fulfilling PeopleSoft Database Configuration Wizard Prerequisites
- Using the Database Configuration Wizard in Silent Mode
- Cleaning Up Orphaned Language Data
- Checking the Log Files and Troubleshooting

Understanding the Database Configuration Wizard

The Database Configuration Wizard is a tool designed to simplify your PeopleSoft database installation. When you run the Database Configuration Wizard, Data Mover is also running silently.

See *PeopleTools: Data Management.*

Important! Do not forget that application-specific installation steps are provided in a separate document specific to the application. For instance, if you are performing PeopleSoft CRM installation, you need both this PeopleSoft PeopleTools installation guide and you also need any additional instructions provided by CRM. My Oracle Support provides installation guides that are specific to your application.

See My Oracle Support, (search for "installation," the application name, and release).

This section includes information on creating an Oracle Container Database (CDB) and Pluggable Databases (PDBs). The sections specific to creation of CDBs and PDBs are labelled "(Multitenant Architecture)." Choose whether to create pluggable databases according to the Oracle RDBMS you installed, as follows:

- If you installed the Oracle 12c Enterprise Edition RDBMS, you can choose to create either CDBs or non-CDBs.
- If you installed Oracle 11gR2 RDBMS, you can create only a non-CDB. For installations on Oracle 11gR2, pluggable databases are not supported.

You also have the option of using a manual process for creating a PeopleSoft database, instead of using the Database Configuration Wizard. The manual process is mandatory for some configurations.

Important! The Database Configuration Wizard cannot be used with Oracle RAC. To create a database with this database platform, you must use the manual method of creating a database.

See the information on setting up the PeopleSoft installation with Oracle RAC in the *PeopleTools: Data Management* product documentation.

Important! The Database Configuration Wizard cannot be used for an Unicode database on an Oracle database version lower than 11g. You must use the manual method of creating a database for this configuration.

See Creating a Database Manually on UNIX.

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

After you complete the tasks in this chapter, read the chapter "Completing the Database Setup." Depending upon your environment, you may not need to carry out every task in that chapter. However it is important that you evaluate the requirements and perform the necessary tasks.

Task 6B-1: Fulfilling PeopleSoft Database Configuration Wizard Prerequisites

This section discusses:

- Installing the PeopleSoft Database Server Components on the Database Server
- Changing the Ownership for the PS_APP_HOME Directory
- Installing the Oracle RDBMS Software
- Identifying the Trace and Alert File Locations
- Creating an INIT<SID>.ORA File
- Creating an INIT<SID>.ORA File (Multitenant Architecture)
- Creating Target Directory Paths
- Creating Target Directory Paths (Multitenant Architecture)
- Setting Up Target Database Connectivity
- Running the Shell Script psconfig.sh

Task 6B-1-1: Installing the PeopleSoft Database Server Components on the Database Server

To run the PeopleSoft Database Configuration Wizard, your setup *must* fulfill these requirements:

- You must have installed the Database component of your application installation software to your database server.
- You must have the PeopleTools Development Environment set up to create your database.
- You must have the Oracle Tuxedo software installed before you run the Database Configuration Wizard.

  The Database Configuration Wizard invokes the PeopleSoft Data Mover utility. Data Mover on the UNIX platform has a dependency on the Oracle Tuxedo software. Install Oracle Tuxedo and verify that the TUXDIR environment variable is set.

  See Installing Oracle Tuxedo.
- You must run the Database Configuration Wizard at the database server.

Be sure the UNIX login ID executing the Database Configuration Wizard has sufficient read and write permissions on this server. Ideally the UNIX login ID executing the Database Configuration Wizard is part of the same UNIX group that the Oracle RDBMS owner is part of, usually the DBA group.

See the information on PeopleSoft Configuration Manager in the *PeopleTools: System and Server Administration* product documentation.

See Also

"Using the PeopleSoft Installer"

"Setting Up the Install Workstation"

Task 6B-1-2: Changing the Ownership for the PS_APP_HOME Directory

Before running the Database Configuration Wizard, change the ownership of the *PS_APP_HOME* directory. The user who runs the Database Configuration Wizard must have write permission to the *PS_APP_HOME* directory to access logs and scripts. After completing the database setup, you can revoke the permission.

Task 6B-1-3: Installing the Oracle RDBMS Software

The Oracle RDBMS software must be installed before you run the Database Configuration Wizard. The following discussion assumes that you are familiar with Oracle administration tasks. During the execution of the Wizard, references are made to an existing Oracle RDBMS installation:

$ORACLE_HOME and $ORACLE_HOME/bin

Note. The PeopleSoft Database Configuration Wizard for the current PeopleSoft PeopleTools release supports Oracle 11g or Oracle 12c. If you are using the pluggable database functionality, you must install Oracle 12c Enterprise Edition.

Task 6B-1-4: Identifying the Trace and Alert File Locations

For Oracle 11gR2 and later releases, all diagnostic data, including the alert log, are stored in the Automatic Diagnostic Repository (ADR), whose location is set by the DIAGNOSTIC_DEST initialization parameter. Due to this change, the initialization parameter settings for background dump (BACKGROUND_DUMP_DEST), core dump (CORE_DUMP_DEST), and user dump (USER_DUMP_DEST) are replaced by the diagnostic destination parameter DIAGNOSTIC_DEST. For information on the DIAGNOSTIC_DEST parameter and the default location for the ADR, see the Oracle RDBMS documentation.

See the information on managing diagnostic data in the Oracle Database Administrator's Guide.

Task 6B-1-5: Creating an INIT<SID>.ORA File

You must create an init.ora with the naming convention of init<SID>.ora in the *ORACLE_HOME*/dbs directory of your Oracle installation.

Add or modify the following init.ora parameters:

- DB_NAME = <SID>
- DB_FILES

  Specify the maximum allowed for your operating system, typically 1021.
- CONTROL_FILES

  Specify the control files for your database, such as `/filesystem1/cntrl1<SID>,/filesystem2/cntrl2<SID>`.
- OPEN_CURSORS = 1000

  This is a minimum value. You may choose to set this higher.

- DB_BLOCK_SIZE = 8192

PeopleSoft PeopleTools supports Oracle 11g and Oracle 12c. The PeopleSoft scripts are delivered to work across all versions of the Oracle RDBMS that Oracle supports for this release of PeopleSoft PeopleTools.

The Database Configuration Wizard will prompt you for a SID name. This init<SID>.ora will be referenced in the CREATEDB.SQL script, which is executed by the Database Configuration Wizard.

Review the following information and make any necessary edits to these parameters for your environment:

DB_BLOCK_SIZE

For UNIX the default DB_BLOCK_SIZE in the init<SID>.ora file is operating system dependent. On most operating systems the default is 8192 or 8K. For PeopleSoft ANSI databases this is more than adequate. For PeopleSoft Unicode databases (for example, CHARACTER_SET AL32UTF8), a DB_BLOCK_SIZE value of 8K is required.

NLS_LENGTH_SEMANTICS

Use these guidelines to set the `NLS_LENGTH_SEMANTICS` init<SID>.ora parameter:

- Set `NLS_LENGTH_SEMANTICS=CHAR` if you are installing a Unicode database with PeopleSoft application 9.0 or higher releases on PeopleTools 8.48 or higher.
- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing any non-Unicode database (such as a Western European or Shift-JIS database).
- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing a Unicode database with PeopleSoft application prior to release 9.0 on PeopleSoft PeopleTools prior to release 8.48.

If necessary, verify the PeopleTools release for your PeopleSoft application using this SQL query:

```
select TOOLSREL from PSSTATUS
```

Unicode databases on PeopleSoft PeopleTools 8.48 and later, with PeopleSoft application 9.0 or later use character length semantics. When character length semantics is used, a field of VARCHAR2(10) will store 10 characters. Prior to PeopleSoft PeopleTools 8.48 and PeopleSoft applications 9.0, byte length semantics was used, meaning a VARCHAR2(10) stored 10 bytes. If you are upgrading from a release before PeopleSoft PeopleTools 8.48 and PeopleSoft application 9.0 to one after 8.48 and 9.0, a database conversion is necessary for utilizing CHARACTER LENGTH SEMANTICS. This conversion process is covered in all PeopleSoft application 9.0 or higher upgrade paths.

It is very important that you set this parameter at the correct point during database creation. Database creation consists of running several scripts before loading the database with Data Mover, as follows:

- CREATEDB.SQL
- UTLSPACE.SQL
- *XX*DDL.SQL
- DBOWNER.SQL
- PSROLES.SQL
- PSADMIN.SQL
- CONNECT.SQL

Set the parameter `NLS_LENGTH_SEMANTICS` at the beginning of database creation or right before the Data Mover load.

To do this, modify the init<SID>.ora to add the `NLS_LENGTH_SEMANTICS` parameter, and then shut down and restart the database instance.

Oracle password

If you choose to use an Oracle Password file, you must create one using the ORAPWD utility, as illustrated in this example:

```
export ORACLE_SID=FSDMO
orapwd file=$ORACLE_HOME/dbs/pwdtemp2.ora password=manager entries=5
```

If you choose not to use an Oracle Password file, make one of the following changes to the init<SID>.ora file. This must be done *before* running the CREATEDB.SQL script.

- Remove the line beginning with `remote_login_passwordfile`, or add a comment character at the beginning as shown in this example:

  ```
  #remote_login_passwordfile=EXCLUSIVE
  ```

- Set the parameter to *NONE,* as in this example:

  ```
  remote_login_passwordfile=NONE
  ```

Note. The init<SID>.ora file will reference "target" directories to write control files, log files, and system files, as well as target locations for Oracle Logs, User Trace Files, and so on. These target directory paths must exist or the Database Configuration Wizard will fail. See the following section, Creating Target Directory Paths, for details.

For more parameters that may be required for the init<SID>.ora file, consult My Oracle Support.

See Operating System, RDBMS & Additional Component Patches Required for Installation PeopleTools, My Oracle Support, (search for the article name and your release).

Task 6B-1-6: Creating an INIT<SID>.ORA File (Multitenant Architecture)

If you are creating pluggable databases, set ORACLE_SID to the SID for the root container database (CDB); for example:

```
export ORACLE_SID=<SID>
```

Add the following line to the init<SID>.ora file:

```
enable_pluggable_database=true
```

Task 6B-1-7: Creating Target Directory Paths

As mentioned, you must create the directory path structure for the target directories referenced in the scripts executed by the Database Configuration Wizard. The Database Configuration Wizard will not create directories on the fly; it expects the directories to exist.

The <SID> variable for which the Database Configuration Wizard prompts you is automatically prepended to the directory path structure referenced in the various database creation scripts executed by the Database Configuration Wizard.

Note. If you want to use something other than the delivered directory paths, you need to modify the CREATEDB.SQL, UTLSPACE.SQL, and *XX*DDL.SQL scripts in the scripts directory under *PS_HOME,* replacing the delivered paths with paths appropriate for your site installation prior to running the Database Configuration Wizard.

Note. Compare the content in *XX*DDL.SQL with PTDDL.SQL, and if PTDDL.SQL has bigger tablespace sizes than *XX*DDL.SQL, increase the size of the tablespaces to at least as much in PTDDL.SQL.

You are also asked for several mount points. On UNIX you just specify the File System mount point. An example is *data1*. (Note that no preceding slash is required.)

Here are some examples of directory path structure references:

- The delivered CREATEDB.SQL script makes the following directory path structure references:

  Note. Portions of the script have been omitted for clarity.

```
startup nomount pfile=$ORACLE_HOME/dbs/init<SID>.ora
   datafile
      '/u01/oradata/<SID>/system01.dbf'      size 400M
   logfile
      '/u01/oradata/<SID>/log01.dbf'         size 70M,
      '/u01/oradata/<SID>/log02.dbf'         size 70M,
      '/u01/oradata/<SID>/log03.dbf'         size 70M;
```

- The init<SID>.ora parameter file that is referenced in the CREATEDB.SQL script makes the following directory path structure references:

  Note. Portions of the init<SID>.ora parameter file have been omitted for clarity. These paths are hardcoded by the user creating the init<SID>.ora parameter file. The Data Configuration Wizard will not make any substitutions for mount point, target directory path, or <SID> in the init<SID>.ora file.

  Control file references:

```
control_files = ("/u01/oradata/test92/control01.ctl", "/u01/oradata⇒
/test92⇒
/control02.ctl", "/u01/oradata/test92/control03.ctl")
```

- The delivered UTLSPACE.SQL script makes the following directory path structure references:

  Note. Portions of the script have been omitted for clarity.

```
CREATE TEMPORARY TABLESPACE       PSTEMP
TEMPFILE                'u03/oradata/<SID>/pstemp01.dbf'     SIZE 300M
EXTENT MANAGEMENT LOCAL UNIFORM SIZE 128K;

CREATE TABLESPACE      PSDEFAULT
DATAFILE               'u03/oradata/<SID>/psdefault.dbf'     SIZE 10M

EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
        INITIAL     100K
        NEXT        100K
        PCTINCREASE   0  );
```

- The delivered *XX*DDL.SQL scripts make the following directory path structure references:

  Note. This is a sample of the first several Create Tablespace SQL statements in the *XX*DDL.SQL script. The rest of the script has been omitted here for clarity.

```
 CREATE TABLESPACE PSIMAGE DATAFILE '/u01/oradata/<SID>/psimage.dbf'⇒
 SIZE 8M
 EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
```

```
CREATE TABLESPACE PSINDEX DATAFILE '/u01/oradata/<SID>/psindex.dbf' SIZE⇒
 64M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
CREATE TABLESPACE PTAPP DATAFILE '/u01/oradata/<SID>/ptapp.dbf' SIZE 4M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
/
```

Task 6B-1-8: Creating Target Directory Paths (Multitenant Architecture)

If you are creating a PDB, you must add the following target directories, replacing <*SID*> with ORACLE_SID for the CDB, and <*PDB_SERVICE_NAME*> with the PDB database name.

- /mount/oradata/<*SID*>/pdbseed
- /mount/oradata/<*SID*>/logs

  Note. The PeopleSoft UNIX user ID executing the Database Configuration Wizard should have read and write permissions for the /mount/oradata/<SID>/logs directory.

- /mount/oradata/<*SID*>/<*PDB_SERVICE_NAME*>

Task 6B-1-9: Setting Up Target Database Connectivity

You must add a TNS entry to $ORACLE_HOME/network/admin/tnsnames.ora, because during the Data Mover Load phase, the Database Configuration Wizard will try to connect to the newly created SID by means of a remote connection string—for example:

```
ACCESSID/ACCESSPWD@TNS_ALIAS
```

Update the connection information in TNSNAMES.ORA on your server to reflect your Database Name, Oracle SID, and Server Name.

Note. Make sure that you stop and start (or reload) the Oracle Net listener.

If you are creating a PDB, add an entry in tnsnames.ora to the PDB database (for example, <*PDB_SERVICE_NAME*>), not to the root (CDB) database.

Task 6B-1-10: Running the Shell Script psconfig.sh

The shell script psconfig.sh sets up the environment for Data Mover to run. The PeopleSoft Data Mover utility is used to load the database.

To run psconfig.sh:

1. Change the directory to *PS_HOME*.
2. Run psconfig.sh (. ./psconfig.sh)

   Note. The PeopleSoft UNIX user ID executing the Database Configuration Wizard has to be part of the Oracle DBA group or the PeopleSoft UNIX user ID must grant the UNIX Oracle Administration ID write permission to the following directories in *PS_HOME*: log, modifiedscripts, and scripts.

Task 6B-2: Using the Database Configuration Wizard in Silent Mode

This section discusses:

- Understanding the Database Configuration Wizard
- Preparing the Response File
- Running the Silent Mode Database Creation

Understanding the Database Configuration Wizard

When you run the Database Configuration Wizard, Data Mover typically performs the following actions:

1. IMPORT *. Create all the PeopleTools and application tables with their indexes.
2. ENCRYPT_PASSWORD * Encrypt security information for the database.
3. CREATE_TRIGGER * Create application-required triggers.
4. REPLACE_VIEW * Create PeopleSoft views.
5. CREATE_TEMP_TABLE * Create PeopleSoft temporary tables.

If Data Mover fails at any of the above steps, it will complete the rest of the steps but will not start the next step—instead the Database Configuration Wizard aborts and tells the user what file to review for the detailed error message. If Data Mover fails at step 1 or 2, it is fatal. If Data Mover fails at step 3 or 4, it is not necessarily fatal. You may continue the next step(s) manually.

To complete the database creation procedure you must supply information on various authorization IDs and passwords, including Access ID, Connect ID, Symbolic ID, and User IDs. Before beginning this procedure, review the information in the section Planning Database Creation and make a note of the authorization information for your environment. For the current release, the user profiles in PeopleTools demo databases are delivered disabled. During the database configuration procedure you will choose whether to enable the delivered user profiles, and how to assign passwords for the profiles. In addition, you will supply several passwords that were previously provided as defaults. Be sure to note the passwords that you supply, as they will be needed for subsequent installation procedures. See the information on user profiles in the *PeopleTools: Security Administration* product documentation.

Note. The Database Configuration Wizard is not supported on Microsoft Windows.

Task 6B-2-1: Preparing the Response File

In the current release, the Database Configuration Wizard is run in silent mode. In silent mode, you provide the required information in a response text file and run the script without further interaction. After installation, you can find a sample response file, ora_resp_file.txt, in *PS_HOME/*setup/PsMpDbInstall.

The response file is organized with basic and RDBMS-specific sections, with explanations for many entries. Copy the file and modify the values for your environment. Save the file in a location referred to in this section as *<path_to_response_file>*. To exclude a line of text in the file, enter a pound sign (#) at the beginning of the line.

1. Review the comments and instructions.

   Note the command to run the silent installation, and the proper syntax for specifying paths in UNIX.

```
#
# Response file for Database Configuration Wizard (DCW)
# 1. In Linux or UNIX:
#    Go to PS_HOME/setup/PsMpDbInstall and run the following command:
#    setup.sh -f <path_to_response_file>
#
# 2. Change the values for your environment.
#
```

2. Specify the location for the PeopleSoft application software, PS_APP_HOME.

   Note that the DPK installation requires that the *PS_APP_HOME* location, where the PeopleSoft application is installed, is different than the *PS_HOME* location where the PeopleSoft PeopleTools software is installed. The *PS_HOME* location cannot be changed in the Database Configuration Wizard response file.

```
##################################################################

                          BASIC Input

##################################################################

#The following inputs are required in the response file for silent⇒
 installation.
#PS_HOME=Installation location.
#Do not change anything. It will be determined automatically by the⇒
 installer.
PS_APP_HOME=C:\fscm_app_home

#If you have installed PeopleSoft Applications outside PeopleTools PS_⇒
HOME then choose the PeopleSoft Applications home PS_APP_HOME, else⇒
 leave the default PS_HOME.
```

3. To create an Oracle database, choose DB_SERVER_TYPE=ORA, and leave the comment characters in front of the other selections.

```
DB_SERVER_TYPE=ORA
#DB_SERVER_TYPE=MSS
#DB_SERVER_TYPE=DB2
#DB_SERVER_TYPE=DB2UNIX
#DB_SERVER_TYPE=DB2ODBC
```

4. Specify whether you want to create a Demo or System database for DB_TYPE.

```
# DB_TYPE=DMO/SYS
# This specifies the type of database you want to create. Specify DMO⇒
 for Demo Database or SYS for System Database.
#
CREATE_DB_TYPE=DMO
```

5. To create a Unicode database, specify 1 (one) for the UNICODE parameter, or 0 (zero) for non-Unicode.

   Oracle recommends Unicode, but also supports non-Unicode (legacy) code sets, in PeopleSoft databases. Use the values listed previously to specify the character set for DB_CHARSET_CODE and description for DB_CHAR_DES.

   See "Preparing for Installation," Planning Multilingual Strategy for information on allowed character sets.

For example, for a Unicode database:

```
#UNICODE=0
# This value is determined in unicode.cfg. Specify the value here to⇒
 override that setting.
#
UNICODE=1
DB_CHARSET_CODE=AL32UTF8
DB_CHAR_DES=AL32UTF8
```

For non-Unicode:

```
#UNICODE=0
# This value is determined in unicode.cfg. Specify the value here to⇒
 override that setting.
#
UNICODE=0
DB_CHARSET_CODE=WE8ISO8859P1
DB_CHAR_DES=Western European ISO 8859-1
```

6. The base language selection (BASE_LANGUAGE) is used to determine what primary base language you want to run the PeopleSoft application on.

   If you choose a language other than English, the base language will be swapped during the database creation script. See "Preparing for Installation," Planning Multilingual Strategy. This step applies only if your users will be operating PeopleSoft applications primarily in one particular language other than English. This step gives a performance boost to the language you designate as the base language, but would require more administrative overhead than leaving English as the base language does. See *PeopleTools: Global Technology*.

   ```
   BASE_LANGUAGE=ENG
   #APP_LANGUAGE = UKE
   ```

7. Specify the user name for the Connect ID, and the Connect ID password.

   The Connect ID must be eight characters or less. The password for the Connect ID should contain only alphanumeric characters and must be between 6 and 30 characters.

   ```
   DB_DB_NAME=FSDMO
   PS_CONNECT_ID=people
   PS_CONN_PWD=<password>
   PS_CONN_PWD_RETYPE=<password>
   ```

8. Specify the Application Server User ID and password.

   The password should contain only alphanumeric characters and is between 1 and 32 characters in length.

   ```
   PS_APP_USER=PS
   PS_APP_PWD=<password>
   PS_APP_PWD_RETYPE=<password>
   ```

9. Specify the user ID and password for the PTWEBSERVER profile.

   The default Web server user is PTWEBSERVER. The Web Server user ID, also referred to in this documentation as Web Profile User ID, is used to access the web profile information from the database through the Application Server Jolt service.

   The password should contain only alphanumeric characters and is between 6 and 32 characters in length.

   ```
   PS_WEB_USER=PTWEBSERVER
   ```

```
PS_WEB_PWD=<password>
PS_WEB_PWD_RETYPE=<password>
```

10. Set the parameter ENABLE_USERPROFILE to 1 (one) to leave the User profiles (other than the Application Server User Profile and Web server User profiles) unchanged. Set this option to 0 (zero) to disable all the User profiles in the database except the Application Server User Profile and Web server User profiles.

```
ENABLE_USERPROFILE=1
```

11. Specify how to set the user passwords.
    - Set the parameter SET_GLOBAL_PWD to 0 (zero) to specify a password that is the same as the User ID (for example, VP1/VP1).
    - Set the parameter PS_GLOBAL_PWD to 1 (one) to set a common global password for all the User profiles in the database.

      If you set the option to 1, for PS_GLOBAL_PWD, specify the password to be used for all user profiles.

```
SET_GLOBAL_PWD=0
#PS_GLOBAL_PWD=
```

12. Specify whether you want to create a container (CDB) or non-container database in the Oracle section.

```
#################################################################

                          ORACLE Input

#################################################################
# Specify Yes for container database.
CDB=NO
#CDB=YES
DBCONFIGTYPE=
```

13. Specify the installation location for the Oracle software, ORACLE_HOME and the location for the SQL*Plus executable (SQLPLUS_PATH), usually *ORACLE_HOME*/bin

```
ORACLE_HOME=/ds1/app/oracle/product/12.1.0/dbhome_1
SQLPLUS_PATH=/ds1/app/oracle/product/12.1.0/dbhome_1/BIN
```

14. Choose to either create an Oracle SID and load a PeopleSoft database, or use an existing Oracle SID to load the PeopleSoft database. For a new installation you must create a new Oracle SID.

```
NEW_SID=YES
#NEW_SID=NO
```

15. Specify Oracle Server and SID information.

```
DB_ORCL_SID=FSDMO
#forward slash before path/after path to oradata should not be given
#Mount Point 1( for SYSTEM and REDO LOGS file in createdb.sql, ex: NT⇒
 'C'  , UNIX 'u01') [c]: data1/psft/db
DB_ORCL_MP1=ds1
#Mount Point 2 ( for PSTEMP and PSDEFAULT file in utlspace.sql, ex: NT⇒
 'C'  , UNIX 'u01') [c]: data1/psft/db
DB_ORCL_MP2=ds1
#Mount Point 3 ( for all files in xxddl.sql, ex: NT 'C'  , UNIX 'u01') ⇒
[c]: data1/psft/db
DB_ORCL_MP3=ds1
```

```
AUTOEXTEND=YES
#AUTOEXTEND=NO
```

16. Specify the database owner ID (access ID) and password.

    You must limit the owner ID (access ID) and connect ID to eight characters or less. The password for the owner ID (access ID) must be between 6 and 30 characters.

    ```
    DB_OWNER_ID=SYSADM
    DB_OWNER_PWD=<password>
    DB_OWNER_PWD_RETYPE=<password>
    ```

17. Specify the PeopleSoft default tablespace.

    The PSADMIN.SQL script is run by the Database Configuration Wizard for every PeopleSoft database that you are going to create. When prompted for a default tablespace name, select PSDEFAULT if you are using PeopleSoft naming conventions, or your site equivalent if you are not using PeopleSoft naming conventions.

    ```
    PS_DEF_TBL_SPCE=PSDEFAULT
    ```

18. Specify the full path to the init.ora file.

    The path in the preceding prompt for init<SID>.ora (initFSDMO.ora in the example code) must match the path of the init<SID>.ora file you created under the task "Fulfilling PeopleSoft Database Configuration Wizard Prerequisites" earlier in this chapter.

    ```
    #complete path of init.ora file
    P_FILE_PATH=/ds1/app/oracle/product/12.1.0/dbhome_1/dbs/initFSDMO.ora
    ```

Task 6B-2-2: Running the Silent Mode Database Creation

Use the response file that you modified for your configuration. Substitute the location where you saved the response file for <path_to_response_file> in the following procedures.

On Microsoft Windows:

1. In a command prompt, go to *PS_HOME*\setup\PsMpDbInstall.
2. Run the following command, using forward slashes (/) to specify the path:

   ```
   setup.bat -f <path_to_response_file>
   ```

   For example:

   ```
   setup.bat -f D:/psftinstall
   ```

On UNIX:

1. In a command prompt, go to *PS_HOME*\setup\PsMpDbInstall.
2. Run the following command, using forward slashes (/) to specify the path:

   ```
   setup.sh -f <path_to_response_file>
   ```

   For example:

   ```
   setup.sh -f /home/psftinstall
   ```

Task 6B-3: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology,* "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLEANLNG removes any orphaned related language objects that do not have a matching base language object.

1. Run the following SQL statement using the appropriate SQL query tool for your RDBMS.

   For <Log Path>, specify the path where you want the log for the application engine program in step 2 to be generated, such as c:\temp\.

   ```
   UPDATE PS_PTIASPDMPARAM SET PTIASPPROPVAL ='<Log Path>' WHERE
   PTIASPPROPNM='DMLOGPATH';
   ```

2. Run the PTIACLEANLNG application engine program.

   From the command line utility, the syntax is::

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

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

Task 6B-4: Checking the Log Files and Troubleshooting

This section discusses:

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

Task 6B-4-1: Checking the Log Files

After the Database Configuration Wizard finishes its execution, look for all log output in the *PS_HOME*/log directory. Open all the log files. There is a log file for each of the steps that the Database Configuration Wizard carries out—importing, encrypting passwords, creating triggers, replacing views, and creating temp tables. *None should contain error messages.*

Task 6B-4-2: Running Data Mover

If the Database Configuration Wizard does not complete successfully, you must run Data Mover manually, using one of the following methods.

On UNIX, run *PS_HOME/*bin/psdmtx from the command line.

If you use the access ID that you specified during the database configuration to log on, you log on in "bootstrap mode." When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

If you use a valid PeopleSoft Operator ID, such as PS for Human Capital Management or VP1 for Financials/Supply Chain Management, you log on in "user mode." In this mode, no designation appears in the Data Mover status bar.

To run Data Mover on the command line:

Note. You can run `psdmtx` by supplying arguments on the command line, or by passing the arguments from a text file. This section describes the text file method.

---

1. Go to *PS_HOME/*bin.

   ```
   cd $PS_HOME/bin
   ```

2. Use the following command to view the help for `psdmtx`:

```
$ psdmtx /help
Usage:  psdmtx  [-CT DB2|DB2ODBC|DB2UNIX|MICROSFT|ORACLE]
                [-CS server name]
                [-CD database name]
                [-CO user id]
                [-CP user pswd]
                [-CI connect id]
                [-CW connect id pswd]
                [-I  process instance]
                [-FP filename]
          or
        psdmtx  [parmfile]
```

To capture the output in a file, use a greater-than symbol ("pipe", >) followed by a filename. For example:

```
psdmtx [arguments] > filename.txt
```

Use the following list of commands and descriptions for the `psdmtx` arguments:

Command Argument	Description
-CT <DB type>	The type of database to connect to: ORACLE.
-CD <DBNAME>	Your selected Database Name.
-CO <ACCESSID>	Use the <DBNAME> Access ID to run Data Mover in bootstrap mode.
-CP <ACCESSPWD>	The password for <DBNAME> Access ID.
-CI <CONN ID>	The ID used to connect to the database server.
-CW <CONN PSWD>	The password for the specified connection ID.
-FP <filename>	The filename for the Data Mover import script (DMS) to run.

3. To set up Data Mover to rerun the Data Mover import script in bootstrap mode, do the following:
   a. Change directory to *PS_HOME/*setup.
   b. Copy parmfile to parm<DBNAME>. For example, *parmPT856.*
   c. Edit parm<DBNAME>.

      Use the information in the table above to edit the file for your configuration.

      Use ORACLE for <DB type>.

      For example:

      Before

```
-CT <DB type> -CD <DBNAME> -CO <ACCESSID> -CP <ACCESSPWD> -CI <CONN⇒
 ID> -CW⇒
 <CONN PSWD> -FP <filename>
```

After

```
-CT ORACLE -CD HRDMO -CO HRDMO -CP HRDMO -CI people -CW people -FP⇒
 $PS_HOME⇒
/scripts/pt856ora.dms
```

4. To launch Data Mover in bootstrap mode, do the following:
   - Change directory (cd) to *PS_HOME/*bin
   - Run the psdmtx command with the edited parm<DBNAME> file.

     ```
     pt-sun20:$ psdmtx ../setup/parmPT856
     ```

     You see Data Mover log messages tracking the progress.

See Also

PeopleTools: Data Management

Task 6B-4-3: Troubleshooting

If the Database Configuration Wizard did not complete successfully, read this troubleshooting information. If your script has stopped midway (this can happen for a number of reasons) you need to edit the Data Mover script generated automatically by the Database Configuration Wizard and restart Data Mover manually. The Data Mover script files have the extension .dms and are sometimes referred to as "DMS scripts."

The generated Data Mover import script is saved in the *PS_APP_HOME/*scripts directory. The script conforms to the following naming convention:

<dbname>ora.dms

If the Database Configuration Wizard fails while creating views, clear the cache folder, for example, *USER_HOME/*PS_CACHE, and restart from the create views step.

See the information on startup settings in PeopleSoft Configuration Manager in the *PeopleTools: System and Server Administration* product documentation.

To edit and restart the DMS script:

1. Determine the record that was being imported (that is, which IMPORT command was running) when the script stopped, and use the following guidelines to edit and rerun the DMS scripts.

   When building a DMO database or a multilingual database, adding the SET START statement can be tricky because the Data Mover script used to load the database will include more than one IMPORT statement. The key is to view the log files and determine which IMPORT section of the script Data Mover failed on.

   - If the failure occurred during the first IMPORT statement, add the SET START statement before the first IMPORT *; statement.
   - If the failure occurred during a subsequent IMPORT statement, comment out all statements preceding the IMPORT *; statement where the failure occurred and add the SET START statement before the IMPORT *; statement of the section in which the failure occurred.
   - *This is very important:* If you see any "unique index constraint" error messages in the "Building required indexes" section, your IMPORT script failed during a subsequent IMPORT but the SET START statement was added to the first IMPORT. In this situation, you can run the Data Mover script in its originally generated form, with only one modification. In the first IMPORT section, change the statement "IMPORT *;" to "REPLACE_DATA *;". This will delete all the data in the tables, and re-import it. This process will take some time to run, and you will need to separately create each of the indexes that failed.

2. Start Data Mover by running psdmtx on the command line.

   See Running Data Mover.

3. Log on using the Access ID to start Data Mover in *bootstrap mode*.

   The input window should display the DMS import script for the database. The script has the format <dbname>ora.dms.

4. If necessary, select File, Open, and browse to the *PS_HOME*/scripts directory to find the appropriate DMS script.

5. Add the following line before the offending IMPORT command (the one being executed when the failure occurred):

   ```
   SET START <RECORD NAME>;
   ```

   <RECORD NAME> is the name of the record that failed. Make sure to review the Data Mover log file to see where the script failed and locate the last record that imported successfully. The SET START command will begin the Data Mover import at the specified record name.

   Note. It is a good idea to change the name of the log file in the script before each attempt at running it. This ensures that you have a separate log file for each attempt, if you run the import more than once.

   For example, if the script stops and the table is partially inserted with a message similar to this one:

   ```
   Importing  PSPNLFIELD
   Rows inserted into PSPNLFIELD

   3000
   ```

   First drop the partially inserted table (for example, record) by using the DROP TABLE command, and then restart Data Mover at the record that failed using the SET START command and continue the Data Mover import. This can be done in a single pass.

   Add the following lines before the offending IMPORT *; command (the one being executed when the failure occurred):

   ```
   SET START <RECORD NAME>;
   DROP TABLE <RECORD NAME>;
   ```

   where <RECORD NAME> is the name of the record that failed. The SET START statement will begin the Data Mover import at the specified <RECORD NAME>.

   Example of the original script:

   ```
   REM - PeopleSoft Database - US English
   /
   SET LOG epengs.log;
   SET INPUT epengs.db;
   SET COMMIT 30000;
   SET NO VIEW;
   SET NO SPACE;
   SET NO TRACE;
   SET UNICODE ON;
   IMPORT *;
   ```

   Example of script after modification, with changes in bold font:

   ```
   REM - PeopleSoft Database - US English
   /
   ```

```
SET LOG epengs2.log;
SET INPUT epengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET START PSPNLFIELD;
DROP TABLE PSPNLFIELD;
IMPORT *;
```

For the DROP statement, for records with a recname without a leading PS, add PS_ to the beginning of the recname; otherwise the table will not be found. For example, PS_<RECNAME>.

6. To restart the script, use the `psdmtx` command to execute Data Mover on the command line.

   See Running Data Mover.

Task 6B-4-4: Improving Performance

The following tips can help you save time when running the Data Mover scripts:

- Run Data Mover from the fastest workstation available.
- Run Data Mover on the database server.
- Run only a single instance of Data Mover, and do not have any other applications running during the import.
- In the PeopleSoft Configuration Manager, turn off all trace options.

  Tracing during a DMS load will add considerable time to the process.
- Copy the database file over to the workstation so that Data Mover can access it locally instead of over the network.
- Run Data Mover on the database server with the .db or .dat file located locally.

If you are comfortable changing the options available for an Oracle instance, you might consider "tuning" the instance used for the import. Some of these options are appropriate only during the import, so you may not want to keep them in effect after the import is complete.

For best performance during a Data Mover import, set these options as follows:

- Increase the number of database blocks.
- Use an 8K Oracle block size.
- Use very large rollback segments.
- Increase the size of the UNDO tablespace or the number of UNDO Segments.
- Use asynchronous read and write.
- Use multiple db_writers.

Chapter 6C

Creating a Database Manually on UNIX

This chapter discusses:

- Understanding Database Creation
- Preparing for the PeopleSoft Database Installation
- Using SQL Tools
- Editing Database Scripts (non-Multitenant)
- Setting NLS_LANG in the Windows Registry
- Creating an Oracle Instance (non-Multitenant)
- Creating Catalog Views and Utility Tablespaces (non-Multitenant)
- Creating PS.PSDBOWNER Table (non-Multitenant)
- Creating Application-Specific Dbspaces and Tablespaces (non-Multitenant)
- Creating PeopleSoft Database Roles (non-Multitenant)
- Creating the PeopleSoft Database Owner ID (non-Multitenant)
- Setting Up Connect ID (non-Multitenant)
- Editing Database Scripts (Multitenant Architecture)
- Creating an Oracle Instance (Multitenant Architecture)
- Creating Catalog Views and Utility Tablespaces (Multitenant Architecture)
- Creating PS.PSDBOWNER Table (Multitenant Architecture)
- Creating Application-Specific Dbspaces and Tablespaces (Multitenant Architecture)
- Creating PeopleSoft Database Roles (Multitenant Architecture)
- Creating the PeopleSoft Database Owner ID (Multitenant Architecture)
- Setting Up Connect ID (Multitenant Architecture)
- Updating Connection Information
- Creating Data Mover Import Scripts
- Running Data Mover Import Scripts
- Cleaning Up Orphaned Language Data
- Checking the Log Files and Troubleshooting
- Changing the Base Language

Understanding Database Creation

This section describes the tasks required to create a PeopleSoft product database. During a standard PeopleSoft installation you will execute these tasks to create two distinct types of databases.

- *System:* The System (SYS) database has no company specific data, and can be used to load your data and begin development of your production database.
- *Demo:* The Demo (DMO) database contains data for a sample company, and can be used immediately for demonstration, for testing, and as a development reference.

Note. The PeopleTools System Database (PTSYS) is not available with the current release. As an alternative, install the latest PeopleSoft Interaction Hub database.

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

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

The requirements for these databases vary, so not all of this section's tasks apply to each database. The instructions will note any distinctions between creating a Demo and a System database.

- You must have installed the Database component of your PeopleSoft application installation software to your database server.
- You must have the PeopleTools Development Environment set up to create your database.
- You must have the Oracle Tuxedo software installed before you use Data Mover to create the database.

  Data Mover on the UNIX platform has a dependency on the Oracle Tuxedo software. Install Oracle Tuxedo and verify that the TUXDIR environment variable is set.

This section includes tasks to create pluggable databases and for non-pluggable databases, as well as tasks that apply to both types. The pluggable database tasks create an Oracle Container Database (CDB) and a Pluggable Database (PDB), and are labelled "(Multitenant Architecture)." The tasks specific to non-pluggable databases are labelled "(non-Multitenant)." Choose which tasks to use according to the RDBMS you installed, as follows:

- If you installed Oracle 12c Enterprise Edition RDBMS, you can choose to create either CDBs or non-CDBs.
- If you installed Oracle 11gR2 RDBMS, you can create only a non-CDB. For installations on Oracle 11gR2, pluggable databases are not supported. In this case, use the non-multitenant sections.

Important! Do not forget that application-specific installation steps are provided in a separate document specific to the application. For instance, if you are performing PeopleSoft CRM installation, you need both this documentation for the basic installation of PeopleSoft PeopleTools and the PeopleSoft Application, and any additional instructions provided by CRM. Search in My Oracle Support for the installation documentation specific to your application.

Important! If you are installing the PeopleSoft software on an Oracle RAC database, there are additional configuration procedures that you must follow.

See *PeopleTools: Data Management,* "Setting Up the PeopleSoft Installation with Oracle RAC."

After you complete the tasks in this chapter, read the chapter "Completing the Database Setup." Depending upon your environment, you may not need to carry out every task in that chapter. However it is important that you evaluate the requirements and perform the necessary tasks.

See Also

"Preparing for Installation," Planning Database Creation

"Setting Up the Install Workstation"

Task 6C-1: Preparing for the PeopleSoft Database Installation

This section discusses:

- Installing the PeopleSoft Database Sever Components on the Database Server
- Installing the Oracle RDBMS Software
- Identifying the Trace and Alert File Locations
- Setting Environment Variables for the PeopleSoft Database
- Creating an INIT<SID>.ORA File
- Creating an INIT<SID>.ORA FIle (Multitenant Architecture)

Task 6C-1-1: Installing the PeopleSoft Database Sever Components on the Database Server

To create a PeopleSoft Database you must have installed the PeopleSoft software on your database server by running the PeopleSoft Installer and choosing the Database Server option, as described in a previous chapter. In addition, you need to install your application software to your database server before loading the database.

See "Using the PeopleSoft Installer."

Note. Remember, you need to have the PeopleTools Development Environment set up to create your database.

See "Setting Up the Install Workstation."

See the information on using PeopleSoft Configuration Manager in the *PeopleTools: System and Server Administration* product documentation.

Task 6C-1-2: Installing the Oracle RDBMS Software

The rest of this chapter assumes that the Oracle RDBMS software is installed on your database server. If you have not already done so, install the Oracle RDBMS software now. During the database creation process, we refer to an existing Oracle RDBMS installation. Specifically:

ORACLE_HOME and *ORACLE_HOME*/bin

Note. If you are creating pluggable databases, you must install Oracle 12c Enterprise Edition.

Task 6C-1-3: Identifying the Trace and Alert File Locations

For Oracle 11gR2 and later releases, all diagnostic data, including the alert log, are stored in the Automatic Diagnostic Repository (ADR), whose location is set by the DIAGNOSTIC_DEST initialization parameter. Due to this change, the initialization parameter settings for background dump (BACKGROUND_DUMP_DEST), core dump (CORE_DUMP_DEST), and user dump (USER_DUMP_DEST) are replaced by the diagnostic destination parameter DIAGNOSTIC_DEST. For information on the DIAGNOSTIC_DEST parameter and the default location for the ADR, see the Oracle RDBMS documentation.

See the information on managing diagnostic data in the Oracle Database Administrator's Guide.

Task 6C-1-4: Setting Environment Variables for the PeopleSoft Database

Log on to the server as the Oracle owner, and set these environment variables:

- Set the ORACLE_SID value to point to the database you are going to set up, and then export the value.

  From the Bourne or Korn shell, enter the following:

  ```
  $ ORACLE_SID=hdmo; export ORACLE_SID
  ```

- Set the NLS_LANG environment variable to indicate the Oracle language and character set.

  The PeopleSoft Application Server and reporting tools run in Unicode regardless of the database character set or the NLS_LANG character set component. However, the NLS_LANG character set component does affect the transmission of data in non-PeopleTools connections, such as SQLPlus and direct COBOL. NLS_LANG has three components, a language, a territory and a character set in the form LANGUAGE_TERRITORY.CHARACTERSET. For example, for American English, the correct NLS_LANG setting for PeopleSoft would be AMERICAN_AMERICA.AL32UTF8. See the Oracle National Language Support guide for full details. These parameters need to be set each time you access your PeopleSoft system from the UNIX shell. Therefore, we suggest you edit your psconfig.sh file to make these changes take effect each time you configure your environment.

  From the Bourne or Korn shell, enter the following, substituting <language> and <territory> for the language and territory values you prefer to use. If unsure, use AMERICAN_AMERICA.AL32UTF8:

  ```
  $ NLS_LANG=<language>_<territory>.AL32UTF8; export NLS_LANG
  ```

  Alternatively, from the C shell, enter the following:

  ```
  $ setenv NLS_LANG <language>_<territory>
  ```

Task 6C-1-5: Creating an INIT<SID>.ORA File

Create an initialization file by copying and editing the init.ora file that is delivered with the Oracle database software and typically resides in $ORACLE_HOME/dbs.

```
cd $ORACLE_HOME
cd dbs
cp init.ora init<SID>.ora
```

Add or modify the following parameters in the init<SID>.ora:

- DB_NAME = <SID>
- DB_FILES

  Specify the maximum allowed for your operating system, typically 1021.

- CONTROL_FILES

  Specify the control files for your database, such as `/filesystem1/cntrl1<SID>,/filesystem2/cntrl2<SID>`.
- OPEN_CURSORS = 1000

  This is a minimum value; you may choose to set it higher.
- DB_BLOCK_SIZE = 8192

Note. PeopleSoft PeopleTools supports Oracle 11g and Oracle 12c. The PeopleSoft scripts are delivered to work across all versions of the Oracle RDBMS that Oracle will support for this release of PeopleSoft PeopleTools.

Review the following parameters and make any necessary edits for your environment:

DB_BLOCK_SIZE

For UNIX the default DB_BLOCK_SIZE in the init<SID>.ora file is operating system dependent. On most operating systems the default is 8192 or 8K. For PeopleSoft ANSI databases this is more than adequate. For PeopleSoft Unicode databases, (that is, CHARACTER_SET AL32UTF8), a DB_BLOCK_SIZE value of 8K is required.

NLS_LENGTH_SEMANTICS

Use these guidelines to set the `NLS_LENGTH_SEMANTICS` init<SID>.ora parameter:

- Set `NLS_LENGTH_SEMANTICS=CHAR` if you are installing a Unicode database with PeopleSoft application 9.0 or higher releases on PeopleTools 8.48 or higher.
- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing any non-Unicode database (such as a Western European or Shift-JIS database).
- Set `NLS_LENGTH_SEMANTICS=BYTE` if you are installing a Unicode database with PeopleSoft application prior to release 9.0 on PeopleSoft PeopleTools prior to release 8.48.

If necessary, verify the PeopleTools release for your PeopleSoft application using this SQL query:

```
select TOOLSREL from PSSTATUS
```

Unicode databases on PeopleSoft PeopleTools 8.48 and later, with PeopleSoft application 9.0 or later, use character length semantics. When character length semantics is used, a field of VARCHAR2(10) will store 10 characters. Prior to PeopleSoft PeopleTools 8.48 and PeopleSoft applications 9.0, byte length semantics was used, meaning a VARCHAR2(10) stored 10 bytes. If you are upgrading from a release before PeopleSoft PeopleTools 8.48 and PeopleSoft Application 9.0 to one after 8.48 and 9.0, a database conversion is necessary for utilizing CHARACTER LENGTH SEMANTICS. This conversion process is covered in all PeopleSoft application 9.0 or higher upgrade paths.

It is very important that you set this parameter at the correct point during database creation. Database creation consists of running several scripts before loading the database with Data Mover, as follows:

- CREATEDB.SQL
- UTLSPACE.SQL
- *XX*DDL.SQL
- DBOWNER.SQL
- PSROLES.SQL
- PSADMIN.SQL
- CONNECT.SQL

Set the parameter `NLS_LENGTH_SEMANTICS` at the beginning of database creation or right before the Data Mover load.

To do this, modify the init<SID>.ora to add the `NLS_LENGTH_SEMANTICS` parameter, and then shut down and restart the database instance.

Oracle Password

If you choose to use an Oracle Password file, create one using the ORAPWD utility, as illustrated in this example:

```
export ORACLE_SID=FDMO
orapwd file=$ORACLE_HOME/dbs/pwdtemp2.ora password=manager entries=5
```

If you choose not to use an Oracle Password file, you must make one of the following changes to the init<SID>.ora file before running the CREATEDB.SQL script:

- Remove the line beginning with remote_login_passwordfile, or add a comment character at the beginning, as shown in this example:

  ```
  #remote_login_passwordfile=EXCLUSIVE
  ```

- Set the parameter to *NONE,* as shown in this example:

  ```
  remote_login_passwordfile=NONE
  ```

For more parameters that may be required for the init<SID>.ora file, consult My Oracle Support.

See Operating System, RDBMS & Additional Component Patches Required for Installation PeopleTools, My Oracle Support (search for the article title and release).

Task 6C-1-6: Creating an INIT<SID>.ORA FIle (Multitenant Architecture)

If you are creating pluggable databases, set <SID> to the database name for the CDB (root database). This documentation uses PDB_SERVICE_NAME to refer to the PDB.

Create an init<SID>.ora file as described in Creating an INIT<SID>.ORA File, and append the following line in the init<SID>.ora:

```
enable_pluggable_database=true
```

Note. It is strongly advisable to set the value of the parameter MEMORY_TARGET, otherwise you may get the error "ORA-04031: unable to allocate *string* bytes of shared memory" (where string represents the memory size) while creating the database. For information on MEMORY_TARGET, see the Oracle Database documentation.

Task 6C-2: Using SQL Tools

When you execute PeopleSoft SQL scripts, use the appropriate tool included with your version of the RDBMS. You should use SQL*Plus, which is available with each version of the Oracle RDBMS that is supported by Oracle for PeopleSoft installations.

There are various ways to connect to the database with SQL*Plus. For information on using SQL*Plus, see the Oracle database documentation.

Task 6C-3: Editing Database Scripts (non-Multitenant)

This section discusses:

- Understanding Database Scripts

- Modifying Database Scripts

Understanding Database Scripts

The scripts required for creating the database were installed on the server using the PeopleSoft Installer described in the chapter "Using the PeopleSoft Installer." These scripts reside in the *PS_HOME/*scripts/unix directory on the UNIX database server. You need to edit a few of these scripts for your environment before you execute them and go on with the following procedures.

Typically, you need to modify the file system locations and the Oracle SID name.

Task 6C-3-1: Modifying Database Scripts

To edit required database scripts:

1. Go to the *PS_HOME/*scripts/unix directory on the database server.
2. Edit the scripts to conform to your environment.

   The following list presents the necessary scripts:

   - CREATEDB.SQL

     Edit CREATEDB.SQL to remove the REMARK from the following line:

     ```
     REMARK startup nomount pfile=%ORACLE_HOME%\dbs\init<SID>.ora
     ```

     Note. When editing CREATEDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set supported by the PeopleSoft software. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to either AL32UTF8 or UTF8.

   - CONNECT.SQL.

     Edit CONNECT.SQL only if you do not wish to use the default CONNECT_ID.
   - UTLSPACE.SQL.
   - *XX*DDL.SQL, where XX is a two-letter code for your product line or PeopleSoft PeopleTools, as listed in the table below

Code	Description
CS	PeopleSoft Campus Solutions
CR	PeopleSoft Customer Relationship Management
LM	PeopleSoft Enterprise Learning Management
PF	PeopleSoft Enterprise Performance Management
EP	PeopleSoft Financials / Supply Chain Management
EA	PeopleSoft Financials / Supply Chain Management Argentina
EB	PeopleSoft Financials / Supply Chain Management Brazil

Code	Description
HC	PeopleSoft Human Capital Management
PA	PeopleSoft Portal Solutions
PT	PeopleSoft PeopleTools

Note. This is a complete list of available product lines for PeopleSoft PeopleTools 8.55. Note that not all products go out on all PeopleSoft PeopleTools releases, so you may not see a script corresponding to every product line. In addition, some bolt-on products reference their own scripts within their application installation documentation. Search My Oracle Support to confirm that the product is supported for a specific release and database platform.

See My Oracle Support, Certifications.

Note. Compare the sizes of the PeopleTools tablespaces in *XX*DDL.SQL with the tablespaces in PTDDL.SQL. If the tablespace sizes in PTDDL.SQL are larger, increase the PeopleTools tablespace sizes in *XX*DDL.SQL to be at least as large as those in PTDDL.SQL.

Note. For multilanguage installs, you need to increase the size of the PTTBL, PSIMAGE, and PSINDEX tablespaces. Refer to the comments in the DDL scripts for further details regarding the incremental increase for each additional language.

See Also

"Using the PeopleSoft Installer"

Task 6C-4: Setting NLS_LANG in the Windows Registry

You must set the NLS_LANG Oracle registry key to indicate the Oracle language and character set. The PeopleSoft Application Server and reporting tools run in Unicode regardless of the database character set or the NLS_LANG character set component. However, the NLS_LANG character set component does affect the transmission of data in non-PeopleTools connections, such as SQL*Plus and direct COBOL. NLS_LANG has three components, a language, a territory, and a character set in the form LANGUAGE_TERRITORY.CHARACTERSET. For example, for American English, the correct NLS_LANG setting for a PeopleSoft installation would be AMERICAN_AMERICA.AL32UTF8. See the Oracle National Language Support guide for full details.

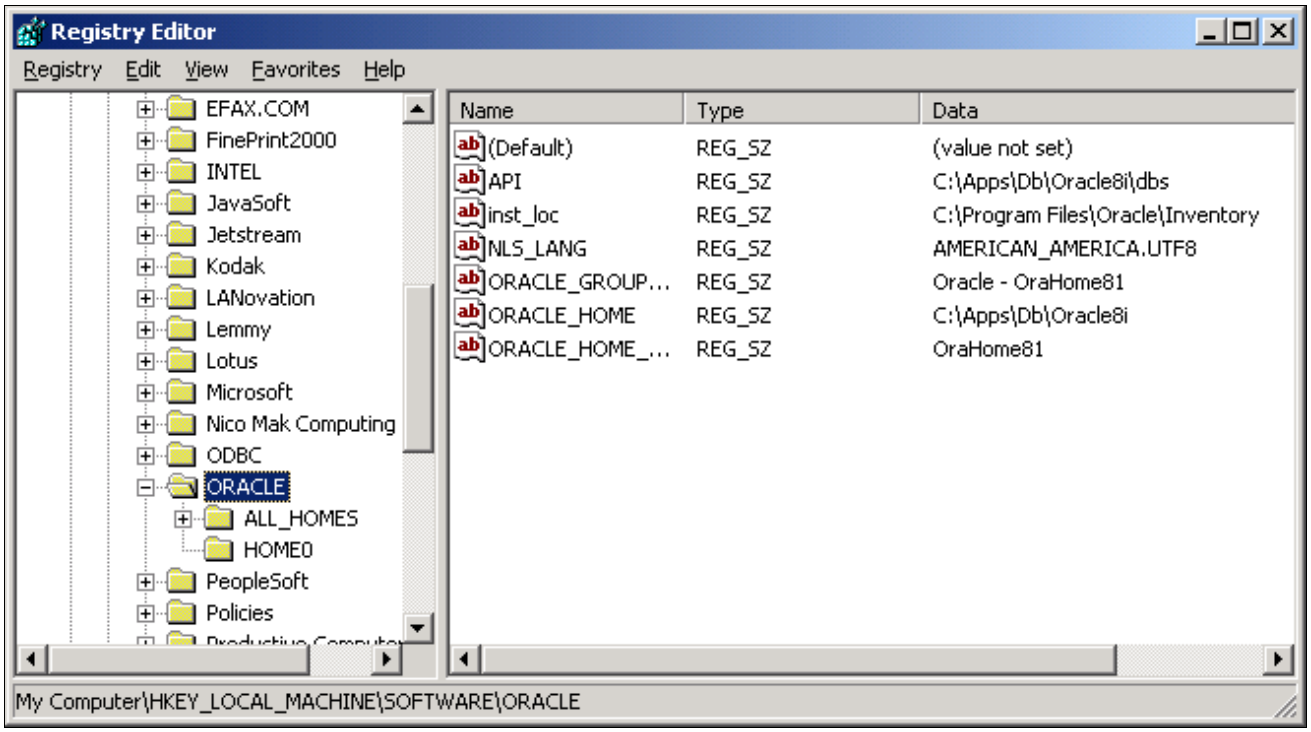
The NLS_LANG parameter should be set on *each* workstation you use to access the PeopleSoft application in two-tier mode, and on your application server machine.

Note. When using SQL*Plus to query data, set NLS_LANG on the client side to match the OS character set rather than the database character set.

To set NLS_LANG in the Windows registry:

1. Open the Windows Registry Editor by selecting *Run* from the Microsoft Windows Start menu.
2. Type REGEDIT in the Run dialog.

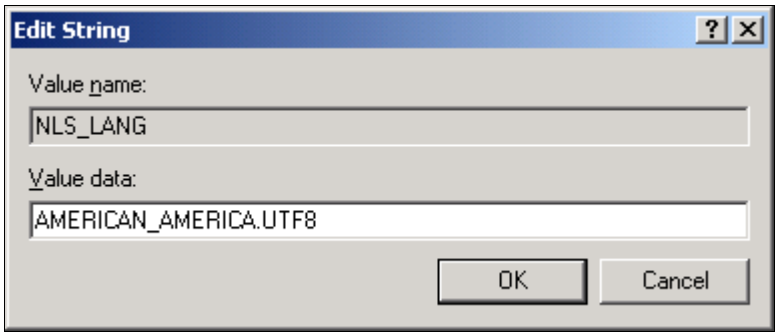
3. Navigate to the key HKEY_LOCAL_MACHINE\Software\Oracle.



Navigating to NLS_LANG

4. Double-click on the NLS_LANG key in the right hand side of the window.

   The Edit String dialog box appears as in this example.



Entering the Value data

5. Enter <*language*>_<*territory*>.AL32UTF8 in the Value Data field, substituting <language> and <territory> for your preferred language and territory settings.

   If unsure, use AMERICAN_AMERICA.AL32UTF8.

6. Click *OK* and close the Registry Editor.

Task 6C-5: Creating an Oracle Instance (non-Multitenant)

Run the CREATEDB.SQL script from SQL*Plus to create an Oracle database, as follows:

1. Invoke SQL*PLUS (sqlplus), connecting as sysdba.

```
$sqlplus '/as sysdba'
```

2. Run the CREATEDB.SQL script using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/createdb.sql
   ```

Note. When editing CREATEDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set supported by Oracle. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to either AL32UTF8 or UTF8.

Task 6C-6: Creating Catalog Views and Utility Tablespaces (non-Multitenant)

Run the UTLSPACE.SQL script from SQL*Plus to create catalog views and utility tablespaces, as follows:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the UTLSPACE.SQL script:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/utlspace.sql
   ```

Task 6C-7: Creating PS.PSDBOWNER Table (non-Multitenant)

Run the DBOWNER.SQL script from SQL*Plus to create the PS.PSDBOWNER table, as follows:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the DBOWNER.SQL script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/dbowner.sql
   ```

Task 6C-8: Creating Application-Specific Dbspaces and Tablespaces (non-Multitenant)

To create tablespaces for the product you are installing, run the appropriate *XX*DDL.SQL scripts, logged on as the system user, where *XX* stands for your product line or PeopleSoft PeopleTools, as listed in the table in the section Editing Database Scripts.

To create application-specific tablespaces:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.
2. Run the appropriate DDL scripts.

   For example:

   ```
   sqlplus>@<PS_APP_HOME>/scripts/unix/epddl.sql
   ```

Task 6C-9: Creating PeopleSoft Database Roles (non-Multitenant)

Run the PSROLES.SQL script from SQL*Plus to create the PeopleSoft database roles, as follows:

1. Log on to SQL*Plus, connecting as sysdba.
   ```
   sqlplus / as sysdba
   ```
2. Run the PSROLES.SQL script:
   ```
   sqlplus>@<PS_HOME>/scripts/unix/psroles.sql
   ```

Task 6C-10: Creating the PeopleSoft Database Owner ID (non-Multitenant)

This task creates the PeopleSoft database owner ID that will be referenced in future tasks. It grants the roles, created in the previous step, to this owner ID.

Note. You must run the PSADMIN.SQL script for each PeopleSoft database that you are going to create. When prompted for a default tablespace name, select PSDEFAULT if you are using PeopleSoft naming conventions, or your site equivalent if you are not using PeopleSoft naming conventions.

To create the PeopleSoft database owner ID:

1. Log on to SQL*Plus, connecting as the System user.
   ```
   sqlplus system/manager
   ```
2. Run the PSADMIN.SQL script.
   ```
   SQLPLUS>@<PS_HOME>/scripts/unix/psadmin.sql
   ```
3. Supply values for Access ID, Access ID password, and the default tablespace name when prompted.

   Note. The password for Access ID must be between 6 and 30 characters.

Task 6C-11: Setting Up Connect ID (non-Multitenant)

This section discusses:

- Understanding Connect ID
- Understanding Connect ID and the Login Process
- Creating the Connect ID

Understanding Connect ID

With the current PeopleSoft PeopleTools release, you establish connections to a database simply by using the connect ID, which allows you to associate multiple PeopleSoft operators to the same connect ID. The connect ID has the minimum privileges required to connect to the database—that is, it has only SELECT privileges on specific PeopleTools tables. After connection, PeopleSoft Security uses the operator ID to control access to objects in the database. The PeopleSoft sign-on process validates the connect ID on the server, rather than the operator ID. Connect ID simplifies database security maintenance. You don't have to maintain access for all PeopleSoft users, just for the connect ID.

The connect ID is granted access using the *Connect.sql* script. This script creates the connect ID and grants CREATE SESSION privilege to the connect ID. Access to the PeopleSoft database is then granted to the connect ID explicitly via the initial Data Mover load script generated by DBSETUP to include the following grants.

```
grant select on PSSTATUS to <CONNECT_ID>;
grant select on PSOPRDEFN to <CONNECT_ID>;
grant select on PSACCESSPROFILE to <CONNECT_ID>;
```

In order to work, the connect ID and connect password must be specified at the client Configuration Manager or the configuration file of any two-tier client accessing the application.

Understanding Connect ID and the Login Process

When logging into a PeopleSoft database in two-tier mode, the user enters a Database Name, User ID, and Password in the PeopleSoft Signon dialog box. This table lists the steps and related database SQL operations associated with logging in.

Log-in Processing Steps	Related Database SQL Operations
The access to the PeopleSoft Database is established with the Connect ID not the User ID.	Connect=PT84/<*ConnectID*>/<*ConnectIDPassword*>
Check PSSTATUS	SELECT OWNERID, TOOLSREL, LASTREFRESHDTTM, LASTCHANGEDTTM FROM PSSTATUS
Validate the User ID and Password	SELECT VERSION, OPERPSWD, ENCRYPTED, SYMBOLICID, ACCTLOCK FROM PSOPRDEFN WHERE OPRID =:1
Get the Access ID and Password	SELECT ACCESSID, ACCESSPSWD, ENCRYPTED FROM PSACCESSPROFILE WHERE SYMBOLICID =:1
Disconnect Connect ID	Disconnect
Login using the Access ID	Connect=PT84/ACCESSID/ACCESSPWD

At this point, access is governed by PeopleSoft security, which determines what applications a specific user ID has access to.

Task 6C-11-1: Creating the Connect ID

To create connect ID:

1. Log on to SQL*Plus as the System user.
2. Run the connect.sql script.

   ```
   sqlplus>@<PS_HOME>/scripts/unix/connect.sql
   ```

3. Supply values for the connect ID and connect ID password when prompted.

   The connect ID password must be between 6 and 30 characters with no percent characters (%).
4. The script will then create the connect ID and grant it CREATE Session privileges only.

Task 6C-12: Editing Database Scripts (Multitenant Architecture)

Edit the scripts listed in this section for your environment before you execute them and continue with the procedure to create a database. You can locate the *XX*DDL.SQL scripts in the *PS_HOME/*scripts/unix directory on the file server. The remainder of the scripts listed here reside in the *PS_HOME/*scripts/unix/pdb directory on the file server.

- CONNECT.SQL

  No changes are required.
- CREATEDBCDB.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <mount> variable with the UNIX mount point; for example, ds1.

Note. When editing CREATEDBCDB.SQL, if you are creating a Unicode database, you need to choose an Oracle character set supported by the PeopleSoft software. Ensure that the CHARACTER SET parameter in the CREATE DATABASE statement is set to AL32UTF8.

- CREATEPDB.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <mount> variable with the UNIX mount point; for example, ds1.
- DBOWNER.SQL
  - Replace the <MANAGERPWD> variable with the System user password.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PSADMIN.SQL
  - Replace the <MANAGERPWD> variable with the System user password.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PSROLES.SQL

  No changes are required.
- PSROLES2.SQL

  Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
- PTDDL.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <mount> variable with the UNIX mount point; for example, ds1.
  - Remove the REMARK from the line for Autoextend.
- UTLSPACE.SQL
  - Replace the <SID> variable with ORACLE_SID, that is, the CDB database name.
  - Replace the <PDB_SERVICE_NAME> variable with the PDB database name.
  - Replace the <mount> variable with the UNIX mount point; for example, ds1.
- *XX*DDL.SQL, where *XX* is a two-letter code for your PeopleSoft Application product line.

See the section Editing Database Scripts for a table listing the codes with the PeopleSoft product lines.

- Replace <SID> with the combined name *<SID>/<PDB_SERVICE_NAME>*.

  In this combined name, specify ORACLE_SID, that is, the CDB database name, for *<SID>*, and the PDB database name for *<PDB_SERVICE_NAME>*.
- Replace the <mount> variable with the UNIX mount point; for example, ds1.
- Remove the REMARK from all the lines for Autoextend.

After you edit the scripts, continue with the steps in this chapter to run these scripts and to run the Data Mover import.

Task 6C-13: Creating an Oracle Instance (Multitenant Architecture)

This section discusses:

- Creating a Root Container Database
- Creating a PDB

Task 6C-13-1: Creating a Root Container Database

To create a (root container database) CDB for pluggable databases:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba:

   ```
   sqlplus / as sysdba
   ```

2. Run the createdbcdb.sql script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/createdbcdb.sql
   ```

3. Exit from SQL*Plus.
4. Open the script ptperlcat.sh for editing, and make the following changes for PDBs:
   - Replace the <SID> variable with ORACLE_SID
   - Replace the <mount> variable with the UNIX mount point.
5. Run the script ptperlcat.sh.

   This scripts runs the scripts catalog.sql and catproc.sql.
6. To verify that the database was created successfully, log in to SQL*Plus again and run the following command

   ```
   select name,cdb from v$database;
   ```

   If the value of CDB is "YES" in the response, it means that the database with ID <SID> (FSDMO in this example) can be used as a pluggable database:

   ```
   NAME      CDB
   --------  ---
   FSDMO      YES
   ```

Task 6C-13-2: Creating a PDB

To create a PDB:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba:

   ```
   sqlplus / as sysdba
   ```

2. Run the createpdb.sql script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/createpdb.sql
   ```

   You should see a message "Pluggable database created".

3. Execute the following command:

   ```
   sqlplus>select name, open_mode from v$pdbs;
   ```

   The following response indicates that the PDB is open and is ready to use:

   ```
   NAME                OPEN_MODE
   ----------------    ---------
   PDB$SEED            READ ONLY
   PDB_SERVICE_NAME    READ WRITE
   ```

   The PDB_SERVICE_NAME is created by the Oracle server for a new PDB.

4. To verify the service name for the PDB, execute the following command:

   ```
   lsnrctl status;
   Service "PDB_SERVICE_NAME" has 1 instance(s).
   Instance "PDB_SERVICE_NAME", status READY, has 1 handler(s) for this⇒
    service.
   ```

5. Add an entry for the PDB service name to the tnsnames.ora file.

   This example shows a portion of the tnsnames.ora file. Replace <*PDB_SERVICE_NAME*> with the PDB database name:

   ```
   <PDB_SERVICE_NAME> =
     (DESCRIPTION =
       (ADDRESS_LIST =
         (ADDRESS = (PROTOCOL = TCP)(HOST = servername.com)(PORT = 1521))
       )
       (CONNECT_DATA =
         (SERVICE_NAME = <PDB_SERVICE_NAME>)
       )
     )
   ```

6. Log in to the PDB in SQL*Plus with the following command:

   ```
   sqlplus / as sysdba
   SQL> ALTER SESSION SET CONTAINER = <PDB_SERVICE_NAME>
   ```

Task 6C-14: Creating Catalog Views and Utility Tablespaces (Multitenant Architecture)

To create catalog views and utility tablespaces:

1. Invoke SQL*Plus (sqlplus), connecting as sysdba.

   ```
   sqlplus / as sysdba
   ```

2. Run the UTLSPACE.SQL script:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/utlspace.sql
   ```

Task 6C-15: Creating PS.PSDBOWNER Table (Multitenant Architecture)

Run the DBOWNER.SQL script from SQL*Plus to create the PS.PSDBOWNER table, as follows:

1. Log on to SQL*Plus (sqlplus), connecting as the System user to the PDB.

   The PDB name in this example is <*PDB_SERVICE_NAME*>:

   ```
   sqlplus system/manager@<PDB_SERVICE_NAME>
   ```

2. Run the DBOWNER.SQL script, using the following example as a guide:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/dbowner.sql
   ```

Task 6C-16: Creating Application-Specific Dbspaces and Tablespaces (Multitenant Architecture)

To create tablespaces for the product you are installing, run the appropriate *XX*DDL.SQL scripts, logged on as the system user, where *XX* stands for your product line or PeopleSoft PeopleTools, as listed in the table in the section Editing Database Scripts (Multitenant Architecture).

To create application-specific tablespaces:

1. Log on to SQL*Plus (sqlplus), connecting as the System user to the PDB.

   The PDB name in this example is <*PDB_SERVICE_NAME*>:

   ```
   sqlplus system/manager@<PDB_SERVICE_NAME>
   ```

2. Run the appropriate DDL scripts.

   For example, for PeopleSoft Financials/Supply Chain Management:

   ```
   sqlplus>@<PS_APP_HOME>/scripts/unix/epddl.sql
   ```

Task 6C-17: Creating PeopleSoft Database Roles (Multitenant Architecture)

To create the roles for your PeopleSoft database:

1. Log on to SQL*Plus, connecting as sysdba.

   ```
   sqlplus / as sysdba
   ```

2. Run the PSROLES.SQL script:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/psroles.sql
   ```

3. Run the PSROLES2.SQL script:

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/psroles2.sql
   ```

Task 6C-18: Creating the PeopleSoft Database Owner ID (Multitenant Architecture)

This task creates the PeopleSoft database owner ID that will be referenced in future tasks. It grants the roles, created in the previous step, to this owner ID.

Note. You must run the PSADMIN.SQL script for each pluggable database that you are going to create. When prompted for a default tablespace name, select PSDEFAULT if you are using PeopleSoft naming conventions, or your site equivalent if you are not using PeopleSoft naming conventions.

To create the PeopleSoft database owner ID:

1. Log on to SQL*Plus, connecting as the System user to the PDB.

   The PDB name in this example is *<PDB_SERVICE_NAME>*.

   ```
   sqlplus system/manager@<PDB_SERVICE_NAME>
   ```

2. Run the PSADMIN.SQL script.

   ```
   sqlplus>@<PS_HOME>/scripts/unix/pdb/psadmin.sql
   ```

3. Supply values for Access ID, Access ID password, and the default tablespace name when prompted.

   Note. The password for Access ID must be between 6 and 30 characters.

Task 6C-19: Setting Up Connect ID (Multitenant Architecture)

This section discusses:

- Understanding Connect ID
- Understanding Connect ID and the Login Process
- Creating the Connect ID

Understanding Connect ID

With the current release of PeopleSoft PeopleTools, you establish connections to a database simply by using the connect ID, which allows you to associate multiple PeopleSoft operators to the same connect ID. The connect ID has the minimum privileges required to connect to the database—that is, it has only SELECT privileges on specific PeopleTools tables. After connection, PeopleSoft Security uses the operator ID to control access to objects in the database. The PeopleSoft sign-on process validates the connect ID on the server, rather than the operator ID. Connect ID simplifies database security maintenance. You do not have to maintain access for all PeopleSoft users, just for the connect ID.

The connect ID is granted access using the *Connect.sql* script. This script creates the connect ID and grants CREATE SESSION privilege to the connect ID. Access to the PeopleSoft database is then granted to the connect ID explicitly through the initial Data Mover load script generated by DBSETUP to include the following grants.

```
grant select on PSSTATUS to <CONNECT_ID>;
grant select on PSOPRDEFN to <CONNECT_ID>;
grant select on PSACCESSPROFILE to <CONNECT_ID>;
```

In order to work, the connect ID and connect password must be specified at the client Configuration Manager or the configuration file of any two-tier client accessing the application.

Understanding Connect ID and the Login Process

When logging into a PeopleSoft database in two-tier mode, the user enters a Database Name, User ID, and Password in the PeopleSoft Signon dialog box. This table lists the steps and related database SQL operations associated with logging in.

Log-in Processing Steps	Related Database SQL Operations
The access to the PeopleSoft Database is established with the Connect ID not the User ID.	Connect=PT84/<*ConnectID*>/<*ConnectIDPassword*>
Check PSSTATUS	SELECT OWNERID, TOOLSREL, LASTREFRESHDTTM, LASTCHANGEDTTM FROM PSSTATUS
Validate the User ID and Password	SELECT VERSION, OPERPSWD, ENCRYPTED, SYMBOLICID, ACCTLOCK FROM PSOPRDEFN WHERE OPRID =:1
Get the Access ID and Password	SELECT ACCESSID, ACCESSPSWD, ENCRYPTED FROM PSACCESSPROFILE WHERE SYMBOLICID =:1
Disconnect Connect ID	Disconnect
Login using the Access ID	Connect=PT84/ACCESSID/ACCESSPWD

At this point, access is governed by PeopleSoft security, which determines what applications a specific user ID has access to.

Task 6C-19-1: Creating the Connect ID

To create connect ID:

1. Log on to SQL*Plus as the System user to the PDB.
   The PDB name in this example is *<PDB_SERVICE_NAME>*.
   `sqlplus system/manager@<PDB_SERVICE_NAME>`
2. Run the connect.sql script.
   `sqlplus>@<PS_HOME>/scripts/unix/pdb/connect.sql`
3. Supply values for the connect ID and connect ID password when prompted.
   The connect ID password must be between 6 and 30 characters with no percent characters (%).
4. The script will then create the connect ID and grant it CREATE Session privileges only.

Task 6C-20: Updating Connection Information

You must update connection information on the client. To do this, update the connection information in TNSNAMES.ORA on your client to reflect your Database Name, Oracle SID, and Server Name.

Note. If you are creating pluggable databases, create an entry for the CDB, using the SID. Create another entry for the PDB, using the PDB_SERVICE_NAME.

Task 6C-21: Creating Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Working with Multilingual Databases
- Running Database Setup to Create Data Mover Import Scripts

Understanding Data Mover Import Scripts

The Data Mover Import scripts are used to populate the PeopleSoft database with data. You use the Database Setup feature of the PeopleSoft Data Mover utility to create the Data Mover import scripts.

Note. This task and the next one (Running Data Mover Import Scripts) should be executed from a Microsoft Windows client machine. Before you can load PeopleSoft data from a Microsoft Windows client machine, you need to install PeopleSoft PeopleTools and your PeopleSoft Application to the Microsoft Windows client machine and be sure to select File Server and Database Server.

To complete the database creation procedure you must supply information on various authorization IDs and passwords, including Access ID, Connect ID, Symbolic ID, and User IDs. Before beginning this procedure, review the information in the section Planning Database Creation and make a note of the authorization information for your environment. For PeopleSoft PeopleTools 8.53 and later releases, the user profiles in PeopleTools demo databases are delivered disabled. During the procedure to create Data Mover import scripts you will choose whether to enable the delivered user profiles, and how to assign passwords for the profiles. In addition, you will supply several passwords that were previously provided as defaults. Be sure to note the passwords that you supply, as they will be needed for subsequent installation procedures.

See the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

See "Preparing for Installation," Planning Database Creation.

Task 6C-21-1: Working with Multilingual Databases

All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. After the installation is complete, you can change the database's base language to the language that you plan to use most frequently, or leave the base language as English.

Read the section Planning Multilingual Strategy for information on installing multiple languages and changing your base language.

See "Preparing for Installation," Planning Multilingual Strategy.

If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.

If you are creating a non-Unicode database, you must ensure that the languages you select are all supported by the character set you used to create your database.

Note. During the database setup process, you have the option to select the database's base language. Select the language that you plan to use most frequently. If the database's base language is different than that set in this database setup process, generate the SWAP_BASE_LANGUAGE command in the Data Mover Import script to swap the language.

See *PeopleTools: Global Technology.*

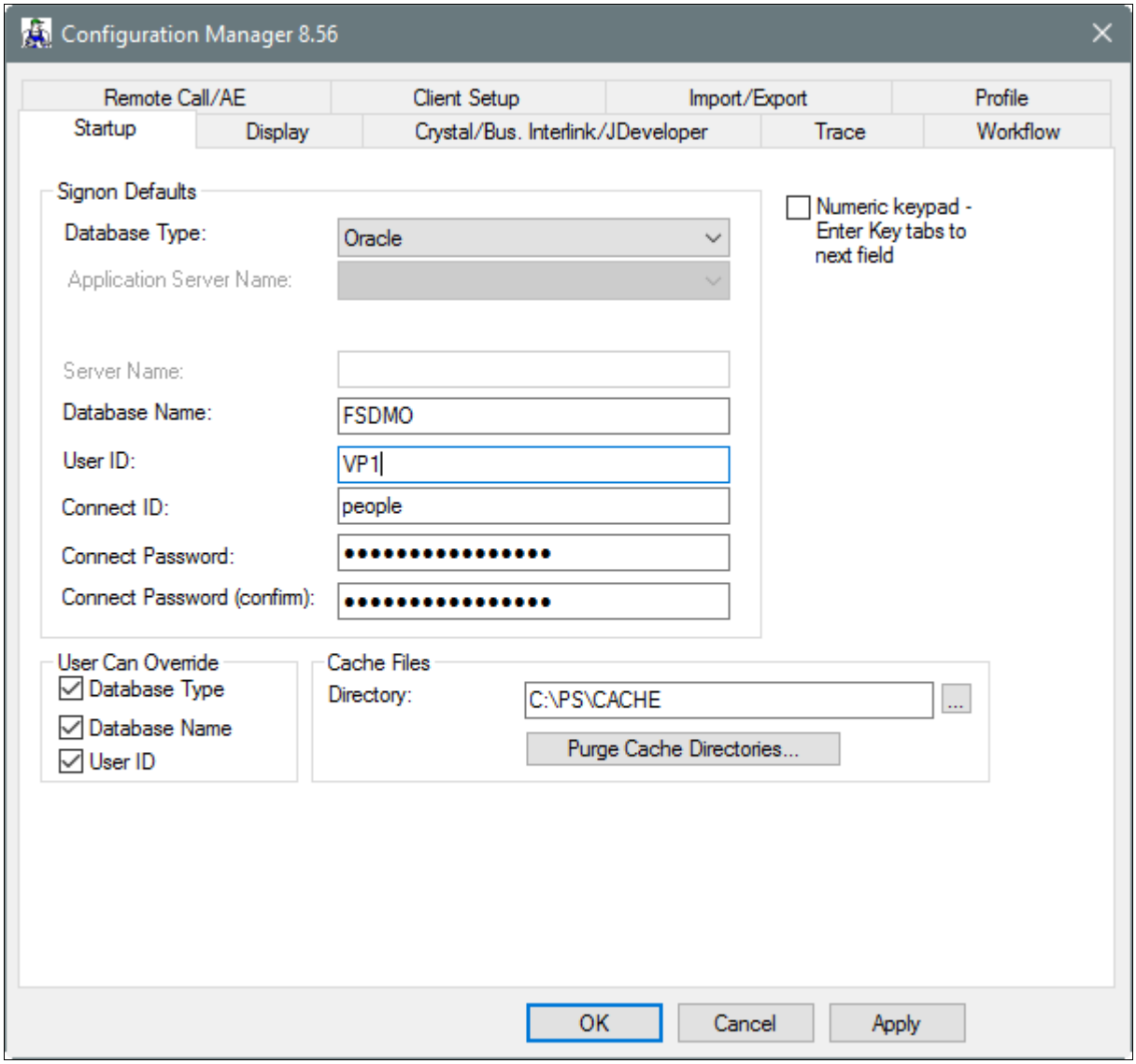
Task 6C-21-2: Running Database Setup to Create Data Mover Import Scripts

To create the import scripts using Data Mover:

See *PeopleTools: Data Management.*

1. Run Configuration Manager by using one of the following methods:
   - On Microsoft Windows 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Configuration Manager.
   - Run *PS_HOME*\bin\client\winx86\pscfg.exe.

2. Verify in the Signon Defaults on the Startup page that the Database Type of Oracle is selected, as shown in the example.



Startup tab on the Configuration Manager dialog box

3. Verify that the connect ID is correct.

   If you accepted all defaults, the connect ID is people. Enter and confirm a value for the connect ID password.

4. If the *PS_APP_HOME* location is not the same as *PS_HOME*, make sure it is set in Configuration Manager, as follows:

   a. In Configuration Manager, select Profile.

   b. Highlight the Default Profile and select Edit.

   c. On the Edit Profile dialog box, select the Process Scheduler tab.

   d. Verify that the *PS_APP_HOME* value is correct.

   See "Setting Up the Install Workstation," Editing the Default Profile.

5. Run Data Mover by using one of these methods:

- On Microsoft Windows 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Data Mover.
- Run *PS_HOME*\bin\client\winx86\psdmt.exe.

6. Log on using the access ID as the user id to start Data Mover in bootstrap mode; this should be the user that creates the database.

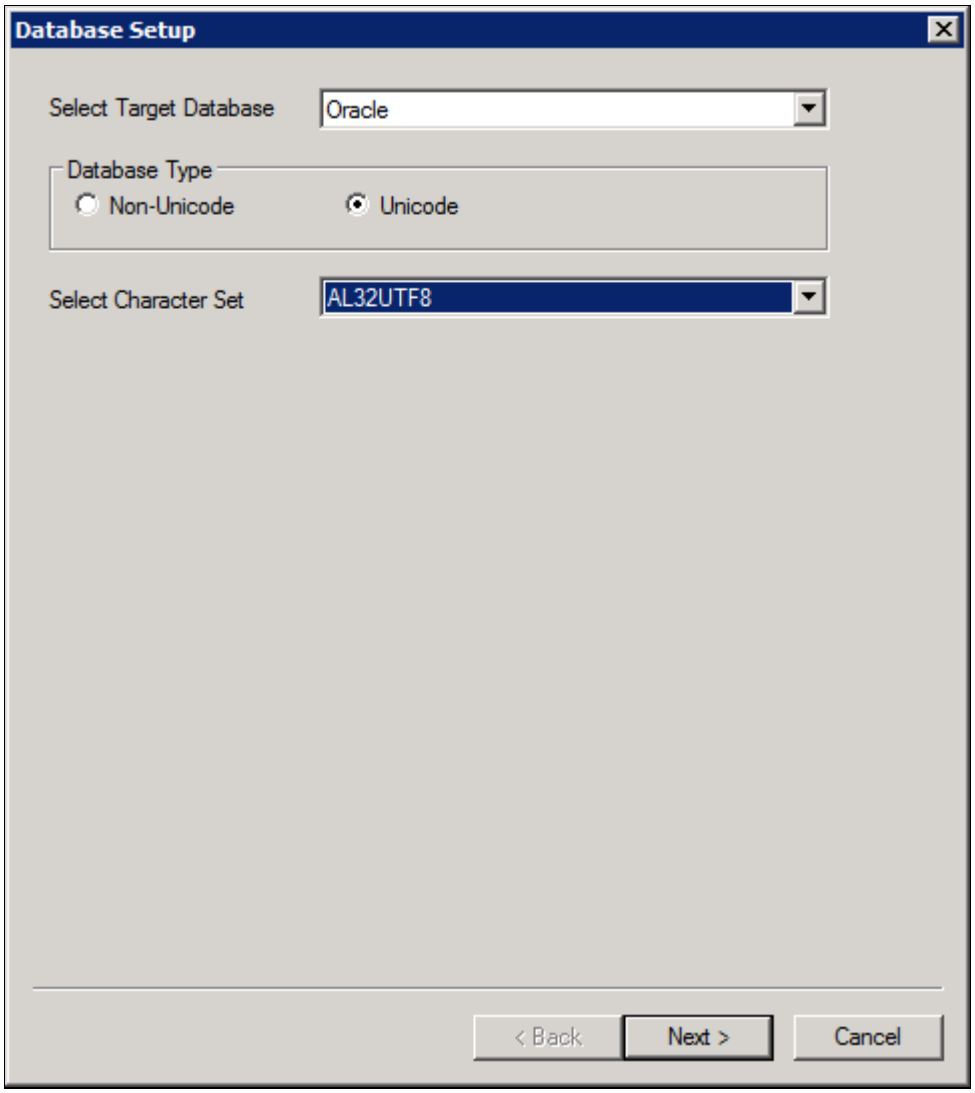
   See Checking the Log Files and Troubleshooting, Running Data Mover.

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

---

7. Select File, Database Setup.

   The Database Setup dialog box appears, as shown in this example:



Selecting target database and character set on the Database Setup dialog box

8. Select your database platform from the Select Target Database drop-down list.
9. Select your database type, Unicode or non-Unicode, and character set.

   Choose the Database Type—Unicode or Non-Unicode—that you selected in the section on multilingual strategy. If you choose Non-Unicode, select the character set that you decided upon in that section from the

drop-down list.

Note. When you select a non-Unicode character set, only the characters within that character set can be stored in your database. Oracle recommends that you create your database using Unicode.

See "Preparing for Installation," Planning Multilingual Strategy.

The character set you select here must match the character set you used to create your database in the task Creating an Oracle Database. If you choose to create a Unicode database, you must have created your instance using the AL32UTF8 or UTF8 character set in the step Creating an Oracle Instance.

Note. The database setup does not actually modify the character set of your database. That is done by the DBA during database creation. The database setup process only creates customized scripts based on your selection.

---

10. Select the Demo or System radio button, depending on which type of PeopleSoft database you are installing.

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

---

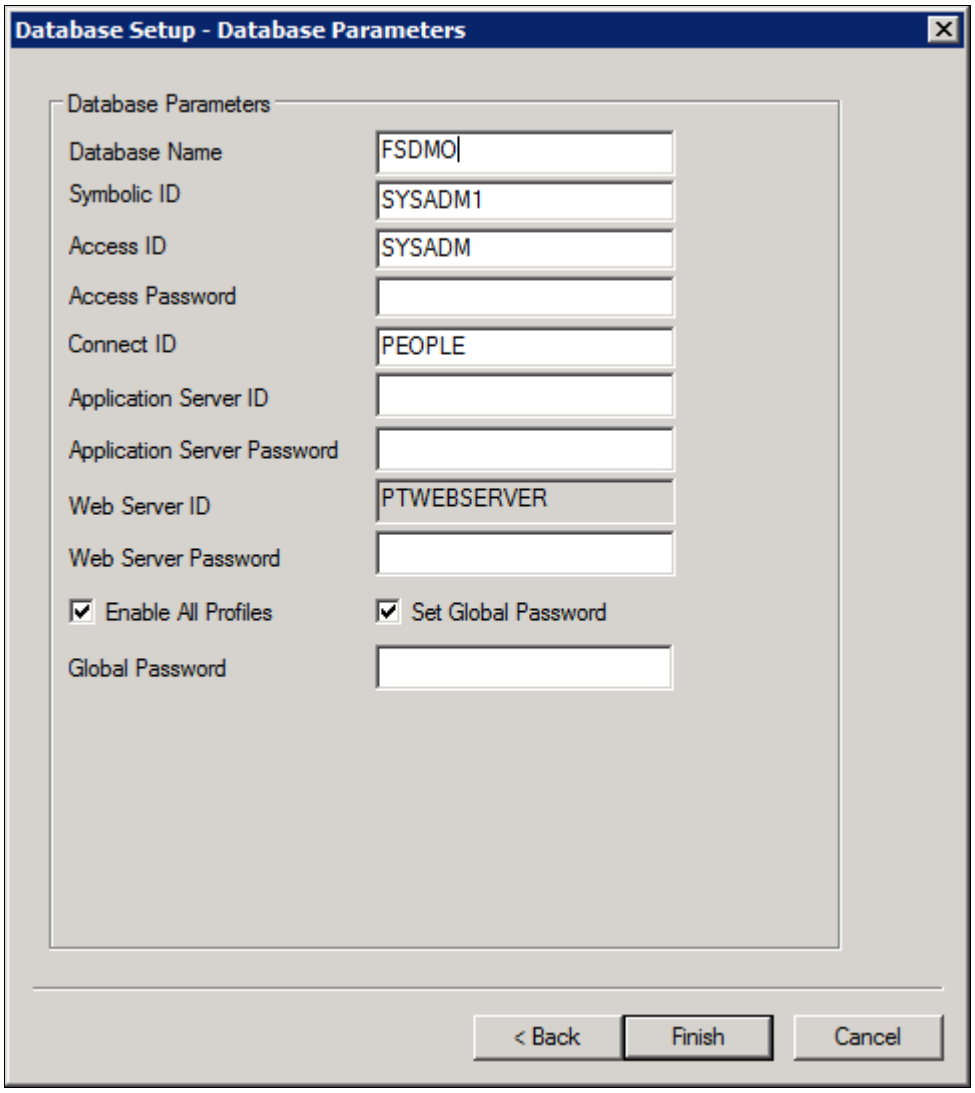
11. Select the Products for which you want to create a Data Mover script from the PeopleSoft Application list box, and move the items you have selected into the Data Mover Scripts to Create list box by clicking on the Add or Add All button.

    If you installed the Multilanguage software, each application will be listed several times, once for each language. If you are installing languages other than English, make sure to select the appropriate language data files for each application you select in English. This will load the translated database objects.

    See "Preparing for Installation," Planning Multilingual Strategy.

    If you are installing an application in any language other than English, you must also select the English component of the application. For example, if you select PeopleSoft Fin/SCM - French, you must also select PeopleSoft Fin/SCM Database - US English. This ensures that you install the necessary base-language components.

12. Set the database parameters described below and then click Finish.



Specifying Database Parameters on the Database Setup dialog box

- *Database Name:* Specify the database name that users will enter on the PeopleSoft signon screen. This corresponds to the owner ID. It can be up to eight characters long and must be entered in uppercase.
- *Symbolic ID:* This is used as the key to retrieve ACCESSID and ACCESSPSWD from PSACCESSPROFILE.

  For initial installation set it equal to the Database Name. The symbolic ID cannot be longer than eight characters.
- *Access ID:* Specify the user you used to create the database. Limit this to eight characters or less.

  This value is case sensitive. You will use the access ID every time you want to sign on to Data Mover in bootstrap mode. Limit this to eight characters or less.
- *Access Password:* This is the PeopleSoft access ID password defined in the chapter "Preparing for Installation." Limit this to 30 characters or less.
- *Connect ID:* For Oracle, this is the connect ID that is used for the initial connection to Oracle. This ID is used for connecting to the database. Limit this to eight characters or less.
- *Application Server ID*: The Application Server ID has privileges to start or shut down the Application

Server domain. It is also used during the Application Server configuration. Enter one of the delivered PeopleSoft user IDs.

- *Application Server Password*: Specify a password for the Application Server ID.
- *Web Server Password*: Specify a password for the Web Server ID.

  The default Web Server ID, as displayed in the example, is PTWEBSERVER. The Web Server ID, also referred to in this documentation as Web Profile User ID, is used to access the web profile information from the database through the Application Server Jolt service.
- *Enable All Profiles*: Select this option to leave the User profiles (other than the Application Server profile and the Web Server User profiles) unchanged.

  If you do not select this option, all of the User profiles in the database, with the exception of the Application Server profile and Web Server User profiles, remain disabled as delivered.
- *Set Global Password*: If you enabled all profiles, you can choose to set the same password for all of the profiles.

  Note. This option is enabled when the Enable All Profiles option is selected, as shown in the example.

- *Global Password*: Enter the password to be used for all user profiles.

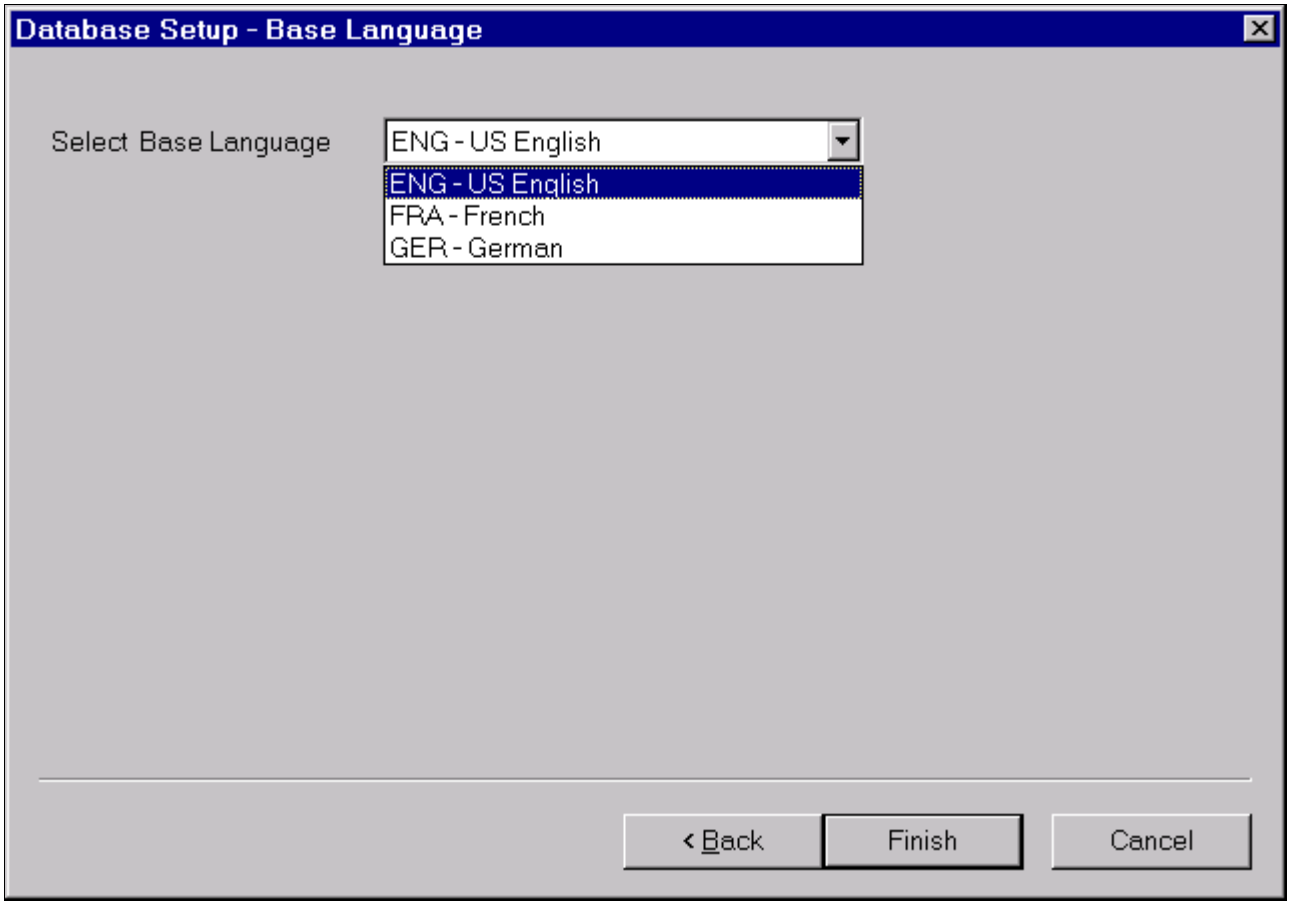
  Note. This option is enabled when the Set Global Password option is selected, as shown in the example.

13. Select your database's base language.

Note. This window appears only if you selected a database for a language other than English. If you see this window it is critical to select the correct base language. When you select a base language other than ENG, DBSETUP generates the Data Mover import script with the SWAP_BASE_LANGUAGE command to swap the base language.

See "Preparing for Installation," Planning Multilingual Strategy.

See Working with Multilingual Databases.



Selecting a base language in the Database Setup dialog box

Use the following information in making your selection:

- If you have not already done so, read the earlier section on multilingual strategy before determining whether to install multiple languages and whether to change your base language.
- If you are creating a database and want to load Oracle-provided translations for non-English languages, you must load English (ENG) in addition to the foreign language components.
- All PeopleSoft releases are shipped with English as the database's base language. Therefore when selecting components for the Data Mover Import script, you must select the English components in addition to any other languages you are installing. During the Database Setup wizard, you need to select the database's base language that you plan to use most frequently. If your database's base language is different than the Database Setup wizard generate the SWAP_BASE_LANGUAGE command in the Data Mover Import script to swap the language.
- If you are creating a non-Unicode database, you must ensure that the languages you select are all

supported by the character set you used to create your database.

14. Click Finish.

Note. If the Database Setup - Base Language window does not appear, click Finish after supplying the parameters on the Database Setup - Database Parameters window.

At this point you are in Data Mover, with the DMS script you just created ready to run.

See Also

PeopleTools: Data Management

PeopleTools: Security Administration, "PeopleSoft Authorization IDs"

Task 6C-22: Running Data Mover Import Scripts

This section discusses:

- Understanding Data Mover Import Scripts
- Populating Tables in the PeopleSoft Database

Understanding Data Mover Import Scripts

Now you will run the Data Mover scripts (DMS) that you created in the preceding task to import the data for your PeopleSoft database. The Data Mover script creates either a system (SYS) or a demo (DMO) database.

When you initially logged onto Data Mover to create the DMS scripts, you logged in with the Access ID and password, using bootstrap mode. You need to use bootstrap mode to run the Data Mover import script, because there are not yet any PeopleSoft security tables in the database.

When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

See *PeopleTools: Data Management.*

See Also

Checking the Log Files and Troubleshooting, Running Data Mover

Task 6C-22-1: Populating Tables in the PeopleSoft Database

To populate tables in the PeopleSoft database:

1. The DMS import script for your application will contain hard-coded file names for log files and data files.

   Modify the DMS script if you have moved any files from the delivered directories or want to write log files to another location than that specified in the script.

2. Select File, Run to execute the script.

When you run the script, Data Mover typically performs the following actions:

- IMPORT *

  Create all the PeopleTools and application tables with their indexes.

- ENCRYPT_PASSWORD *

  Encrypt security information for the database.
- CREATE_TRIGGER *

  Create application required triggers.
- REPLACE_VIEW *

  Create PeopleSoft views.
- CREATE_TEMP_TABLE *

  Create PeopleSoft temporary tables.

Task 6C-23: Cleaning Up Orphaned Language Data

Perform this task if you are a Multilingual customer and are installing non-English languages. This task assumes that you have loaded the necessary language files. If you have not yet loaded the language files, follow the instructions in the Global Technology product documentation.

See *PeopleTools: Global Technology,* "Adding Translations to an Existing Database on the Same PeopleTools Version."

The Application Engine program PTIACLEANLNG removes any orphaned related language objects that do not have a matching base language object.

1. Run the following SQL statement using the appropriate SQL query tool for your RDBMS.

   For <Log Path>, specify the path where you want the log for the application engine program in step 2 to be generated, such as c:\temp\.

   ```
   UPDATE PS_PTIASPDMPARAM SET PTIASPPROPVAL ='<Log Path>' WHERE
   PTIASPPROPNM='DMLOGPATH';
   ```

2. Run the PTIACLEANLNG application engine program.

   From the command line utility, the syntax is::

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

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

Task 6C-24: Checking the Log Files and Troubleshooting

This section discusses:

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

Task 6C-24-1: Checking the Log Files

After running each Data Mover script, examine the .LOG files to make sure that all the commands were executed successfully. The log files are located in the directory you specified in the Data Mover script.

See "Setting Up the Install Workstation," Editing the Default Profile.

Task 6C-24-2: Running Data Mover

Use one of these methods to run Data Mover.

On UNIX, run *PS_HOME/*bin/psdmtx from the command line.

If you use the access ID that you specified during the database configuration to log on, you log on in "bootstrap mode." When you start Data Mover in bootstrap mode, the word "BootStrap" appears in the Data Mover status bar.

If you use a valid PeopleSoft Operator ID, such as PS for Human Capital Management or VP1 for Financials/Supply Chain Management, you log on in "user mode." In this mode, no designation appears in the Data Mover status bar.

To run Data Mover on the command line:

Note. You can run `psdmtx` by supplying arguments on the command line, or by passing the arguments from a text file. This section describes the text file method.

---

1. Go to *PS_HOME/*bin.

   ```
   cd $PS_HOME/bin
   ```

2. Use the following command to view the help for `psdmtx`:

```
$ psdmtx /help
Usage:  psdmtx  [-CT DB2|DB2ODBC|DB2UNIX|MICROSFT|ORACLE]
                [-CS server name]
                [-CD database name]
                [-CO user id]
                [-CP user pswd]
                [-CI connect id]
                [-CW connect id pswd]
                [-I  process instance]
                [-FP filename]
          or
        psdmtx  [parmfile]
```

To capture the output in a file, use a greater-than symbol ("pipe", >) followed by a filename. For example:

```
psdmtx [arguments] > filename.txt
```

Use the following list of commands and descriptions for the `psdmtx` arguments:

Command Argument	Description
-CT <DB type>	The type of database to connect to: ORACLE.
-CD <DBNAME>	Your selected Database Name.
-CO <ACCESSID>	Use the <DBNAME> Access ID to run Data Mover in bootstrap mode.
-CP <ACCESSPWD>	The password for <DBNAME> Access ID.
-CI <CONN ID>	The ID used to connect to the database server.
-CW <CONN PSWD>	The password for the specified connection ID.
-FP <filename>	The filename for the Data Mover import script (DMS) to run.

3. To set up Data Mover to rerun the Data Mover import script in bootstrap mode, do the following:
   a. Change directory to *PS_HOME/*setup.
   b. Copy parmfile to parm<DBNAME>. For example, *parmPT856.*
   c. Edit parm<DBNAME>.

      Use the information in the table above to edit the file for your configuration.

      Use ORACLE for <DB type>.

      For example:

      Before

```
-CT <DB type> -CD <DBNAME> -CO <ACCESSID> -CP <ACCESSPWD> -CI <CONN⇒
 ID> -CW⇒
 <CONN PSWD> -FP <filename>
```

After

```
-CT ORACLE -CD HRDMO -CO HRDMO -CP HRDMO -CI people -CW people -FP⇒
 $PS_HOME⇒
/scripts/pt856ora.dms
```

4. To launch Data Mover in bootstrap mode, do the following:
   - Change directory (cd) to *PS_HOME/*bin
   - Run the psdmtx command with the edited parm<DBNAME> file.

     ```
     pt-sun20:$ psdmtx ../setup/parmPT856
     ```

     You see Data Mover log messages tracking the progress.

See Also

PeopleTools: Data Management

Task 6C-24-3: Troubleshooting

If the DMS script has stopped midway (this can happen for a number of reasons) you need to edit the script and start again.

To edit and restart the DMS script:

1. Determine the record that was being imported (that is, which IMPORT command was running) when the script stopped, and use the following guidelines to edit and rerun the DMS scripts.

   When building a DMO database or a multilingual database, adding the SET START statement can be tricky because the Data Mover script used to load the database will include more than one IMPORT statement. The key is to view the log files and determine which IMPORT section of the script Data Mover failed on.

   - If the failure occurred during the first IMPORT statement, add the SET START statement before the first IMPORT *; statement.
   - If the failure occurred during a subsequent IMPORT statement, comment out all statements preceding the IMPORT *; statement where the failure occurred and add the SET START statement before the IMPORT *; statement of the section in which the failure occurred.
   - *This is very important:* If you see any "unique index constraint" error messages in the "Building required indexes" section, your IMPORT script failed during a subsequent IMPORT but the SET START statement was added to the first IMPORT. In this situation, you can run the Data Mover script in its originally generated form, with only one modification. In the first IMPORT section, change the statement "IMPORT *;" to "REPLACE_DATA *;". This will delete all the data in the tables, and re-import it. This process will take some time to run, and you will need to separately create each of the indexes that failed.
2. Start Data Mover by running psdmtx on the command line.
3. Log on using the Access ID to start Data Mover in *bootstrap mode.*

   Use the Access ID you specified when you created the Data Mover scripts with the Database Setup utility.

   The input window should display the DMS import script for the database. The script has the format <dbname>ora.dms.
4. If necessary, select File, Open, and browse to the *PS_HOME/*scripts directory to find the appropriate DMS script.
5. Add the following line before the offending IMPORT command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
```

<RECORD NAME> is the name of the record that failed. Make sure to review the Data Mover log file to see where the script failed and locate the last record that imported successfully. The SET START command will begin the Data Mover import at the specified record name.

Note. It is a good idea to change the name of the log file in the script before each attempt at running it. This ensures that you have a separate log file for each attempt, if you run the import more than once.

For example, if the script stops and the table is partially inserted with a message similar to this one:

```
Importing  PSPNLFIELD
Rows inserted into PSPNLFIELD

3000
```

First drop the partially inserted table (for example, record) by using the DROP TABLE command, and then restart Data Mover at the record that failed using the SET START command and continue the Data Mover import. This can be done in a single pass.

Add the following lines before the offending IMPORT *; command (the one being executed when the failure occurred):

```
SET START <RECORD NAME>;
DROP TABLE <RECORD NAME>;
```

where <RECORD NAME> is the name of the record that failed. The SET START statement will begin the Data Mover import at the specified <RECORD NAME>.

Example of the original script:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs.log;
SET INPUT epengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
IMPORT *;
```

Example of script after modification, with changes in bold font:

```
REM - PeopleSoft Database - US English
/
SET LOG epengs2.log;
SET INPUT epengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE ON;
SET START PSPNLFIELD;
DROP TABLE PSPNLFIELD;
IMPORT *;
```

For the DROP statement, for records with a recname without a leading PS, add PS_ to the beginning of the

recname; otherwise the table will not be found. For example, PS_<RECNAME>.

6. To restart the script, use the `psdmtx` command to execute Data Mover on the command line.

Task 6C-24-4: Improving Performance

The following tips can help you save time when running the Data Mover scripts:

- Run Data Mover from the fastest workstation available.
- Run Data Mover on the database server.
- Run only a single instance of Data Mover, and do not have any other applications running during the import.
- In the PeopleSoft Configuration Manager, turn off all trace options.

  Tracing during a DMS load will add considerable time to the process.
- Copy the database file over to the workstation so that Data Mover can access it locally instead of over the network.
- Run Data Mover on the database server with the .db or .dat file located locally.

If you are comfortable changing the options available for an Oracle instance, you might consider "tuning" the instance used for the import. Some of these options are appropriate only during the import, so you may not want to keep them in effect after the import is complete.

For best performance during a Data Mover import, set these options as follows:

- Increase the number of database blocks.
- Use an 8K Oracle block size.
- Use very large rollback segments.
- Increase the size of the UNDO tablespace or the number of UNDO Segments.
- Use asynchronous read and write.
- Use multiple db_writers.

Task 6C-25: Changing the Base Language

The information in the earlier task Planning Multilingual Strategy will help you determine whether you should change your base language, and lists the currently supported languages.

See "Preparing for Installation," Planning Multilingual Strategy.

See PeopleTools Certifications — Supported Languages, My Oracle Support (search for article name).

This task applies only if your users will be operating PeopleSoft applications *primarily* in one particular language other than English. It gives a performance boost to the language you designate as the base language, but requires more administrative overhead than leaving English as the base language. The details are spelled out in the *PeopleTools: Global Technology* product documentation.

Chapter 7

Completing the Database Setup

This chapter discusses:

- Selecting the Necessary Tasks to Complete the Database Setup
- Running Additional Data Mover Scripts
- Running SQR Reports
- Checking the Database
- Running SETSPACE.SQR

Selecting the Necessary Tasks to Complete the Database Setup

Review each of the tasks in this chapter to determine which are required for your database setup. Depending upon the details of your installation you may not need to complete every task. However, it is important to evaluate the tasks with respect to your specific situation.

Task 7-1: Running Additional Data Mover Scripts

To import additional data for your specific PeopleSoft database, or to make other required changes, you may need to run additional Data Mover scripts. These script files have the extension .dms and are sometimes referred to as "DMS scripts." They are located in the *PS_HOME*\scripts or *PS_APP_HOME*\scripts directory of your file server, and need to be run from the file server by means of Data Mover.

For the details on which additional application-specific Data Mover scripts to run, consult your application-specific installation instructions.

Task 7-2: Running SQR Reports

This section discusses:

- Understanding Running SQR Reports
- Running SQRs on the Client Workstation
- Creating a Shortcut to Run SQRs

Understanding Running SQR Reports

The instructions in this section describe how to run SQR reports from the client workstation. On the Microsoft Windows client, you may prefer to create a shortcut to allow you to run the reports repeatedly. You can use these instructions to run SQRs required in the upcoming task Checking the Database.

You can also choose to run SQR reports from the command line in console mode. Before running SQR from the command line on Microsoft Windows operating systems, set PS_HOME from the prompt. For example:

```
set PS_HOME=C:\PT856
```

See Also

PeopleTools: SQR for PeopleSoft Developers

PeopleTools: SQR Language Reference for PeopleSoft

Task 7-2-1: Running SQRs on the Client Workstation

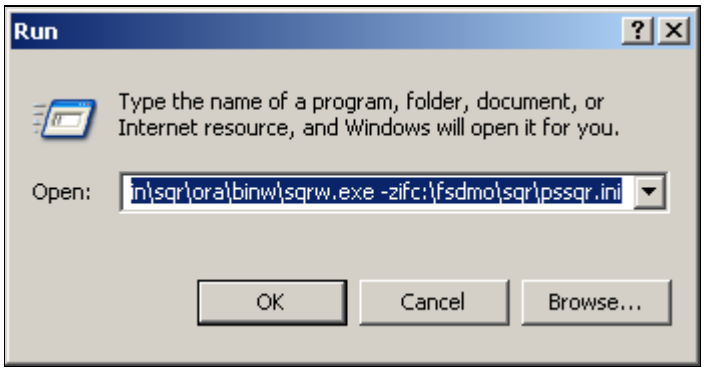
To run an SQR on the client workstation:

1. Select Start, Run, click Browse, and navigate to *PS_HOME*\bin\sqr\ORA\binw.

   Select sqrw.exe and click Open.

2. Add any needed flags at the end of the command line.

   Refer to the table that follows. For those flags that require attributes, append the attributes to the flags with no intervening spaces (for example, –fE:\fsdmo\bin\sqr\pssqr.ini).



Microsoft Windows Run dialog box launching SQRW

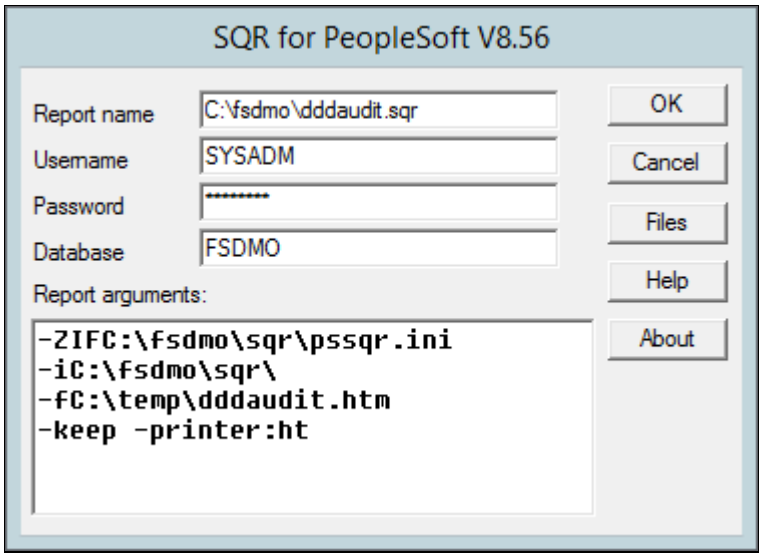
The following table summarizes the SQR report arguments used by PeopleSoft software. (For a full listing of report arguments, press the Help button to view the SQR help topic for this dialog box.)

Flag	Description
-I	Specifies the directories that SQR will search for the #INCLUDE files. (A trailing slash is required.)
-f	Specifies the directory where the report output will be sent. If you use the –keep flag, you must specify the directory with a trailing slash. If you use the –printer flag, specify a full pathname with a filename for the HTML file.
-ZIF	Sets the full path and name of the SQR initialization file. The -ZIF flag should point to your *PS_HOME*\sqr\pssqr.ini file.
-keep	Keeps the .SPF file after the program runs. This enables you to view the report with the SQR viewer.
-printer:ht	Generates the output file in HTML format. Specify the filename, with path location, with the –f flag.

3. Click OK.

   The SQR for PeopleSoft V8.56 dialog box appears, displaying the attributes that you entered in the Run dialog box. The fields on this dialog box are described in the next step:

   Note. The report arguments in this example have been arranged for readability.



SQR for PeopleSoft dialog box with DDDAUDIT.SQR

4. Enter the following values:
   - Enter the report name.

     You must specify the full path.
   - Enter the access ID in the Username field.
   - Enter the access password in the Password field.
   - Enter the database name.
5. Click OK to run the SQR report.

   Note. In the Properties dialog box for your SQR icon, make sure that the Start in path points to your Oracle connectivity on the Shortcut tab. If you take the default, you may see a misleading error message about TNS packet writer failure.

Task 7-2-2: Creating a Shortcut to Run SQRs

If you think you may need to run the SQR reports more than once, you may want to create a shortcut on the Windows client workstation. To save the report arguments:

1. Open Windows Explorer on the machine on which you want to run SQR.
2. Navigate to *PS_HOME*\bin\sqr\ORA\binw.
3. Right-click sqrw.exe and click Create Shortcut.
4. Right-click the shortcut that you just created and select Properties.
5. On the Shortcut tab, add the same sqr flags that you used in the previous task after sqrw.exe in the Target entry box.

6. Click OK.
7. To run the report, double-click the shortcut and specify the following information in the dialog box:
   - Report Name: Enter the full path and the name.
   - Database name
   - Username: Enter the access ID.
   - Password: Enter the access password.
   - Report arguments: Make any necessary modifications to the saved arguments.
8. Click OK.

Task 7-3: Checking the Database

Run and examine the SQR reports to verify that your database is complete.

See Running SQR Reports.

To verify that the database is complete, run the following SQR reports from the *PS_HOME*\sqr directory:

- dddaudit.sqr
- sysaudit.sqr
- swpaudit.sqr, if you plan to swap your base language

For further information about these reports, consult PeopleSoft product documentation. This documentation includes specific information on how to interpret the reports and how to fix any errors found there.

It is good practice to run and read the audit reports, which include sysaudit, dddaudit, swpaudit, and alter audit, after making changes such as applying patches, bundles, and upgrades to the database, to make sure that the tables are internally and externally in synch. It is also a good idea to schedule regular maintenance, for example weekly, in which you run and review the reports. You can find information on these audit reports in the *PeopleTools: Data Management* product documentation.

See *PeopleTools: Global Technology,* "Running the Swap Audit Report."

You can greatly improve the performance and run time of the sysaudit.sqr run by making the following configuration changes to the Oracle init.ora for your SID:

```
db_file_multiblock_read_count = 16
db_block_buffers = 2000 or greater
log_checkpoint_interval = 9999999
log_buffer = 102400
```

If you are using rollback segments, you may also want to increase the size of the RBSBIG rollback segment to 500 MB.

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

See Also

PeopleTools: Data Management

PeopleTools: System and Server Administration

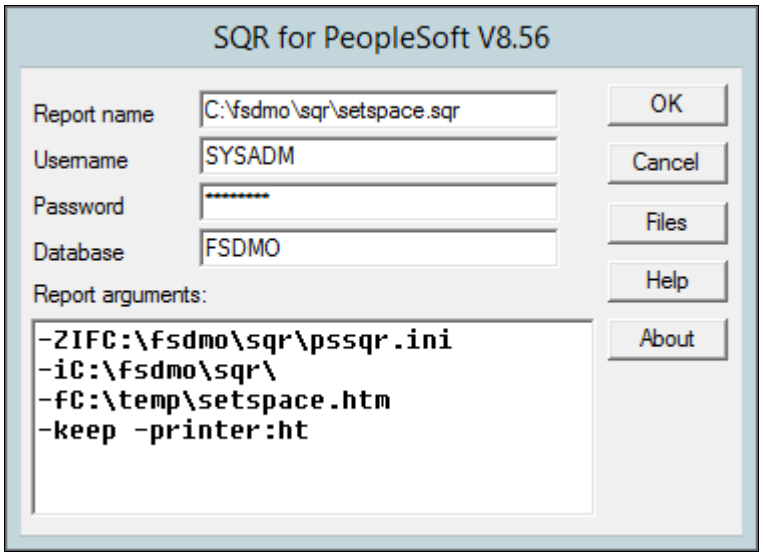
Task 7-4: Running SETSPACE.SQR

Run the SETSPACE.SQR script to populate or synchronize Tablespace information with the system catalog. To run SETSPACE.SQR:

1. Using the instructions provided earlier, run SETSPACE.SQR from the *PS_HOME*\SQR directory.

   See Running SQR Reports.

   Note. Your results will vary depending on the application you are loading. The dialog box example shown here is typical. The report arguments in this example have been arranged for readability.



   SQR for PeopleSoft dialog box with setspace.sqr

2. Click OK.
3. As SETSPACE.SQR runs you see a progress indicator similar to the following.

```
Set Table Space Name in PSRECTBLSPC

 Table PSRECTBLSPC column DDLSPACENAME have been updated
 with the tablespace found in the system catalog table.
 The total number of records updated appears at the bottom of this⇒
 report.

Recname          New DDLSpaceName   Old DDLSpaceName
---------------  ----------------   ----------------
 This phase of SETSPACE will sync up the PSRECTBLSPC and
 PSTBLSPCCAT tables

PSRECTBLSPC Records Updated:     0

PSTBLSPCCAT Records Inserted:    0

Ending SQR.
```

Chapter 8

Deploying Mid-Tier Components

This chapter discusses:

- Understanding the Mid-Tier Deployment
- Running the DPK Setup Script for Mid-Tier Deployment
- Completing Installation Tasks

Understanding the Mid-Tier Deployment

After you complete the database creation, run the PeopleTools DPK setup script again to deploy the mid-tier components for the PeopleSoft environment. Specify the same *BASE_DIR* that you specified when you used the DPK setup script to install the software.

The default mid-tier deployment performs the following:

- Sets up a single application server domain, Process Scheduler domain, and PIA domain.
- On Microsoft Windows, sets up services for the PeopleSoft domains.

  Note. On Microsoft Windows, when running the setup script to deploy mid-tier components for previously-created domains, first stop and delete services for configured domains to avoid errors.

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

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

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

This section discusses:

- Understanding the Mid-Tier Deployment
- Prerequisites
- Running with the Mid-Tier Option on Microsoft Windows
- Running with the Mid-Tier Option on Linux, AIX, or Solaris

Understanding the Mid-Tier Deployment

Use this procedure to install the PeopleSoft mid-tier components The deployment includes the following:

- *PS_HOME* installed to the default location under the DPK base directory
- Oracle Tuxedo installed to the default location under the DPK base directory
- Oracle WebLogic installed to the default location under the DPK base directory
- Oracle database client installed to the default location under the DPK base directory
- Deployed and set up PeopleSoft domains. There is a single Application Server domain, single Process Scheduler domain, and single PIA domain.
- Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries

Prerequisites

Before performing the mid-tier deployment, ensure that you have fulfilled the following requirements:

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

  See Obtaining the PeopleSoft PeopleTools DPKs.

  Note. After the DPK setup script extracts the downloaded zip files, it will delete the original zip files in *DPK_INSTALL.* If you want to save the original zip files, make a backup copy in a different folder.

  Note. If you want to have a PeopleSoft application-specific local node, for Integration Broker or Report Node, configured during the mid-tier creation, you must also download the first application DPK (normally zip file 9of*n.*zip). If the application DPK is not present, the mid-tier deployment will create a PeopleTools-specific default local node.

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

- Remove any previous installations of the same version of Oracle Tuxedo.
- You extracted the first zip file. The extraction gives a setup folder and other files.

  See "Deploying the PeopleSoft Homes."
- The user running the script *must have administrative permission* on Microsoft Windows, and *root access* on Linux, AIX, or Solaris.

  Note. Restarting services for the deployed PeopleSoft environment, such as those for Oracle Tuxedo, must be performed by the same user (with administrative permission) who carried out the installation.

- There is enough space on the host for the PeopleSoft environment.

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

  See Reviewing Software Requirements.
- You have installed database connectivity software for the database that you want to access on the machine on which you deploy the mid-tier components.

  The mid-tier deployment includes Oracle database client installation, so a separate installation of Oracle database connectivity software is not required. For alternative installations of the Oracle database client, you must use the customizations to specify the installation location. If you want to use a previous installation,

specify the installation location as mentioned in the task Preparing the Customization File for Component Software Locations.

See "Completing the DPK Initialization with Customizations."

- The mid-tier deployment constructs a tnsnames.ora entry for use by the PeopleSoft mid-tier components (that is, application server and Process Scheduler) to connect to a database using SERVICE_NAME. Ensure that your database can be accessed using SERVICE_NAME in the tnsnames.ora entry.
- You have the information for the database to connect to, including:
  - RDBMS platform
  - Database name, service name, host, and listening port
  - Unicode or non-Unicode database
- You have the information for the user IDs and passwords needed for the deployment, including the following:
  - PeopleSoft Connect ID and password
  - PeopleSoft operator ID (such as PS or VP1) and password
  - Application Server Domain Connection password (optional)
  - PTWEBSERVER web profile user password
  - Oracle WebLogic server administrator password
  - Integration Gateway administrator

Task 8-1-1: Running with the Mid-Tier Option on Microsoft Windows

To deploy mid-tier components on physical or virtual Microsoft Windows hosts:

1. Open a command prompt window with Run as Administrator.
2. Change directory to the location where you extracted the first zip file, *DPK_INSTALL*/setup.
3. Run the script with the mid-tier option to set up the Application Server, PIA, and web server mid-tier components.

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

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

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

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

  ```
  psft-dpk-setup.bat --dpk_src_dir DPK_INSTALL --env_type midtier
  ```

Note. Running the DPK setup script with the `--env_type midtier` option deploys all servers. If you want to deploy one of the servers (application server, Process Scheduler server, PIA, or application server and Process Scheduler server) see the command options in "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.

---

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

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

After the script completes the extraction, it deletes the original files. Make a backup copy if you want to keep them.

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

```
Starting the PeopleSoft Environment Setup Process:

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

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

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

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

   If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in *DPK_INSTALL/*setup. If there are missing operating system packages, you will need to carry out additional steps.

   See Obtaining Operating System Packages Required for Puppet.

```
Starting the PeopleSoft Environment Setup Process:

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

Verifying if Puppet Software is Installed:                  [  OK  ]

Puppet Software is not installed on the Host. If this Host is
used to setup a PeopleSoft environment, Puppet Software should
be Installed.

Do you want to Install Puppet Software on this Host? [Y|n]: y

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

   The script verifies the eYAML software.

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

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

```
Preparing the Windows 2012Server VM for PeopleSoft Environment:

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

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

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

Note. When entering the path for the base folder, use forward slashes (/). For example, `C:/psft`. Enclose any names with special characters in double quotes. Do not use a name for the base folder that begins with a number.

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

Enter the PeopleSoft Base Folder: C:/psft
Are you happy with your answer? [Y|n|q]:
```

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

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

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

The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

- *BASE_DIR*\dpk

  The script uses this directory to extract the archives from the PeopleSoft DPKs, and contains the Puppet YAML files for the deployment.
- *BASE_DIR*\pt

  The script uses this directory to deploy PeopleSoft components.
- *BASE_DIR*\db

  This directory is not used for a mid-tier deployment.

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

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

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

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

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

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

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

   ```
   Setting up Puppet on the Windows VM:
   Generating eYAML Hiera Backend Encryption Keys:             [  OK  ]
   ```

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

10. Specify the installation type.

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

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL.*

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

---

11. Specify the information for the database that you want to connect to.
    a. For the database platform, enter ORACLE.

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

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

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

    c. Enter *y* (yes) if you want to install the files needed for multi-language support.

    Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL.*

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

    d. Enter the database name.

    If the database name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92".

    ```
    Enter a new PeopleSoft database name. Ensure that the database
    name start with a letter and contains only uppercase letters and
    numbers and is no more than 8 characters in length [HCM92]:
    ```

    e. Enter the database service name.

    For the service name, enter the full name, including the domain, if the database was installed with the domain. Use forward slashes if necessary. If the service name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92.example.com".

    ```
    Enter the PeopleSoft database service name [HCM92]:
    ```

    f. Enter the name of the host where the database is installed, and the port number:

    Use forward slashes if necessary. If the host name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "host.example.com".

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

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

    The default is people.

    ```
    Enter a new PeopleSoft database Connect ID. Ensure that the ID
    ```

```
contains only alphanumeric characters and is at most 8 characters
in length [people]:
```

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

```
Enter the PeopleSoft database Connect ID [people] password: Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:

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

14. Enter *y* (yes) if you want the DPK setup script to update user passwords, as described in the prompt:

```
Note: If the PeopleSoft environment is setup using DPKs in a distributed
topology with dbtier on one host and midtier on another, the PeopleSoft
application users [Access ID, Operator ID, WebProfile User] passwords
need to be reset from a midtier after DB provision. If this is the first
midtier instance accessing the database, we can automate the process of
updating these passwords.

Do you want to update the user passwords in PeopleSoft database? [y|N]:N
```

15. Enter the password twice for the database administrator:

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

Note. You see this prompt if you answered yes to the previous prompt for updating the user passwords.

16. Enter the PeopleSoft Operator ID (user ID) at the next prompt:

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

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

```
Enter a new PeopleSoft database Operator ID [PS] password. Ensure
the password contains only alphanumeric characters and is between 1
and 32 characters in length:

Re-Enter the PeopleSoft Operator ID password:
```

18. Enter the password for the Access ID for the database:

```
Enter a new PeopleSoft database Access ID [SYSADM] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:

Re-Enter the PeopleSoft Access ID password:
```

Note. You see this prompt if you answered yes to the previous prompt for updating the user passwords.

19. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

    The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

```
[Optional] Enter a new Application Server Domain connection password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:

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

20. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

    The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

```
Enter a new WebLogic Server Admin user [system] password. Ensure
that the password is between 8 and 30 characters in length with
at least one lowercase letter, one uppercase letter and one number
or one special character (!@#$%^&):
Re-Enter the WebLogic Server Admin user password:
```

21. Enter the password for the PTWEBSERVER web profile user.

Note. The guideline in the prompt for the PTWEBSERVER user password does not allow special characters. However, the PeopleSoft system does allow special characters for the PTWEBSERVER password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Security Administration,* "Working with Passwords."

```
Enter a new PeopleSoft WebProfile user [PTWEBSERVER] password. Ensure
that the password contains only alphanumeric characters and is between
8 and 30 characters in length:
Re-Enter the PeopleSoft WebProfile user password:
```

22. Enter the Integration Gateway user ID and password at the following prompt.

    The default user ID is administrator.

Note. The guideline in the prompt for the Integration Gateway user ID password does not allow special characters. However, the PeopleSoft system does allow special characters for the Integration Gateway user ID password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Security Administration,* "Working with Passwords."

```
Enter the PeopleSoft Integration Gateway user [administrator]:
Enter the PeopleSoft Integration Gateway user [administrator] password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user password:
```

23. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

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

24. Review the status messages as the script updates the Puppet YAML files with the user input.

```
Encrypting the Passwords in the User Data:                [  OK  ]
Updating the Puppet Hiera YAML Files with User Data:       [  OK  ]
```

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

Note. If you select the default initialization process, the PeopleSoft environment is created with one Application Server domain, one Process Scheduler domain, and one PIA domain.

If you want to customize the PeopleSoft environment, answer *n* (no) to stop the script. You must use customizations to complete the mid-tier deployment.

Note. If you are installing on an AIX operating system, you must use the customizations to specify the location of the manually installed JDK.

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

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

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

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

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

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

```
Starting the Default Initialization of PeopleSoft Environment:

Deploying PeopleTools Components:                            [FAILED]

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

1. cd /d C:\psft\dpk\puppet\production\manifests
2. "C:\Program Files\Puppet Labs\Puppet\bin\puppet.bat" apply --confdir=⇒
C:\psft\dpk\puppet site.pp --debug --trace

Exiting the PeopleSoft environment setup process.
```

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

```
Starting the Default Initialization of PeopleSoft Environment:

Deploying PeopleTools Components:                            [  OK  ]
```

```
Setting up PeopleSoft OS Users Environment:                  [  OK  ]
Setting up PeopleSoft Application Server Domain:             [  OK  ]
Setting up PeopleSoft Process Scheduler Domain:              [  OK  ]
Setting up PeopleSoft PIA Domain:                            [  OK  ]
Changing the Passwords for the Environment:                  [  OK  ]
Configuring Pre-Boot PeopleSoft Environment:                 [  OK  ]
Starting PeopleSoft Domains:                                 [  OK  ]
Configuring Post-Boot PeopleSoft Environment:                [  OK  ]
Setting up Source Details for PeopleTools Client:            [  OK  ]
The PeopleSoft Environment Setup Process Ended.
```

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

Task 8-1-2: Running with the Mid-Tier Option on Linux, AIX, or Solaris

To deploy mid-tier components on Linux, AIX, or Solaris hosts:

1. Open a terminal window and change directory to *DPK_INSTALL/*setup.
2. As a user with root access, run the script as follows:
   - If you extracted the first zip file into the same directory where you downloaded the zip files, use this command:

     ```
     ./psft-dpk-setup.sh --env_type midtier
     ```

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

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

Note. Running the DPK setup script with the `--env_type midtier` option deploy all servers. If you want to deploy one of the servers (application server, Process Scheduler server, PIA, or application server and Process Scheduler server) see the command options in "Installing the PeopleSoft Homes," Reviewing the DPK Setup Script Options.

---

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

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

   After the script completes the extraction, it deletes the original files. Make a backup copy if you need to keep them.

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

   ```
   Starting the PeopleSoft Environment Setup Process:

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

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

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

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

If there is any error during the Puppet software installation, the script aborts the setup process. Review the log file in *DPK_INSTALL/*setup. If there are missing operating system packages, you will need to carry out additional steps.

See Obtaining Operating System Packages Required for Puppet.

```
Starting the PeopleSoft Environment Setup Process:

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

Verifying if Puppet Software is Installed:                  [  OK  ]

Puppet Software is not installed on the Host. If this Host is
used to setup a PeopleSoft environment, Puppet Software should
be Installed.

Do you want to Install Puppet Software on this Host? [Y|n]:

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

The script verifies the eYAML software.

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

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

```
Preparing the Linux VM for PeopleSoft Environment:

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

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

   The base directory is used to extract the PeopleSoft DPKs as well as for deploying PeopleSoft components. The directory /cs1/psft is used in this example:

Note. When entering the path for the base directory, use forward slashes (/). For example, `/cs1/psft`. If the name includes any non-alphanumeric characters such as periods, enclose the name in double quotes. Do not use a name for the base directory that begins with a number.

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

Enter the PeopleSoft Base Directory: /cs1/psft
Are you happy with your answer? [Y|n|q]:
```

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

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

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

The script creates the following three sub-directories under the user provided base directory, *BASE_DIR*:

- *BASE_DIR/*dpk

  The script uses this directory to extract the archives from the PeopleSoft PeopleTools DPKs, and contains the Puppet YAML files for the deployment.
- *BASE_DIR/*pt

  The script uses this directory to deploy PeopleSoft components.
- *BASE_DIR/*db

  This directory is not used for this deployment.

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

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

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

   The PeopleSoft environment setup creates local users on the Linux VM.
   The default Home directory [/home] do not
   have write permission to create the user's home directory. Please
   ensure this directory is writable or provide a new directory on the
   Linux VM that is writable.

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

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

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

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

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

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

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

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

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

   The script sets up Puppet on the host or VM. As part of this setup, if the EYAML files are installed, it will generate the encryption keys. It then copies the PeopleSoft Puppet modules to the standard location (*BASE_DIR/*dpk) and updates the YAML files to reflect the type of PeopleSoft environment setup.

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

10. Specify FRESH for the installation type.

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

Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL.*

Note. If you are using the PeopleSoft Upgrade Source Image to set up an environment for the Upgrade Source database, you do not see this prompt.

---

11. Specify the information for the database that you want to connect to.
    a. For the database platform, enter ORACLE.

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

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

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

    c. Enter *y* (yes) if you want to install the files needed for multi-language support.

    Note. You see this prompt only when PeopleSoft application DPKs that were built on the same PeopleTools release, are present in *DPK_INSTALL.*

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

    d. Enter the database name.

    If the database name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92".

    ```
    Enter a new PeopleSoft database name. Ensure that the database
    name start with a letter and contains only uppercase letters and
    numbers and is no more than 8 characters in length [HCM92]:
    ```

    e. Enter the database service name.

    For the service name, enter the full name, including the domain, if the database was installed with the domain. Use forward slashes if necessary. If the service name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "HCM.92.example.com".

    ```
    Enter the PeopleSoft database service name [HCM92]:
    ```

    f. Enter the name of the host where the database is installed, and the port number:

    Use forward slashes if necessary. If the host name includes non-alphanumeric characters such as periods, enclose the name in double quotes. For example, "host.example.com".

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

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

The default is people.

```
Enter a new PeopleSoft database Connect ID. Ensure that the ID
contains only alphanumeric characters and is at most 8 characters
in length [people]:
```

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

```
Enter a new PeopleSoft database Connect ID [people] password. Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:

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

14. Enter *y* (yes) if you want the DPK setup script to update user passwords, as described in the prompt:

```
Note: If the PeopleSoft environment is setup using DPKs in a distributed
topology with dbtier on one host and midtier on another, the PeopleSoft
application users [Access ID, Operator ID, WebProfile User] passwords
need to be reset from a midtier after DB provision. If this is the first
midtier instance accessing the database, we can automate the process of
updating these passwords.

Do you want to update the user passwords in PeopleSoft database? [y|N]:N
```

15. Enter the password twice for the database administrator:

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

Note. You see this prompt if you answered yes to the previous prompt for updating the user passwords.

---

16. Enter the PeopleSoft Operator ID (user ID):

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

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

```
Enter a new PeopleSoft database Operator ID [PS] password. Ensure
the password contains only alphanumeric characters and is between 1
and 32 characters in length
Re-Enter the PeopleSoft Operator ID password:
```

18. Enter the password twice for the Access ID for the database:

```
Enter a new PeopleSoft database Access ID [SYSADM] password.  Ensure
the password contains only alphanumeric characters and is between 6
and 30 characters in length:
Re-Enter the Access ID password:
```

Note. You see this prompt if you answered yes to the previous prompt for updating the user passwords.

---

19. Enter the Application Server Domain Connection password, following the guidelines in the prompt.

    The window does not display masking characters as you type. There is no default password.

Note. This is an optional password. If no password is entered, the connection between Web Server and Application Server will not be password protected.

```
[Optional] Enter a new Application Server Domain connection password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:
Re-Enter the Application Server Domain connection password.
```

20. Enter the Oracle WebLogic Server Admin password, following the guidelines in the prompt.

    The default Oracle WebLogic server administrator is system. The window does not display masking characters as you type. There is no default password.

```
Enter a new WebLogic Server Admin user [system] password. Ensure
that the password is between 8 and 30 characters in length with
at least one lowercase letter, one uppercase letter, one number or
one special character (!@#$%^&):
Re-Enter the WebLogic Server Admin user password:
```

21. Enter the password twice for the PTWEBSERVER web profile user.

Note. The guideline in the prompt for the PTWEBSERVER user password does not allow special characters. However, the PeopleSoft system does allow special characters for the PTWEBSERVER password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Security Administration,* "Working with Passwords."

```
Enter a new PeopleSoft WebProfile user [PTWEBSERVER] password. Ensure
the password contains only alphanumeric characters and is between
8 and 30 characters in length:
Re-Enter the PeopleSoft WebProfile user password:
```

22. Enter the Integration Gateway user ID and password.

    The default user ID is administrator.

Note. The guideline in the prompt for the Integration Gateway user ID password does not allow special characters. However, the PeopleSoft system does allow special characters for the Integration Gateway password. If you want to change the password to include special characters, you have the option to do so in the PeopleSoft Pure Internet Architecture (PIA) after you complete the installation and domain creation.

See *PeopleTools: Security Administration,* "Working with Passwords."

```
Enter the PeopleSoft Integration Gateway user [administrator]:
Enter the PeopleSoft Integration Gateway user [administrator] password.
Ensure the password contains only alphanumeric characters and is
between 8 and 30 characters in length:
Re-Enter the PeopleSoft Integration Gateway user password:
```

23. If you want to change any of the answers to the previous questions, enter *n* (no) at the following prompt, or enter *y* (yes) to continue:

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

24. Review the status messages as the script updates the Puppet YAML files with the user input.

    If EYAML files are installed, the passwords are encrypted and updated in the YAML file.

```
Encrypting the Passwords in the User Data:                [  OK  ]
Updating the Puppet Hiera YAML Files with User Data:       [  OK  ]
```

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

Note. If you select the default initialization process, the PeopleSoft environment is created with one Application Server domain, one Process Scheduler domain, and one PIA domain.

If you want to customize the PeopleSoft environment, answer *n* (no) to stop the script. You must use customizations to complete the mid-tier deployment.

See "Completing the DPK Initialization with Customizations."

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

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

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

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

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

```
Starting the Default Initialization of PeopleSoft Environment:

Setting Up System Settings:                            [FAILED]

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

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

Exiting the PeopleSoft environment setup process.
The PeopleSoft Environment Setup Process Ended.
```

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

See "Completing the DPK Initialization with Customizations."

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

```
Starting the Default Initialization of PeopleSoft Environment:
Setting Up System Settings:                                [  OK  ]
```

```
Deploying PeopleTools Components:                          [  OK  ]
DSetting up PeopleSoft OS Users Environment:               [  OK  ]
Setting up PeopleSoft Application Server Domain:           [  OK  ]
Setting up PeopleSoft Process Scheduler Domain:            [  OK  ]
Setting up PeopleSoft PIA Domain:                          [  OK  ]
Changing the Passwords for the Environment:                [  OK  ]
Configuring Pre-Boot PeopleSoft Environment:               [  OK  ]
Starting PeopleSoft Domains:                               [  OK  ]
Configuring Post-Boot PeopleSoft Environment:              [  OK  ]
Setting up Source Details for PeopleTools Client:          [  OK  ]
The PeopleSoft Environment Setup Process Ended.
```

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

Task 8-2: Completing Installation Tasks

After completing the installation process, be sure to go to the chapter "Completing the Installation." This chapter includes information on accessing the PeopleSoft environment, as well as post-installation steps.

It is important that you perform the tasks in the section Completing Post-Installation Steps that apply to your environment.

Chapter 9

Completing the Installation

This chapter discusses:

- Completing Post-Installation Steps
- Using the PeopleSoft Installation

Task 9-1: Completing Post-Installation Steps

This section discusses:

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

Task 9-1-1: Using Fluid User Interface

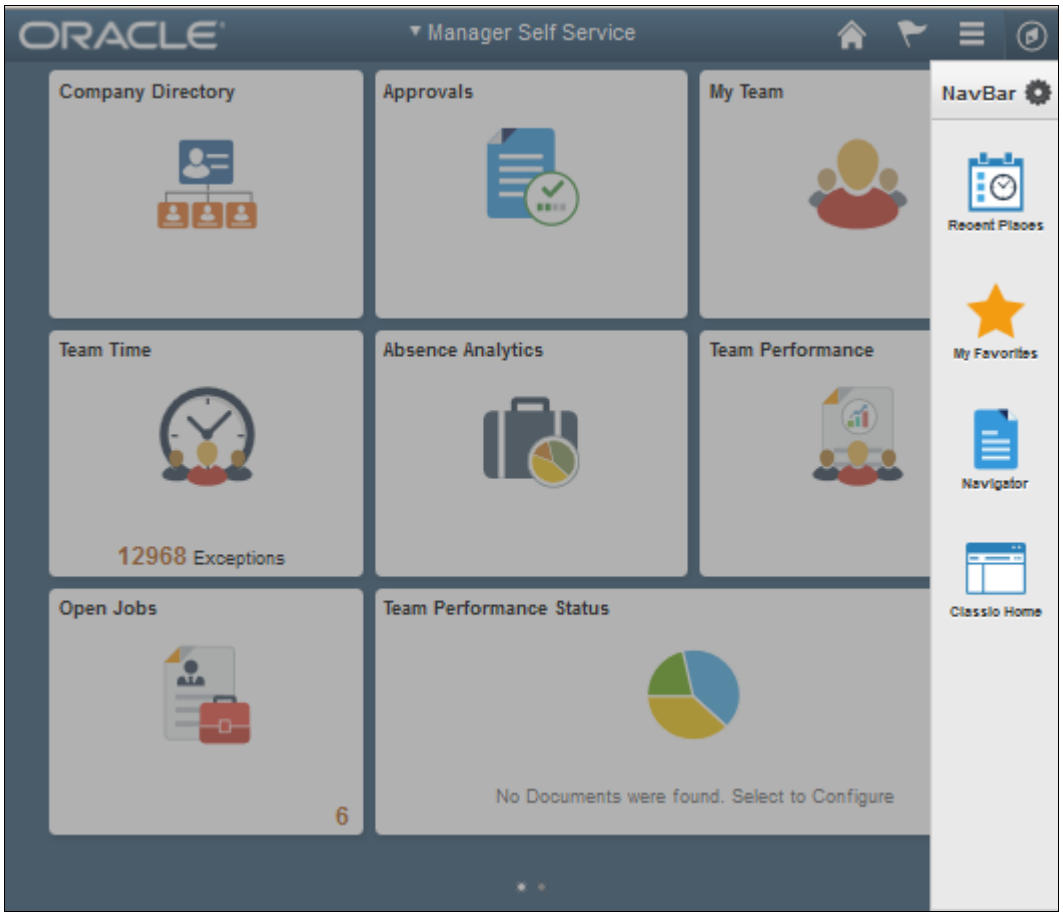
When you sign in to your PeopleSoft application, you may see the PeopleSoft Fluid User Interface by default. To access the menu items, as seen in the classic user interface, from the PeopleSoft Fluid User Interface:

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

PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

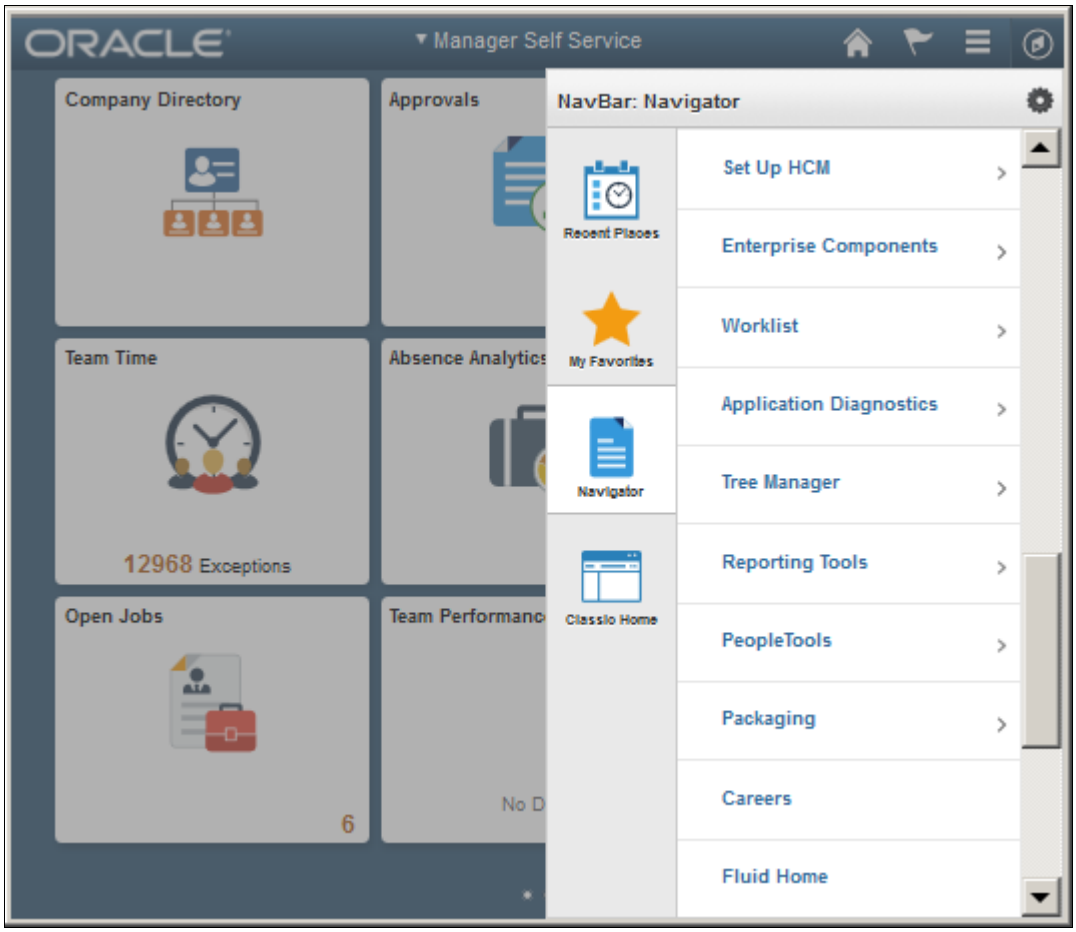
2. Select (press) Navigator.



NavBar side page

The menu structure appears.

3. Navigate to the desired item, such as Set Up HCM or PeopleTools.



Navigator side page with PeopleSoft menu items

See Also

PeopleTools: Applications User's Guide, "Working With Fluid Homepages"

PeopleTools: Fluid User Interface Developer's Guide

Task 9-1-2: Updating the Installation Table

After you complete the installation process, creating the database, installing the Application Server, and installing the PeopleSoft Pure Internet Architecture, you must complete this additional step. This postinstallation step ensures that only the products you are entitled to use are active in the installation. The location of the installation table in the PeopleSoft system varies depending upon the PeopleSoft application that you installed.

Note. For information on the products you are entitled to use, contact your Oracle Support representative.

---

1. Sign on to the PeopleSoft system in a browser.
2. Select Set Up *Application_name* (where Application_name is the PeopleSoft application you installed), Install, Installation Table.
3. Select the Products tab.

4. Clear the check boxes for the products that you are not entitled to use.

Task 9-1-3: Setting Options for Multilingual Databases

Setting the Data Field Length Checking Option

The value to specify data field length checking must be set correctly in order for PeopleSoft applications to perform correctly in a browser. Use one of these methods to set the data field length checking option:

- Select PeopleTools, Utilities, Administration, PeopleTools Options, and select the Data Field Length Checking option from the drop-down list.
- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

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

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

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

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

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODE_ENABLED parameter in the PSSTATUS table is set correctly. For example:

- For non-Unicode databases, including those using the Shift-JIS character set for Japanese, set UNICODE_ENABLED=0.
- For Unicode databases, set UNICODE_ENABLED=1.

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

Task 9-1-4: Updating PeopleTools Options

You can set the following options on the PeopleTools Options page:

- Multi-Currency — Select this check box if you plan to use currency conversion.

  See *PeopleTools: Global Technology,* "Using System-Wide Multicurrency Settings."
- Base Time Zone — Enter a value for the base time zone for your PeopleTools database.

See *PeopleTools: Global Technology*, "Setting the Base Time Zone."

- Sort Order Option — If you specified a non-binary sort order for your database, choose the Sort Order Option that most closely approximates your database sort order.

  See *PeopleTools: Global Technology*, "Setting the Sort Order."

Task 9-1-5: Updating Time Zone Information

Additional steps may be required to configure your time zone after you complete the installation.

See *PeopleTools: Global Technology,* "Maintaining Time Zones."

Task 9-1-6: Updating Database Information

The database information updated in this procedure is used by the PeopleSoft software update tools to identify your PeopleSoft database when searching for updates. These steps should be followed for all additional databases that you create to enable the accurate identification of your databases.

1. Sign on to your PeopleSoft database.
2. Navigate to PeopleTools, Utilities, Administration, PeopleTools Options.
3. Specify long and short names for your environment. For example:
   - Environment Long Name — Customer HR Demo Database
   - Environment Short Name — HR Demo DB
4. Select a system type from the drop-down list. For example, Demo Database.
5. Save your changes.

Task 9-2: Using the PeopleSoft Installation

This section discusses:

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

Task 9-2-1: Accessing the PeopleSoft Environment

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

To sign in to the deployed PeopleSoft environment in a browser (that is, use the PeopleSoft Pure Internet Architecture, or PIA), use a URL with this format:

http://<host_name>:<http_port>/<PIA_site_name>/signon.html

For example, for a deployment with the default port, 8000, and default PIA site name, ps, the URL would be http://server1.example.com:8000/ps/signon.html.

Task 9-2-2: Reviewing the Deployment File System

The PeopleSoft installation deployed by the PeopleSoft DPKs sets up an environment comprised of several directories. This table lists the directories with the location, contents of the directory, and the owner.

Directory	Description	Default Location	Access
PS_HOME	The binary installation files are placed into a secure *ps_home<peopletools_patch_version>* directory, where <peopletools_patch_version> is the full release, for example 8.56.01.	*BASE_DIR*/pt/*ps_home<peopletools_patch_version>*	This directory can only be written to by the PeopleSoft administrator, psadm1.
PS_CFG_HOME	The Application Server and Process Scheduler server configuration files are placed into a *PS_CFG_HOME* directory named *<peopletools_major_version>*, where <peopletools_major_version> does not include patch numbers; for example, 8.56.	• On AIX, Linux, or Solaris, /home/psadm2/psft/pt/*<peopletools_major_version>* • On Microsoft Windows, C:\%USERPROFILE%\psft\pt*<peopletools_major_version>* For example, if the USERPROFILE environment variable is C:\Users\username, the location is C:\Users\username\psft\pt\8.56.	This directory is owned by psadm2.
PS_APP_HOME	The PeopleSoft application installation files are located in the *<Product>*_app_home directory, where *<Product>* is an abbreviation for the PeopleSoft application, such as hcm for PeopleSoft Human Capital Management.	*BASE_DIR*/pt/*<Product>*_app_home	This directory can only be written to by psadm3.

Directory	Description	Default Location	Access
ORACLE_HOME (Oracle RDBMS software)	This includes the Oracle RDBMS database server and client connectivity software, including the SQL*Plus program. The Oracle RDBMS client installation is the 64-bit client used by PeopleSoft PeopleTools to connect from the PeopleSoft Application Server and Process Scheduler domains to the PeopleTools Database. **Note.** The default listener port is 1521.	*BASE_DIR*/db/oracle-server	This directory is owned by user oracle2.
Oracle WebLogic	This includes the installation files for the Oracle WebLogic web server.	*BASE_DIR*/pt/bea/wlserver	This directory is owned by psadm1.
Oracle Tuxedo	This includes the installation files for Oracle Tuxedo.	*BASE_DIR*/pt/bea/tuxedo	This directory is owned by psadm1.
PeopleSoft database files (on Oracle RDBMS)	This includes the Oracle database files and tables for the PeopleSoft application.	*BASE_DIR*/db/oradata	The owner of the database tables is oracle2 and its group is oinstall. **Note.** This is different from the users for the PeopleSoft installation and configuration.

See Also

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

Task 9-2-3: Reviewing the Deployed Users

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

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

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

New passwords must include the following characteristics:

- At least 14 characters long

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

User Name	Default Password	Role Definition
psadm1	0radmin (the first character is the number zero)	The PeopleSoft installation administrator who owns *PS_HOME*. This user cannot write into *PS_CFG_HOME*.
psadm2	0radmin (the first character is the number zero)	The PeopleTools domain user who creates and configures the Application Server domain, Process Scheduler (batch server) domain, and the PIA. This user cannot write to *PS_HOME*, but has read-execute access.
psadm3	0radmin (the first character is the number zero)	The PeopleSoft installation administrator who owns *PS_APP_HOME*.
oracle2	oracle	The Oracle Database Server user name.

See Also

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

Task 9-2-4: Managing PeopleTools Domains with PSADMIN

Use the PSADMIN utility to manage any of the PIA, Application Server, or Process Scheduler domains. You can find the PSADMIN utility in *PS_HOME/*appserv. You must first sign in with the PeopleTools domain user psadm2, described in the section Reviewing the File System and Users. When you sign in as the PeopleTools domain user, the psconfig.sh script is automatically invoked through the user's profile. This is referred to as sourcing the psconfig.sh script. This ensures that all of the required environment variables are set prior to working with PSADMIN. You can perform all the usual administrative options for PIA, Application Server, and Process Scheduler domains using PSADMIN. You may reconfigure the existing domains, shut them down, restart them and create additional domains if necessary. The environment as delivered has however been sufficiently configured to perform many of the activities for which this virtual machine has been created.

See Also

PeopleTools: System and Server Administration, "Using the PSADMIN Utility"

Chapter 10

Deploying the PeopleTools Client DPK

This chapter discusses:

- Deploying the PeopleTools Client DPK

Task 10-1: Deploying the PeopleTools Client DPK

This section discusses:

- Understanding the Standalone Mode Deployment
- Preparing for the PeopleTools Client DPK Deployment
- Deploying in Standalone Mode

Task 10-1-1: Understanding the Standalone Mode Deployment

Use the standalone mode (SA mode) deployment for the PeopleTools Client DPKs when deploying the DPKs alone, without first deploying the PeopleSoft application or PeopleSoft PeopleTools DPKs. Use this method, for example, when carrying out a PeopleTools-only upgrade.

Use SA mode deployment for the following tasks:

- PeopleTools Upgrade

  The deployment process installs a PeopleTools client *PS_HOME* that includes the directories needed for a PeopleSoft PeopleTools-only upgrade, such as data, projects, and scripts directories.

- PeopleTools Patch

  The deployment process installs a PeopleTools client *PS_HOME* that includes the directories needed for a PeopleSoft PeopleTools patch application, such as the PTP directory.

  See "Learning About the PeopleSoft Deployment Process," Reviewing the PeopleTools Patch DPKs.

- PeopleTools Client

  The deployment process installs a PeopleTools client *PS_HOME*. Choose the deployment type "None of the above" for this deployment.

- Change Assistant installation

  You can install Change Assistant as part of the PeopleTools Client deployment, or as a separate installation. The deployment process installs, but does not configure Change Assistant. To use Change Assistant for a PeopleSoft PeopleTools-only upgrade or to apply a PeopleSoft PeopleTools patch, you must configure Change Assistant manually. See the PeopleTools upgrade or patch documentation for information.

  If there is an existing Change Assistant installation, the deployment process removes or upgrades it to the current release, and saves a configuration file with the existing setup.

  See the PeopleTools installation guide for your database platform, "Installing PeopleSoft Change Assistant."

- Change Impact Analyzer

  You can install Change Impact Analyzer as part of the PeopleTools Client deployment, or as a separate installation.

- PeopleSoft Test Framework (PTF) installation

  You can install PeopleSoft Test Framework as part of the PeopleTools Client deployment, or as a separate installation.

- PeopleSoft Test Framework (PTF) configuration

  If you choose to configure PTF, the deployment process prompts you for setup parameters. You can configure PTF either at the same time that you install it or later. For example, you may choose to configure PTF separately if you install and configure it first, and then later the middle-tier components in your environment change. In this case, you do not need to install, but you can use the deployment process to reconfigure PTF.

- Configuration Manager

  If you accept the option to configure the PeopleTools client, the information that you supply is used to configure Configuration Manager.

- The PeopleTools Client deployment installs Microsoft Visual C++ Redistributable Packages for Visual Studio, which include required Microsoft C++ runtime libraries.

Task 10-1-2: Preparing for the PeopleTools Client DPK Deployment

To deploy the PeopleTools Client DPK:

1. Go to the download location for the PeopleSoft PeopleTools DPKs, and download only the last zip file to a location known as *DPK_INSTALL* on a Microsoft Windows computer.

   The last zip file, for example *Filename*_4of4.zip, is the PeopleSoft PeopleTools client DPK.

   See Obtaining the PeopleSoft PeopleTools Patch DPKs.

2. Extract the downloaded zip file, which yields another zip file.
3. Extract the resulting zip file to a local or shared directory; for example C:\tools-client.

Task 10-1-3: Deploying in Standalone Mode

This section assumes that the user running the script has administrative permission.

To deploy the PeopleTools Client DPK in SA mode:

1. Verify that the Microsoft Windows folders options are set to show known file extensions.

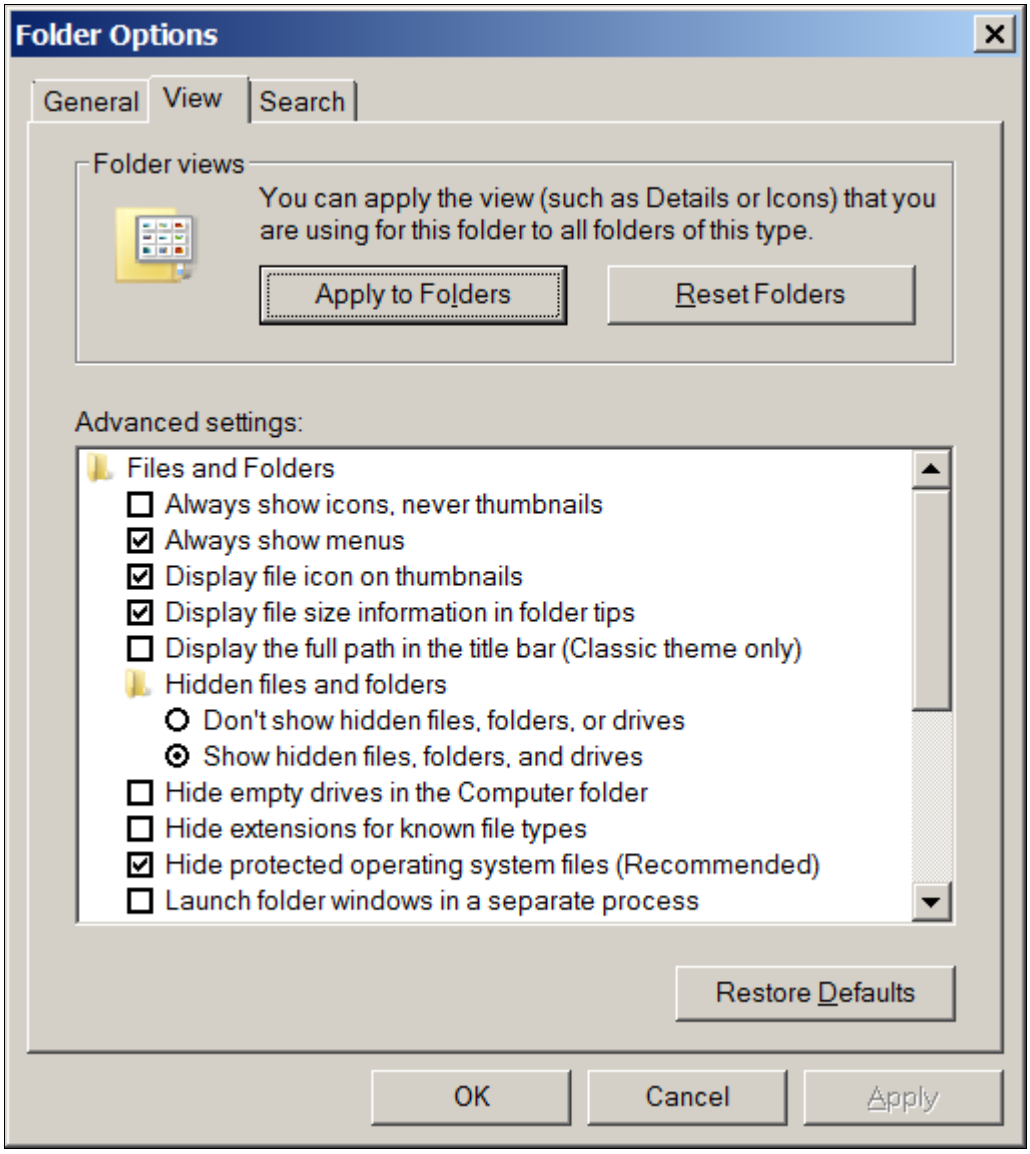
   Hidden file extensions may interfere with the script. To show file extensions, for example:

   a. Open Windows Explorer and select Tools, Folder Options.

   Note. Depending upon the Microsoft Windows operating system, you may use a different method to set the folder options.

   b. On the Folder Options dialog box, select the View tab.

c. Verify that the check box for Hide extensions for known file types is not selected, as shown in this example:



Folder Options dialog box: View tab

d. Click OK to close the box.

2. Open a command prompt, running as administrator, and change directory to the C:\tools_client folder.

   The tools_client folder includes various sub-folders, and the following files:

   - SetupPTClient.bat

     The interactive script that installs the PeopleSoft PeopleTools components such as Application Designer, Change Assistant, Change Impact Analyzer, and PeopleSoft Test Framework.

   - readme.txt

3. Run the setup script with the following command:

   ```
   SetupPTClient.bat -t
   ```

Note. If you see an error message similar to "The application has failed to start because its side-by-side configuration is incorrect," it indicates that your machine does not include the necessary Microsoft C++ runtime libraries. Go to the Microsoft Web site, locate the Microsoft Visual C++ redistributable package for your system, and install as directed.

- The setup script deploys to drive C by default. To deploy to a different drive, you can use the option `-d <drive>`:

  ```
  SetupPTClient.bat -t -d E
  ```

  This option installs all specified software (Change Assistant, Change Impact Analyzer, PeopleSoft Test Framework), installation and temporary directories, and log files to the specified drive, E:\ in this example. The drive can be any valid local or mapped shared drive.
- To enable logging, include the option `-l` in the command:

  ```
  SetupPTClient.bat -t -l
  ```

4. Answer *y* (yes) at the following prompt to deploy the PeopleTools Client.

   If you are running the script after having deployed the PeopleTools Client previously, and you want to install Change Assistant, Change Impact Analyzer, or PeopleSoft Test Framework without deploying the PeopleTools Client again, answer *n* (no), and continue with step 9.

   ```
   ****** SetupPTClient started at 11:42:38.91 ******
   set logger to true
    Do you want to deploy PeopleTools client? [Y/N]: y
   ```

5. Specify the RDBMS type for the PeopleTools Client that you want to deploy.

   In this example, the RDBMS is option *1*, Oracle.

   ```
    Please Select the Database Platform:
    1. Oracle
    2. DB2 for LUW
    3. Microsoft SQL Server
    4. DB2 for zOS
    Enter your choice [1-4] : 1
   ```

6. Specify the installation directory, referred to as PSHOME, for the PeopleTools Client, or press ENTER to accept the default directory, C:\PT<*release_number*>_Client_<*database_type*>, for example C:\PT8.56.02_Client_ORA.

   ```
   Please specify the PSHOME for the PeopleTools Client [C:\PT8.56.02_⇒
   Client_ORA]:
   ```

7. Specify whether you want to supply configuration details at the following prompt.

   ```
   Do you want to configure PeopleTools client? [Y/N]:
   ```

   If you answer *n* (no), you do not want to configure the PeopleTools client, continue with step 9.

   If you answer *y* (yes), specify the information for your environment at the following prompts:

   ```
   Database Name: HCM92
   Server Name: example.com
   UserId: VP1
   Connect ID: people
   Connect Password:
   Retype Connect Password:
   ```

Note. When you enter the password, the script does not echo the password or any masking characters as you type.

- Specify the database name and database server to connect to.
- The connect ID a valid database-level ID that the PeopleSoft system uses to make the initial connection to the database.
- For User ID, specify a PeopleSoft user ID, such as VP1 or PS, that has permission to access the database from the PeopleTools client, Application Designer, and so on.

8. Select the type of deployment at the following prompt:

   See the definitions in Understanding the Standalone Mode Deployment.

```
Please make your selection for the Tools Client deployment:
 1. People Tools Full Upgrade
 2. People Tools Patch
 3. None of the above
 Enter your choice [1-3]:
```

9. Specify whether you want to install Change Assistant at the following prompt:

```
Do you want to install Change Assistant? [Y/N]:
```

   If you answer *y* (yes), specify the installation directory, or accept the default, C:\Program Files\PeopleSoft\Change Assistant:

```
Please specify the directory to install Change Assistant [C:\Program⇒
 Files\PeopleSoft\Change Assistant]:
```

10. Specify whether you want to install Change Impact Analyzer at the following prompt:

```
Do you want to install Change Impact Analyzer? [Y/N]:
```

   If you answer *y* (yes), specify the installation directory for Change Impact Analyzer, or accept the default, C:\Program Files\PeopleSoft\Change Impact Analyzer:

```
Please specify the directory to install Change Impact Analyzer [C:⇒
\Program Files\PeopleSoft\Change Impact Analyzer]:
```

11. Specify whether you want to install PeopleSoft Test Framework at the following prompt:

```
Do you want to install PeopleSoft Test Framework? [Y/N]:
```

   If you answer *y* (yes), specify the installation directory for PeopleSoft Test Framework, or accept the default, C:\Program Files\PeopleSoft\PeopleSoft Test Framework:

```
Please specify the directory to install PeopleSoft Test Framework [C:⇒
\Program Files\PeopleSoft\PeopleSoft Test Framework]:
```

12. Specify whether you want to configure the PeopleSoft Test Framework at the following prompt:

```
Do you want to configure PeopleSoft Test Framework? [Y/N]:
```

   If you answer *y* (yes), specify the information for your environment. For information on these parameters, see the PeopleTools Test Framework product documentation.

   See *PeopleTools: Test Framework*, "Installing a PTF Client."

```
Database Name: HCM92
Server:Port: example.com:443
```

```
Node ID: node_name
User ID: VP1
Proxy [Y/N]: y
Proxy Server: proxyserver.com
Proxy Port: 5000
Proxy User: username
Proxy Password:*******
Retype Proxy Password:*******
```

13. Review the setup steps.

    The messages you see depend upon your choices.

```
Starting Tools Client Deployment!
Deploying PeopleTools 8.56.02 Client in C:\PT8.56.02_Client_ORA
Configuring PeopleTools 8.56.02 Client
Deployment of PeopleTools Client Complete.
Tools Client Deployment Ended.
***** SetupPTClient ended at 11:35:08.91 ******
Please review C:\PeopleSoft\PTClientDeploy.log for additional⇒
 information.
```

14. To review the log file for the setup process, go to %USERPROFILE%\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log.

    For example, if the USERPROFILE environment variable is C:\Users\username, the log file location is C:\Users\username\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log.

Note. If you used the `-d <drive>` option to deploy to a drive other than drive C:\, the log file is found in <drive>:\Users\<username>\AppData\Local\Temp\PeopleSoft\PTClientDeploy.log and creates the directory if it does not exist.

The PTClientDeploy.log file includes a record of each of the steps in the PeopleTools Client deployment process. If any of the steps fail, a detailed error or warning message will be written to the same log file.

Part II

Discretionary Installation

The second part of the installation guide includes optional tasks, tasks that are only required by certain environments, and those that you may decide to defer until after the initial installation.

Chapter 11A

Installing and Compiling COBOL on Windows

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Net Express on Microsoft Windows
- Managing Micro Focus Net Express Compiler Licenses
- Using the Micro Focus COBOL Compiler on Microsoft Windows

Understanding COBOL

This chapter describes how to compile and link PeopleSoft COBOL batch programs, if necessary.

COBOL is not needed for PeopleSoft PeopleTools because the Process Scheduler is written in C++. In addition, COBOL is not required for PeopleSoft applications that contain no COBOL programs. See My Oracle Support for the details on whether your application requires COBOL.

The chapter includes instructions for the Micro Focus Net Express COBOL compiler.

See Also

"Preparing for Installation," Installing Supporting Applications

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, (search for the article name)

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler, My Oracle Support, (search for the article name)

PeopleTools Certifications - Suggested Fixes COBOL, My Oracle Support, (search for the article name and select the current release)

PeopleTools: Global Technology, "Understanding COBOL in a Unicode Environment"

Prerequisites

Before you attempt to run COBOL from the command line you should do the following:

- Make sure the variable PS_SERVER_CFG points to a valid psprcs.cfg file.

- Make sure %PS_HOME%\bin\server\winx86 is in your path. It should appear before %PS_HOME%\bin\client\winx86 if that also appears in the path.
- Before compiling COBOL, you must obtain and install Perl on the machine used to compile COBOL.

  Perl is used to perform conversions on COBOL source files. Make sure the Perl installation location is included in the system's PATH environment variable. Contact the Perl vendor for installation and reference documentation.

Task 11A-1: Preparing COBOL for a PeopleTools-only Upgrade

When performing a PeopleTools-only upgrade, if you have COBOL modules, recompile all PeopleSoft PeopleTools and PeopleSoft application COBOL programs, as explained in a later section.

Ensure that the following COBOL runtime files in your client and server bin directories match those of your Micro Focus Net Express installation:

- CBLINTS.DLL
- CBLRTSS.DLL
- CBLVIOS.DLL
- COB32API.DLL

See Recompiling COBOL on Microsoft Windows.

Task 11A-2: Installing Micro Focus Net Express on Microsoft Windows

This section discusses:

- Prerequisites
- Obtaining Installation Files for Micro Focus Net Express from Oracle Software Delivery Cloud
- Installing Micro Focus Net Express Wrap Pack 6
- Installing Micro Focus Net Express Wrap Pack 14

Prerequisites

Micro Focus® Net Express™ 5.1 Wrap Pack 14 is the supported COBOL compiler on Microsoft Windows for the current PeopleSoft PeopleTools release. This Wrap Pack is an product update and does require a previous version of the product to be installed. Micro Focus Net Express 5.1 Wrap Pack 14 can upgrade any of the following releases or any combination of these releases:

- Micro Focus Net Express 5.1 Wrap Pack 6
- Micro Focus Net Express 5.1 Wrap Pack 7
- Micro Focus Net Express 5.1 Wrap Pack 8
- Micro Focus Net Express 5.1 Wrap Pack 9
- Micro Focus Net Express 5.1 Wrap Pack 10
- Micro Focus Net Express 5.1 Wrap Pack 11
- Micro Focus Net Express 5.1 Wrap Pack 12

- Micro Focus Net Express 5.1 Wrap Pack 13

If you are running a Wrap Pack prior to Wrap Pack 6 or have no Net Express version installed, install Wrap Pack 6 before installing Wrap Pack 14.

See Installing Micro Focus Net Express Wrap Pack 6.

Check the certification information on My Oracle Support for the supported version for Microsoft Windows operating systems.

Note that Oracle is the exclusive reseller of the Micro Focus COBOL compiler for use with PeopleSoft applications.

See Also

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1

Using the Micro Focus COBOL Compiler on Microsoft Windows

Task 11A-2-1: Obtaining Installation Files for Micro Focus Net Express from Oracle Software Delivery Cloud

The Micro Focus Net Express installation files are available on Oracle Software Delivery Cloud. At this point you may have already downloaded the necessary files. This section includes additional information on finding and using the files for Micro Focus Net Express if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

See Oracle Software Delivery Cloud, https://edelivery.oracle.com.

To obtain the files for the Micro Focus Net Express installation:

1. Log in to Oracle Software Delivery Cloud at https://edelivery.oracle.com.
2. Enter Micro Focus in the type-ahead Product field, and select Micro Focus International Ltd. Net Express COBOL for Windows.

   The product is added to the Download Queue.
3. Click Continue.
4. Click Continue.
5. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
6. Click one of the filenames to download an individual zip file, or click Download All to obtain all of the files listed.

   The files include software, wrap packs, and documentation. Save the zip files to a temporary directory on your local system. The directory where you save the zip files for both versions is referred to in this documentation as *NE_INSTALL*. You must extract (unzip) each file on the platform for which it is intended. For example, if you download the zip file for Microsoft Windows, you must unzip it on Microsoft Windows to avoid problems.

Task 11A-2-2: Installing Micro Focus Net Express Wrap Pack 6

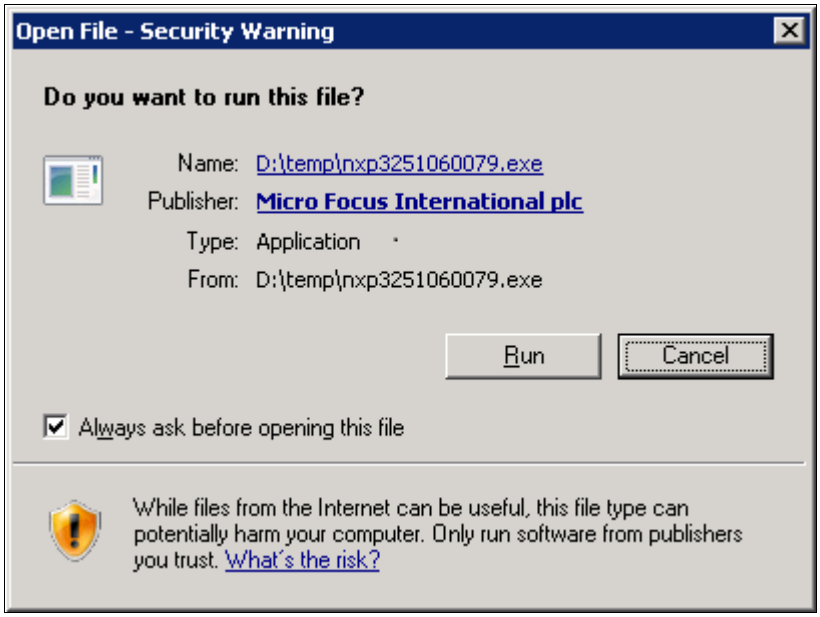
The following procedure assumes that you saved the installation files from Oracle Software Delivery Cloud in the directory *NE_INSTALL*.

Note. Micro Focus Net Express Wrap Pack 6 is a full product release and does not require a previous version of the product to be installed.

To install Micro Focus Net Express Wrap Pack 6:

1. Double-click *NE_INSTALL/*nxp3251060079.exe.

   If a security screen appears, click Run to launch the installer.

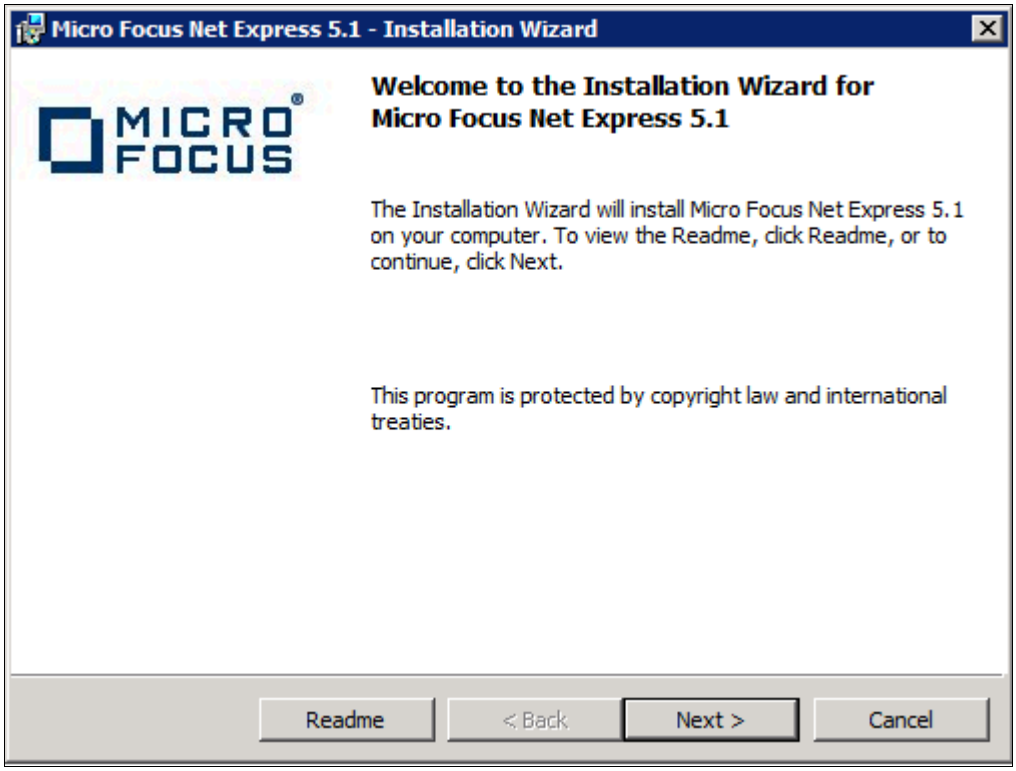


Open File - Security Warning for the Micro Focus installation executable

   The Install Shield Wizard starts extracting files. This may take a few minutes until the files are extracted, and then the Installation Wizard dialog box appears.

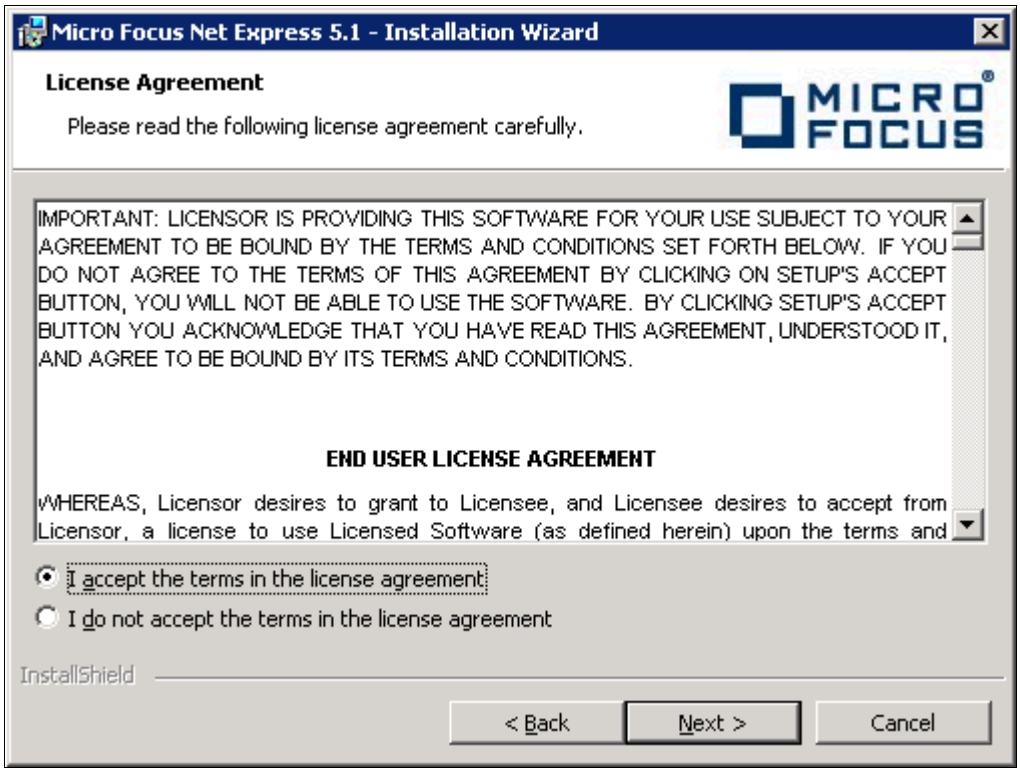
2. Click Next on the welcome window.

   The screen includes a button to open a Readme file.



Micro Focus Net Express Installation Wizard Welcome window

3. Read the terms of the License Agreement, select the option to accept the terms, and click Next.



License Agreement window for Micro Focus Express

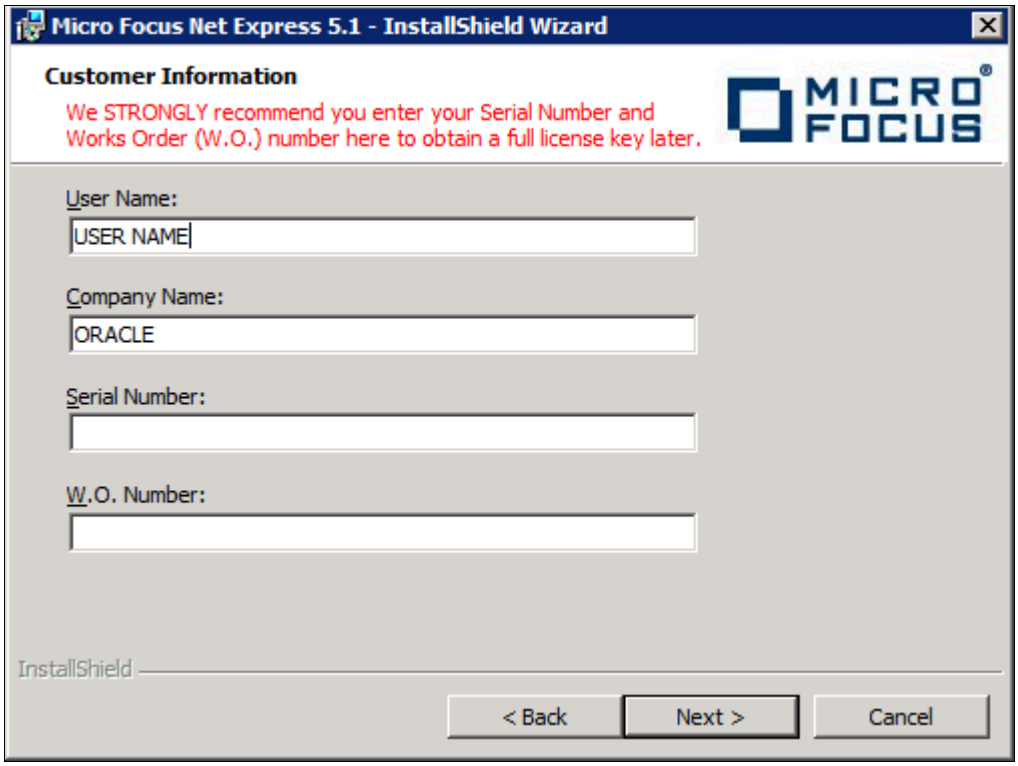
4. Complete the Customer Information window:
   a. Enter your name in the User Name field, and enter your Company Name.

      In the example shown below, the user name is USER NAME, and the Company Name is ORACLE.
   b. Leave the Serial Number and W.O. Number fields blank. Oracle does not provide these numbers to you and they are not required.

Note. The message at the top of the window reads "We STRONGLY recommend you enter your Serial Number and Works Order (W.O.) number here. You will need them later to obtain a full license key." The example here leaves these fields blank.

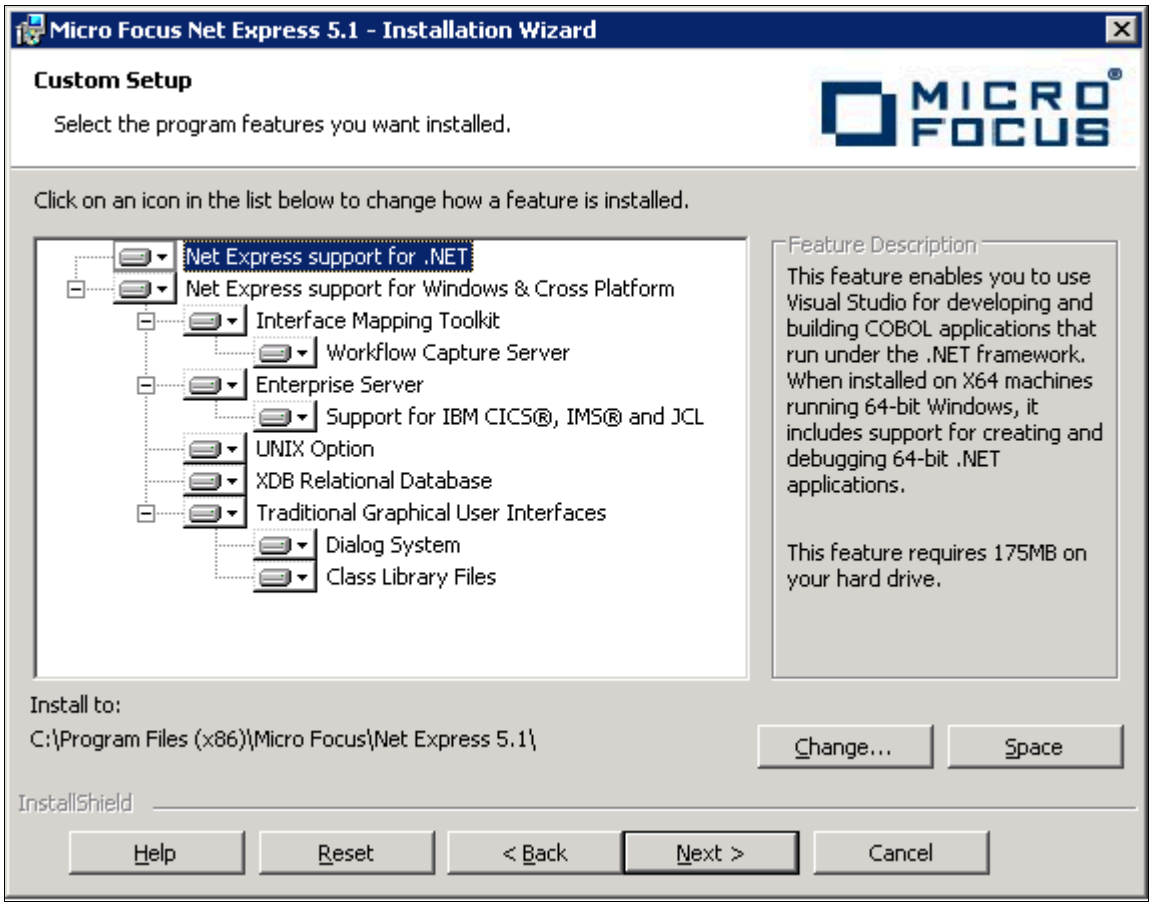
---

c. Click Next.



Customer Information window

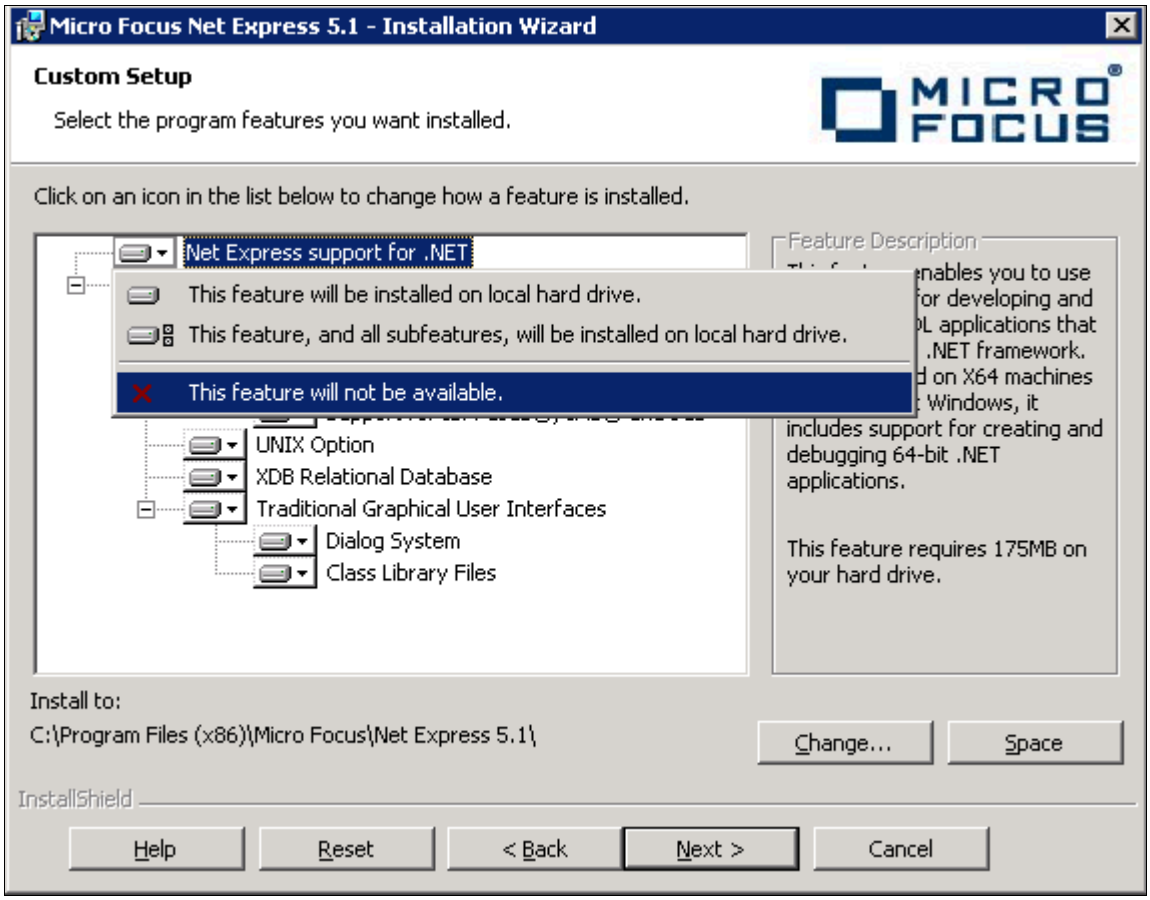
5. The Custom Setup window appears as in this example, with all of the options selected initially:



Custom Setup window before selecting features

6. You must clear several features on the Custom Setup window before proceeding.

   You can turn off a feature by clicking on the drop-down button beside the feature and selecting the option "X This feature will not be available," as shown in this example:



Custom Setup window displaying selection and deselection options

The Traditional Graphical User Interfaces feature is the only feature required for the PeopleSoft installation. (The Traditional Graphical User Interfaces feature also includes Dialog System and Class Library Files.) Clear the following features:

- Net Express support for .NET

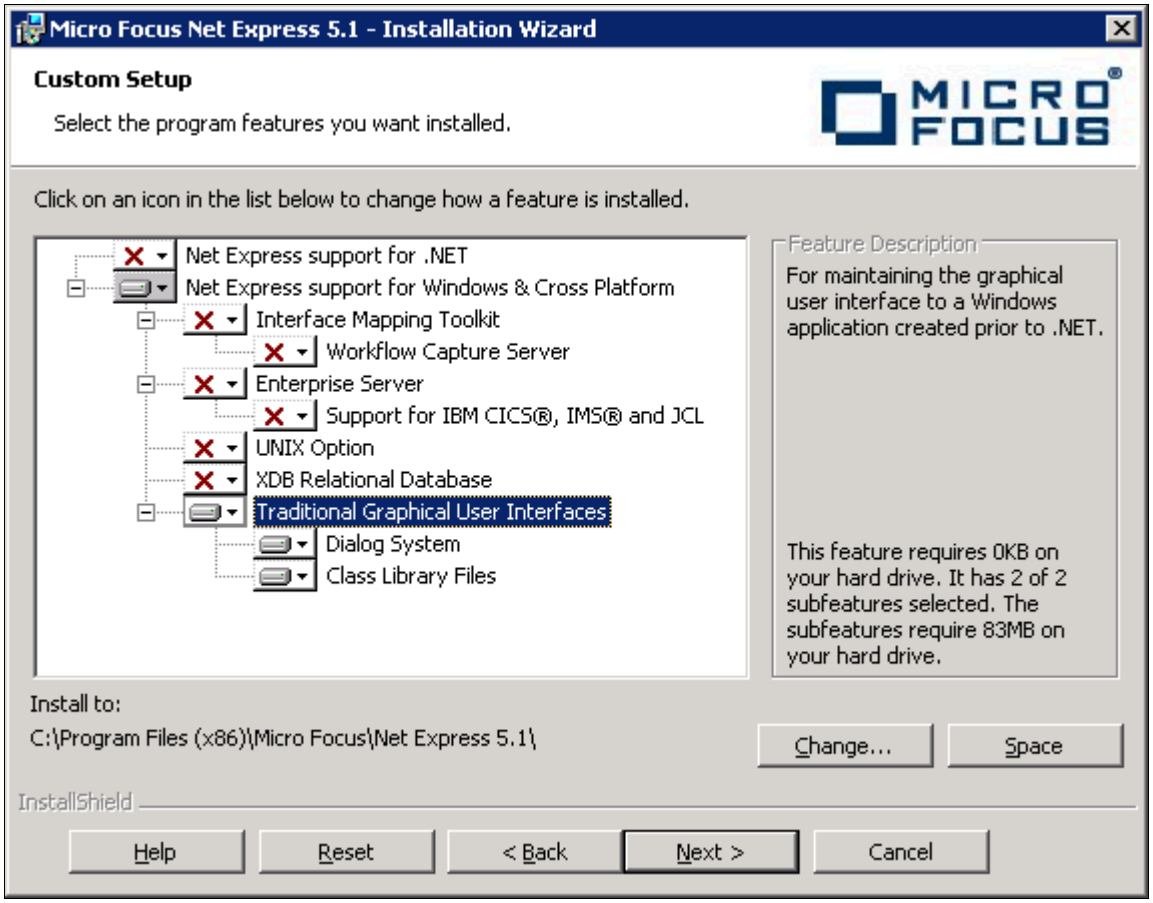
  Note. Microsoft .NET framework is not required for compiling and running COBOL applications in PeopleSoft architecture. Neither is .NET required for successful installation of MicroFocus Net Express 5.1.

- Interface Mapping Toolkit

  When you clear this feature, the Workflow Capture Server option is automatically cleared also.

- Enterprise Server
- UNIX Option
- XDB Relational Database

7. Verify that your final selection matches this example, with only Traditional Graphical User Interfaces, Dialog System, and Class Library Files, selected:



Custom Setup window with options selected for PeopleSoft applications

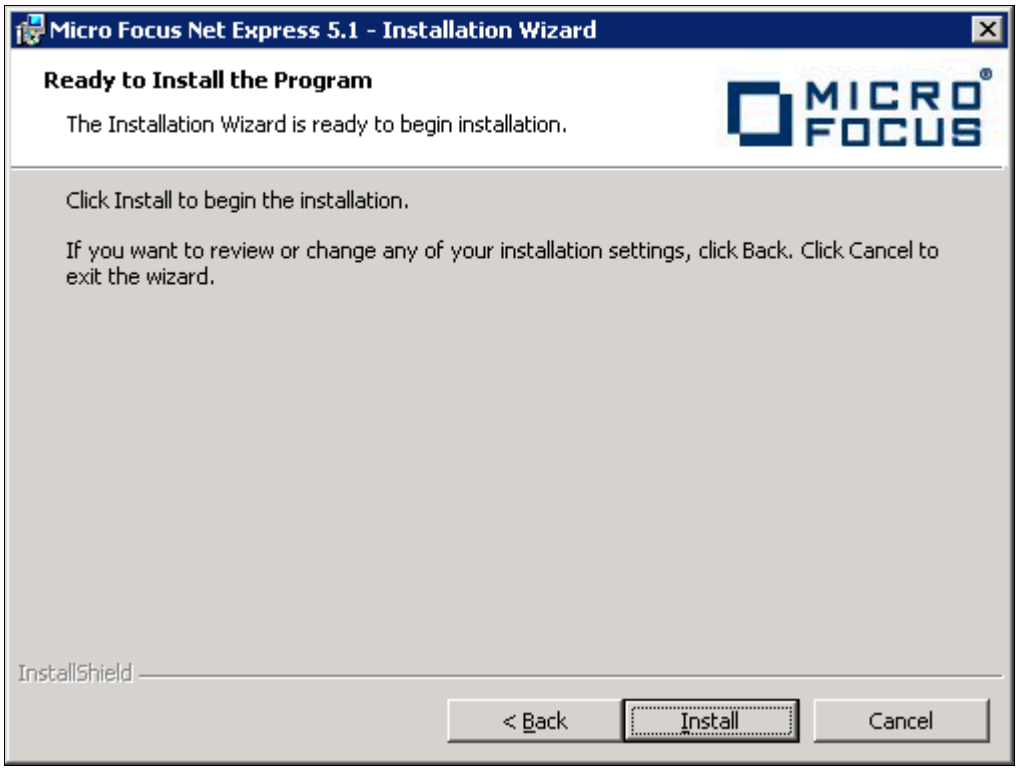
8. Highlight Traditional Graphical User Interfaces.

   The installation directory is listed below the feature list. If you want to install to another location, click Change. If not, click Next.

   This documentation refers to the installation directory as *NE_HOME*. The Micro Focus Net Express 5.1 default installation directory, for 64-bit systems, is:

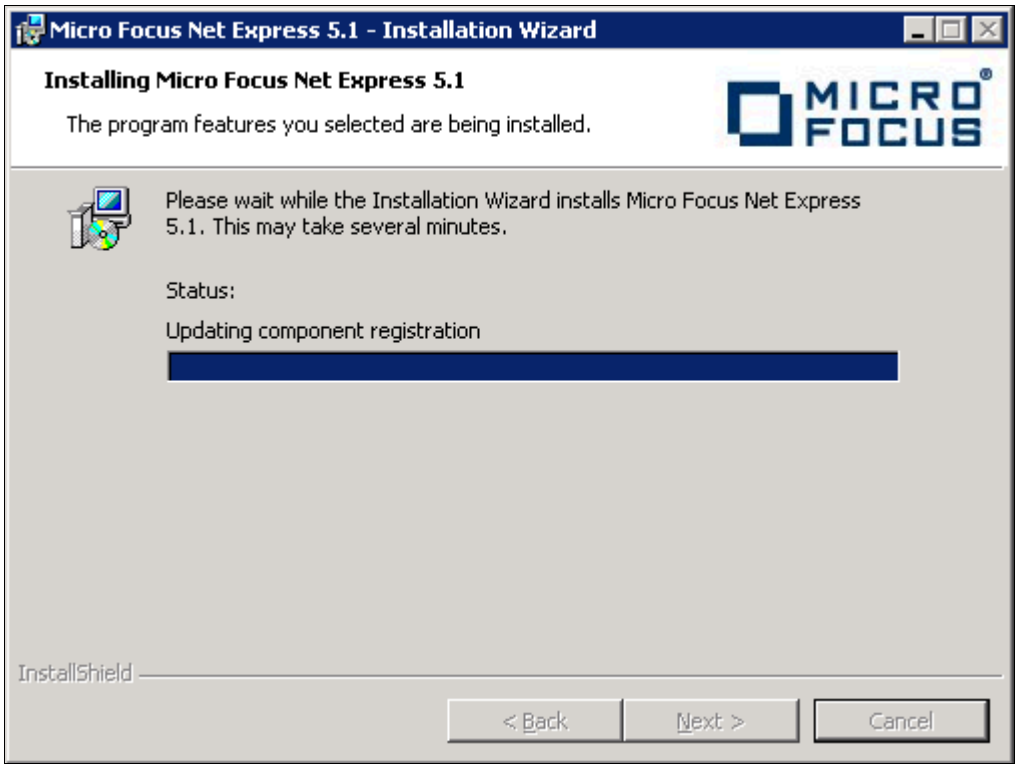
   C:\Program Files (x86)\Micro Focus\Net Express 5.1

9. Click Install.



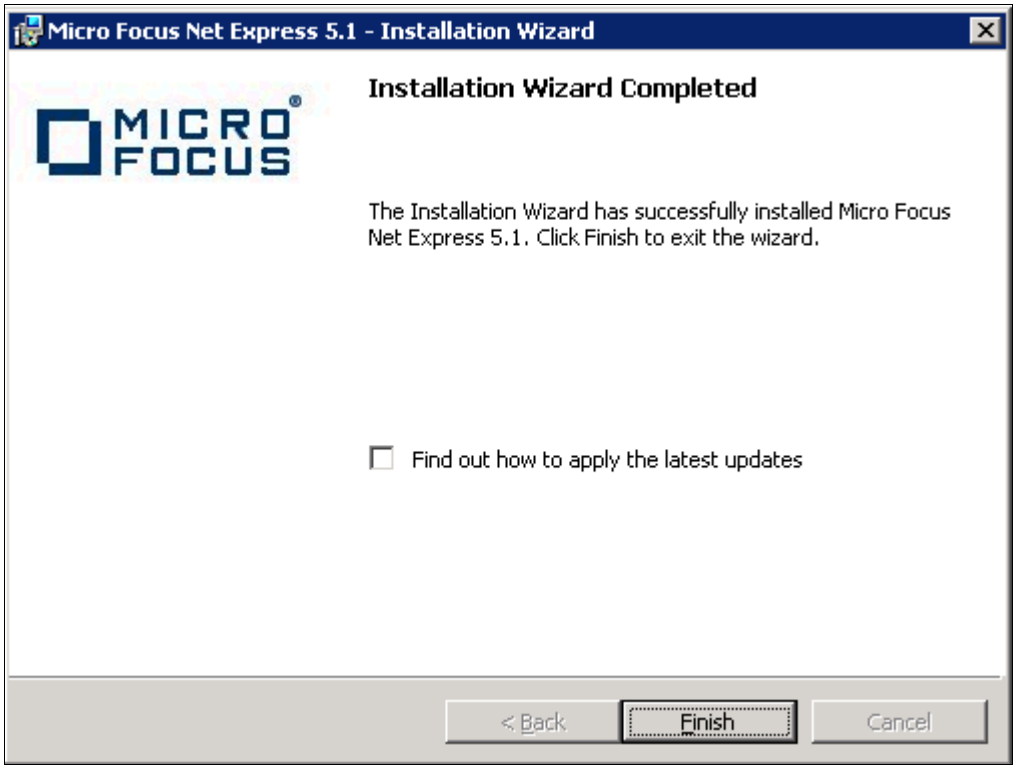
Micro Focus Net Express Installation window: Ready to Install the Program

The installation status window appears, tracking the installation progress.



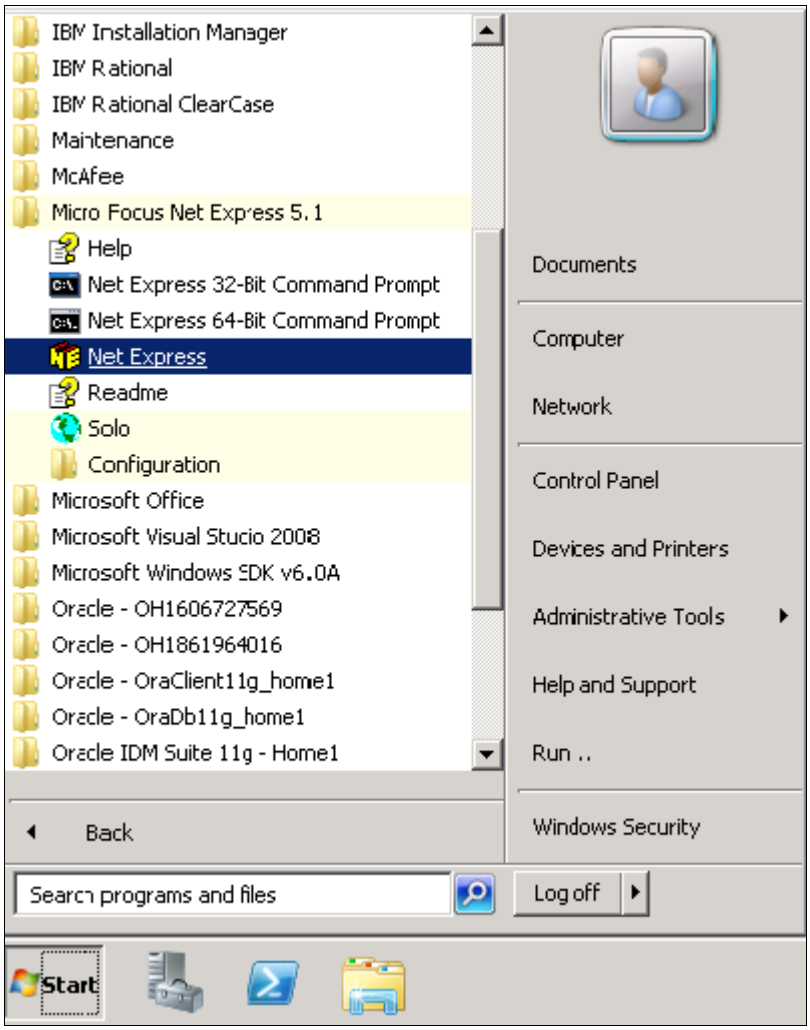
Installation status for the Micro Focus Net Express Installation

10. Click Finish.



Installation Wizard Completed window

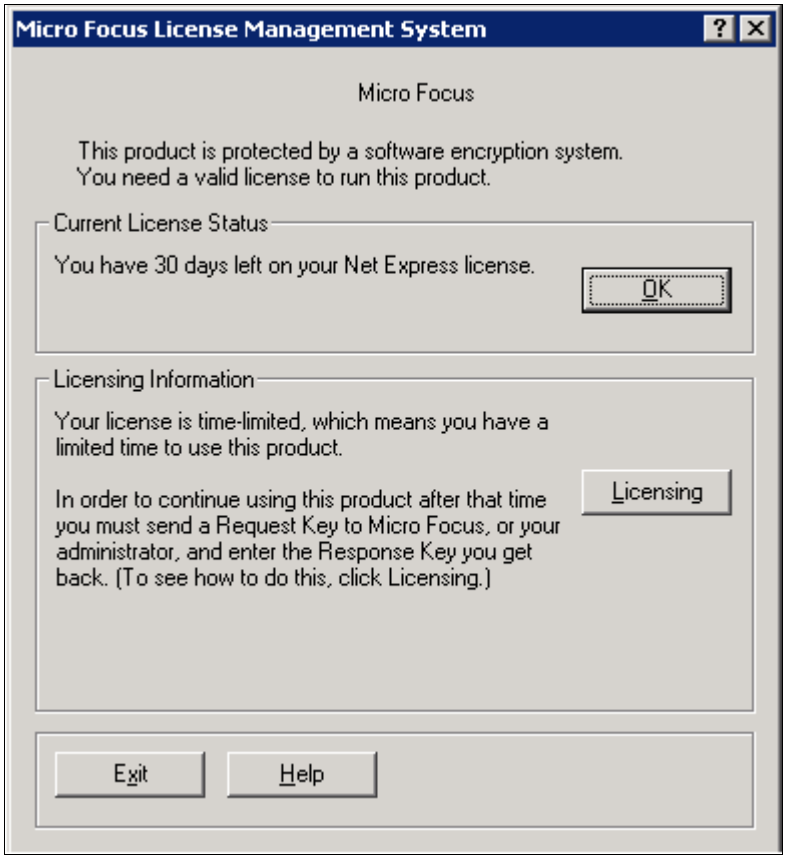
11. To confirm the installation, select Start, All Programs, Micro Focus Net Express 5.1, Net Express.



Selecting Micro Focus Net Express from the Microsoft Windows Start menu

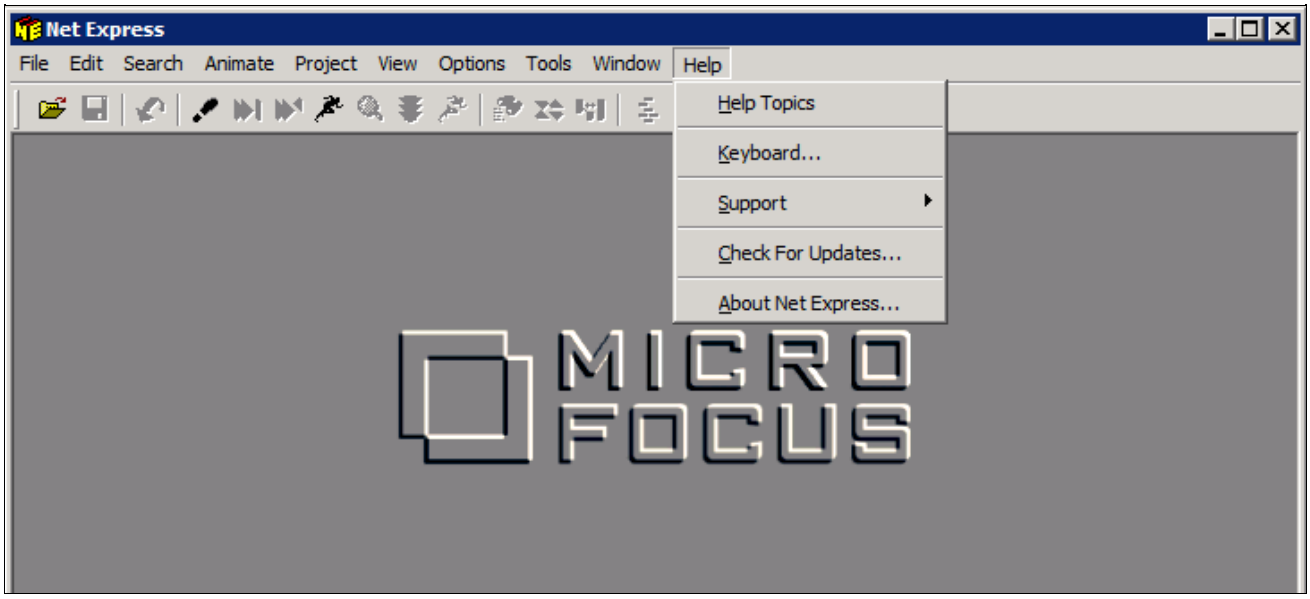
The Net Express Integrated Development Environment (IDE) appears.

12. On the Micro Focus Management System dialog box, read the information under Current License Status, indicating that there is a 30-day license for the compiler that you installed.



Micro Focus License Management System dialog box

13. Click Help, About Net Express.

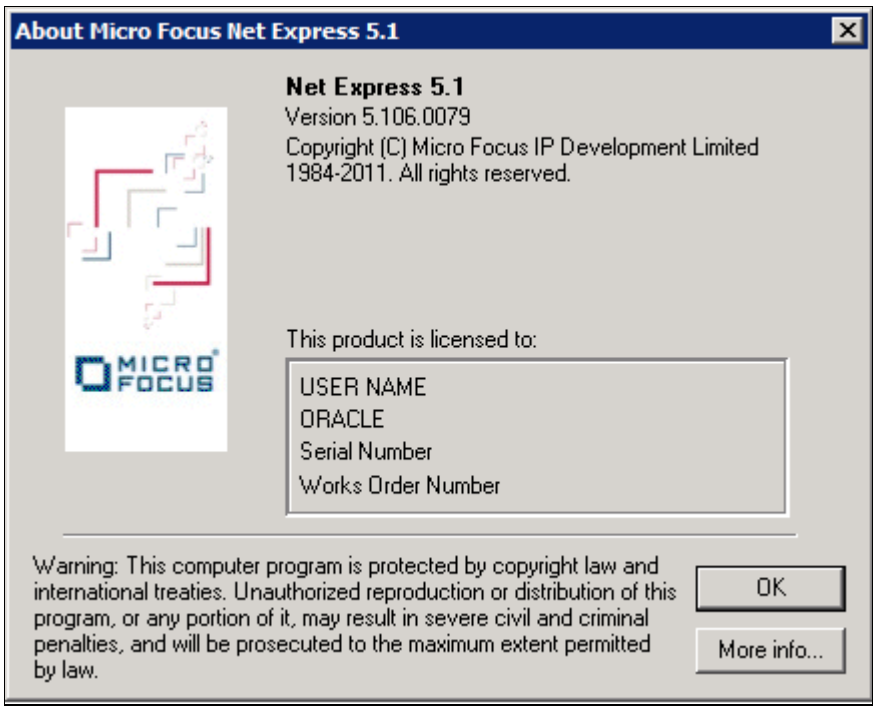


Micro Focus Net Express Integrated Development Environment Help menu

14. Verify that the following information is included on the message box that appears:

    Net Express 5.1

    Version: 5.106.0079



About Micro Focus Net Express window with version number

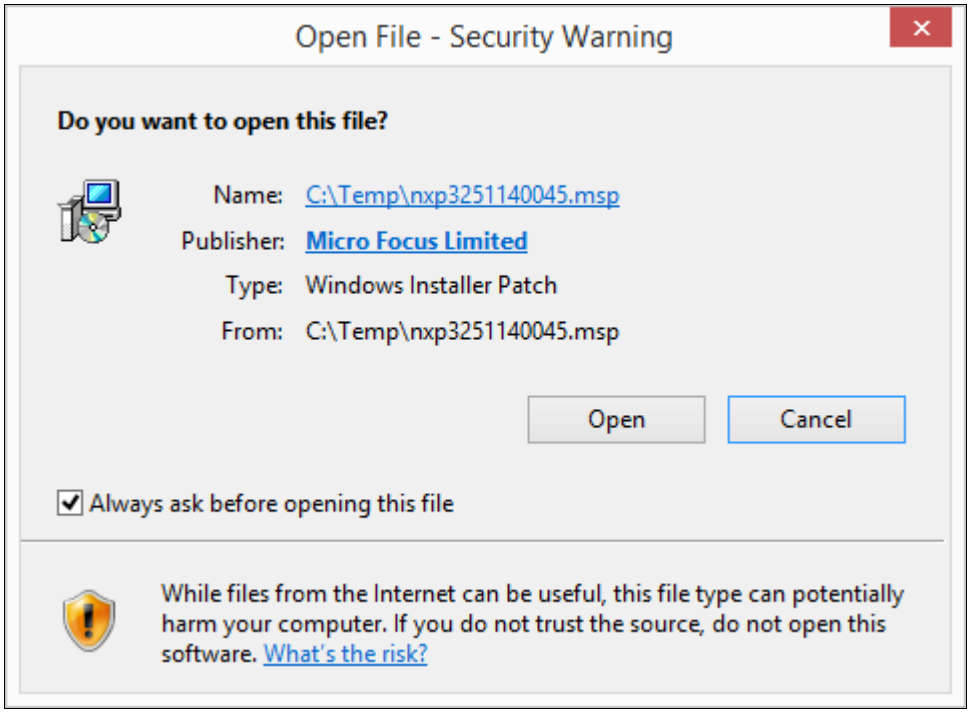
Task 11A-2-3: Installing Micro Focus Net Express Wrap Pack 14

The following procedure assumes that you saved the installation files from Oracle Software Delivery Cloud in the directory *NE_INSTALL,* and that Micro Focus Net Express Wrap Pack 6 or later is installed.

To update to Micro Focus Net Express Wrap Pack 14:

1. Double-click *NE_INSTALL*/nxp3251140045.msp.

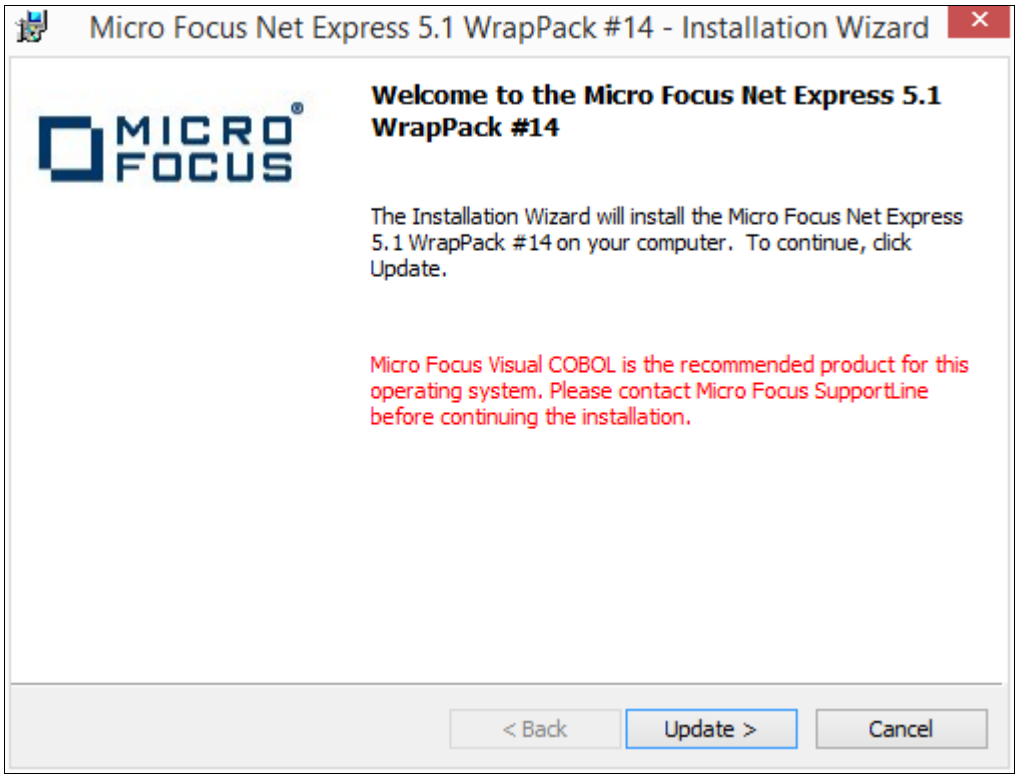
   If a security screen appears, as in this example, click Open to launch the installer.



Open File - Security Warning dialog box

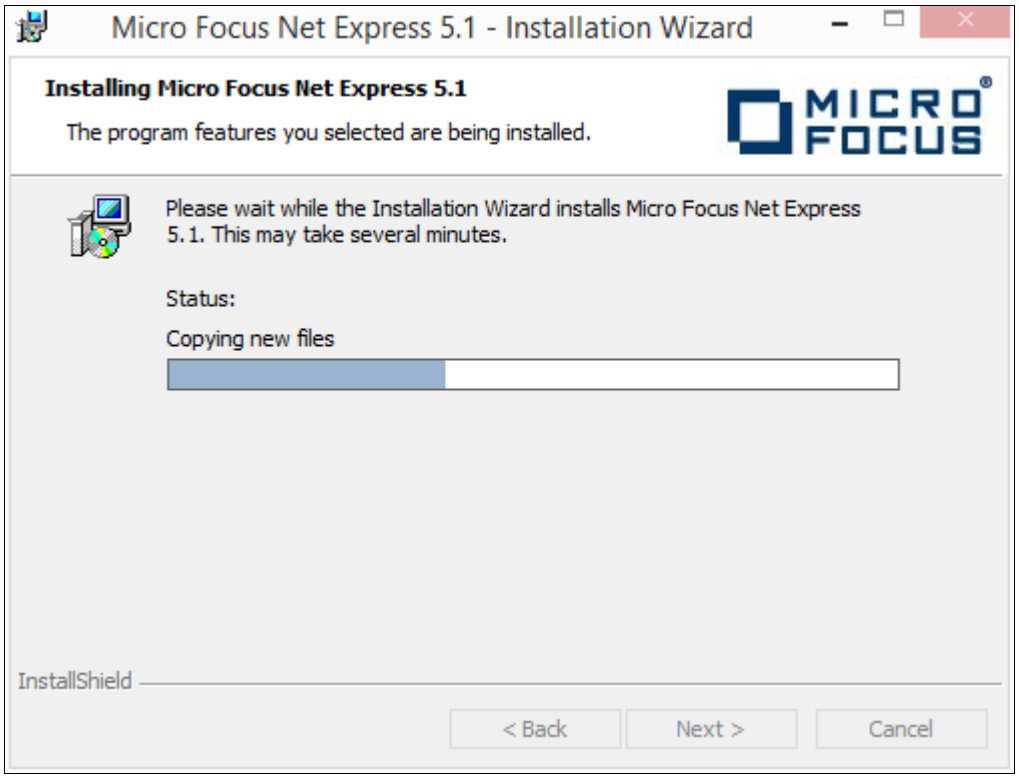
A Welcome window appears.

2. Click Update to continue, as in this example:



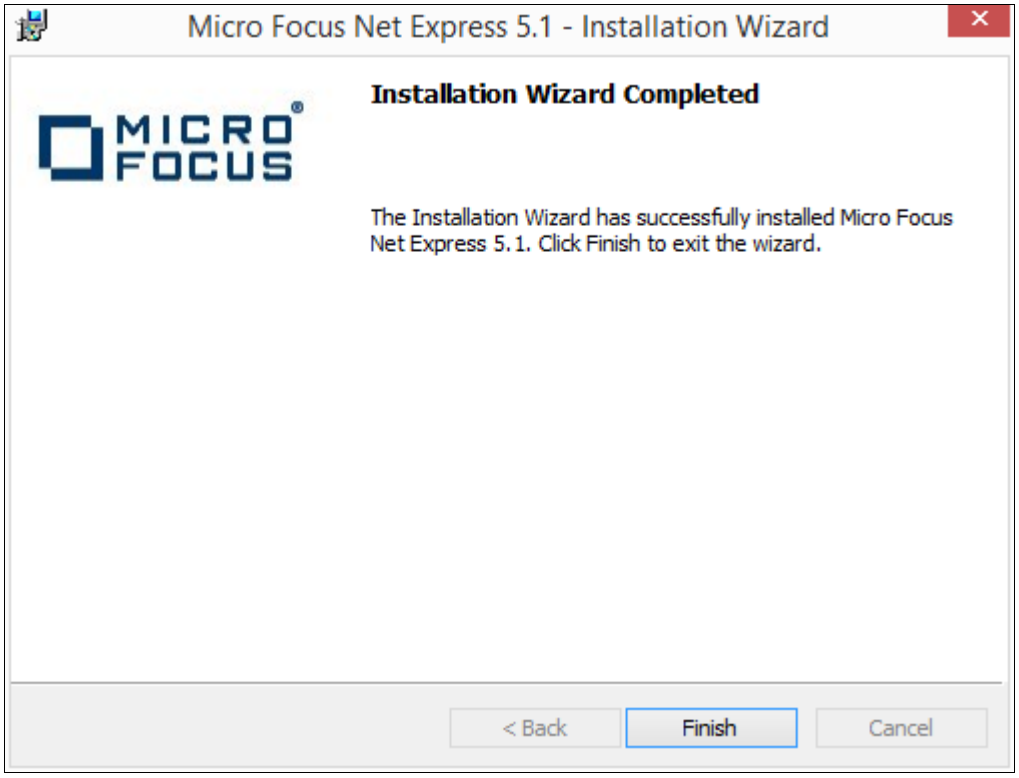
Welcome to the Micro Focus Net Express 5.1 WrapPack #14 window

You see a window indicating the progress of the installation.



Micro Focus Net Express 5.1 Installation Wizard progress indicator

3. After the installation is complete, click Finish on the completion window, as in this example:



Installation Wizard Completed window

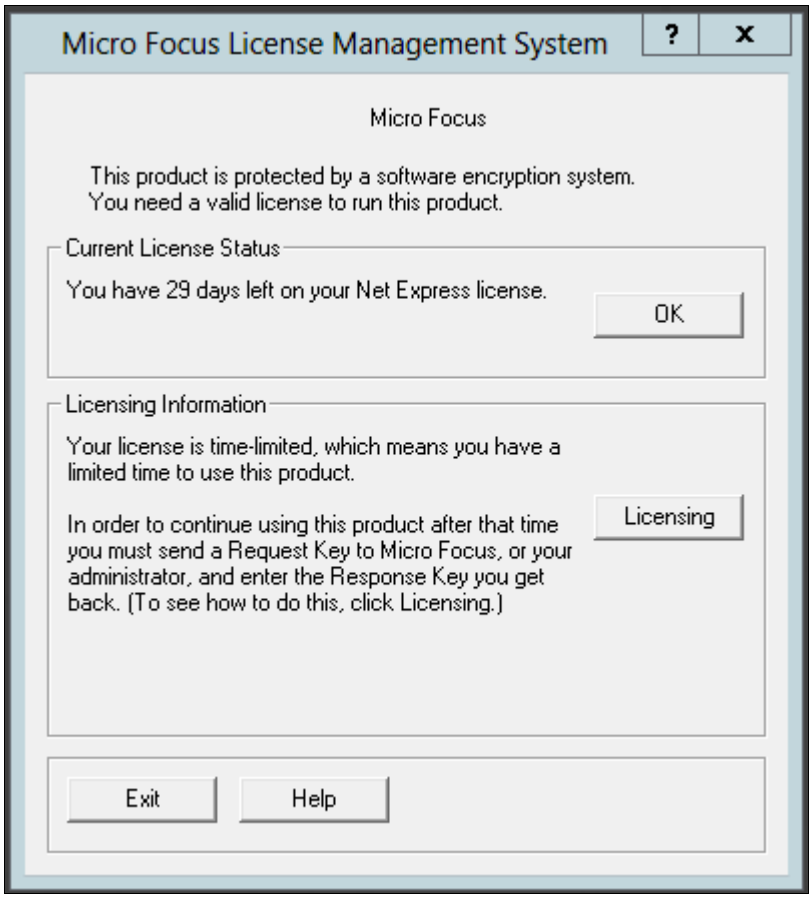
4. To verify the installation, select Start, All Programs, Micro Focus Net Express 5.1, Net Express.

   Alternatively, you can run *NE_HOME*\Base\Bin\MFNETX.EXE, where *NE_HOME* refers to the directory where you installed Micro Focus Net Express, such as C:\Program Files\Micro Focus.

   The Micro Focus Net Express 5.1 Integrated Development Environment (IDE) opens.

5. On the Micro Focus License Management System dialog box, read the information under Current License Status.

   In this example, the current license status indicates 29 days remaining on the license. Click OK.



Micro Focus License Management System dialog box

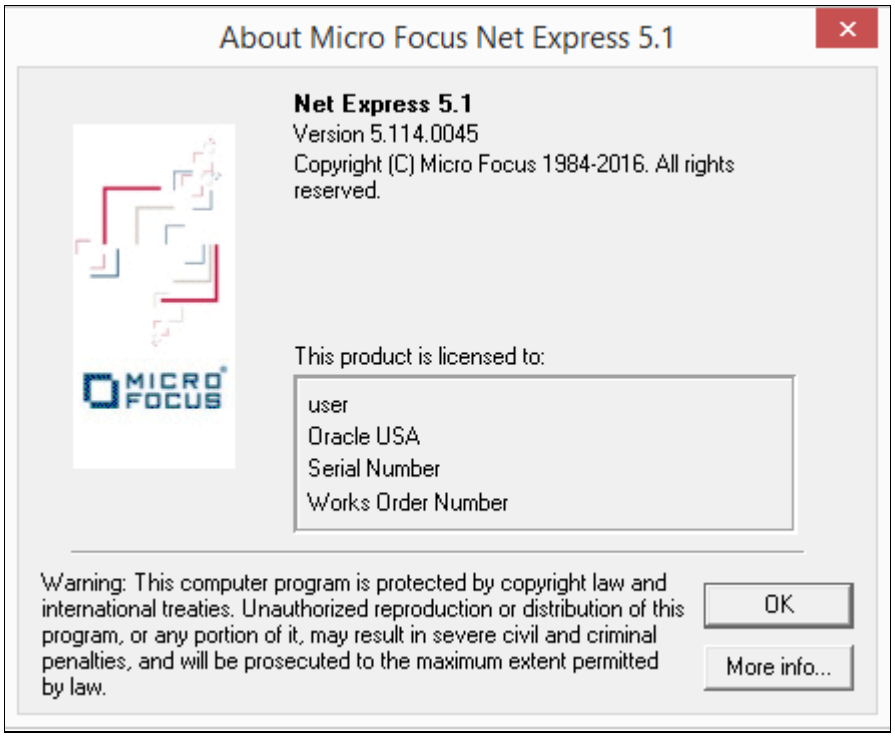
6. Click Continue on the Welcome to Micro Focus Net Express window.

7. Select Help, About Net Express.

   Verify that the following information is included on the message box that appears:

   Net Express 5.1

   Version 5.114.0045



About Micro Focus Net Express 5.1 message box

Task 11A-3: Managing Micro Focus Net Express Compiler Licenses

This section discusses:

- Understanding Micro Focus Net Express Compiler Licenses
- Configuring a Full License with the License Server
- Configuring a Timed License with the License Server
- Revoking the License Using the License Management System
- Revoking the License by Removing the Installation

Understanding Micro Focus Net Express Compiler Licenses

The Micro Focus Net Express 5.1 Wrap Pack 14 compiler can be licensed with a Micro Focus License Server or with the Request Key/Response Key mechanism. This section discusses the License Server method, which Oracle recommends because it is more flexible and licensing is immediate. For more details, see the Micro Focus documentation.

There are two types of Micro Focus Net Express licenses. Here is a brief comparison:

- Timed License
  - Timed Licenses expire after the specified duration and can be renewed over the network.
  - Timed Licenses are the default given by the license server.
  - There are two types of Timed Licenses; one is valid for seven days, and other for one day.
- Full License
  - Full Licenses do not expire.
  - The user can request and revoke Full Licenses using the License Management System.

It is a good idea to use Timed Licenses, unless you have a compelling demand. Mostly developers who work with COBOL on a daily basis should use a Full License. If you require COBOL for a few compiles, and only for some days, use a Timed License. When the Timed License expires, you can renew it again.

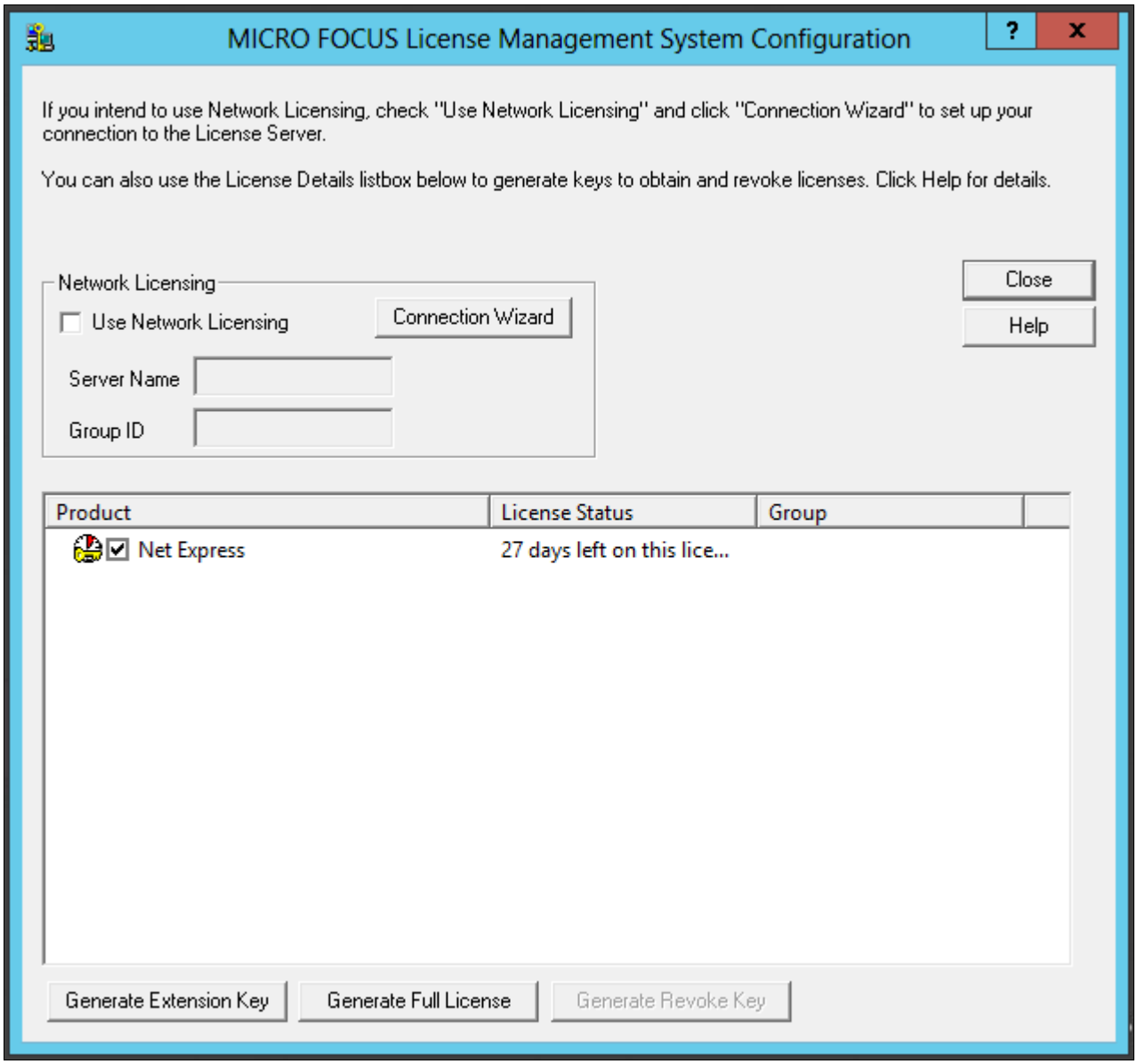
Task 11A-3-1: Configuring a Full License with the License Server

To configure a Full License for permanent use:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.

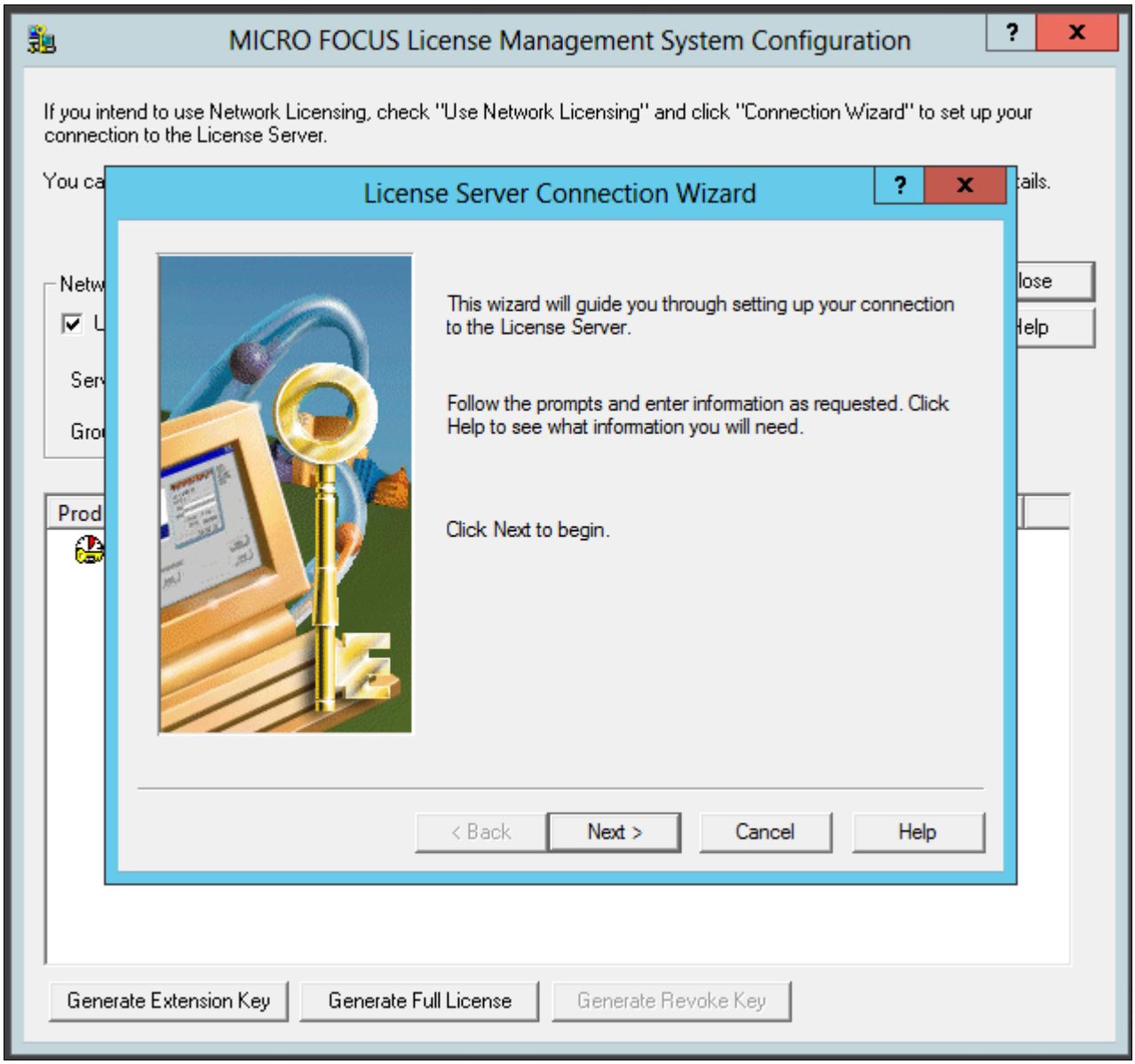
   Note. Alternatively, run *NE_HOME*\Base\Bin\protcfg.exe, where *NE_HOME* is the directory where you installed Micro Focus Net Express.

2. Select the option Use Network Licensing, and click Connection Wizard, as shown in this example:



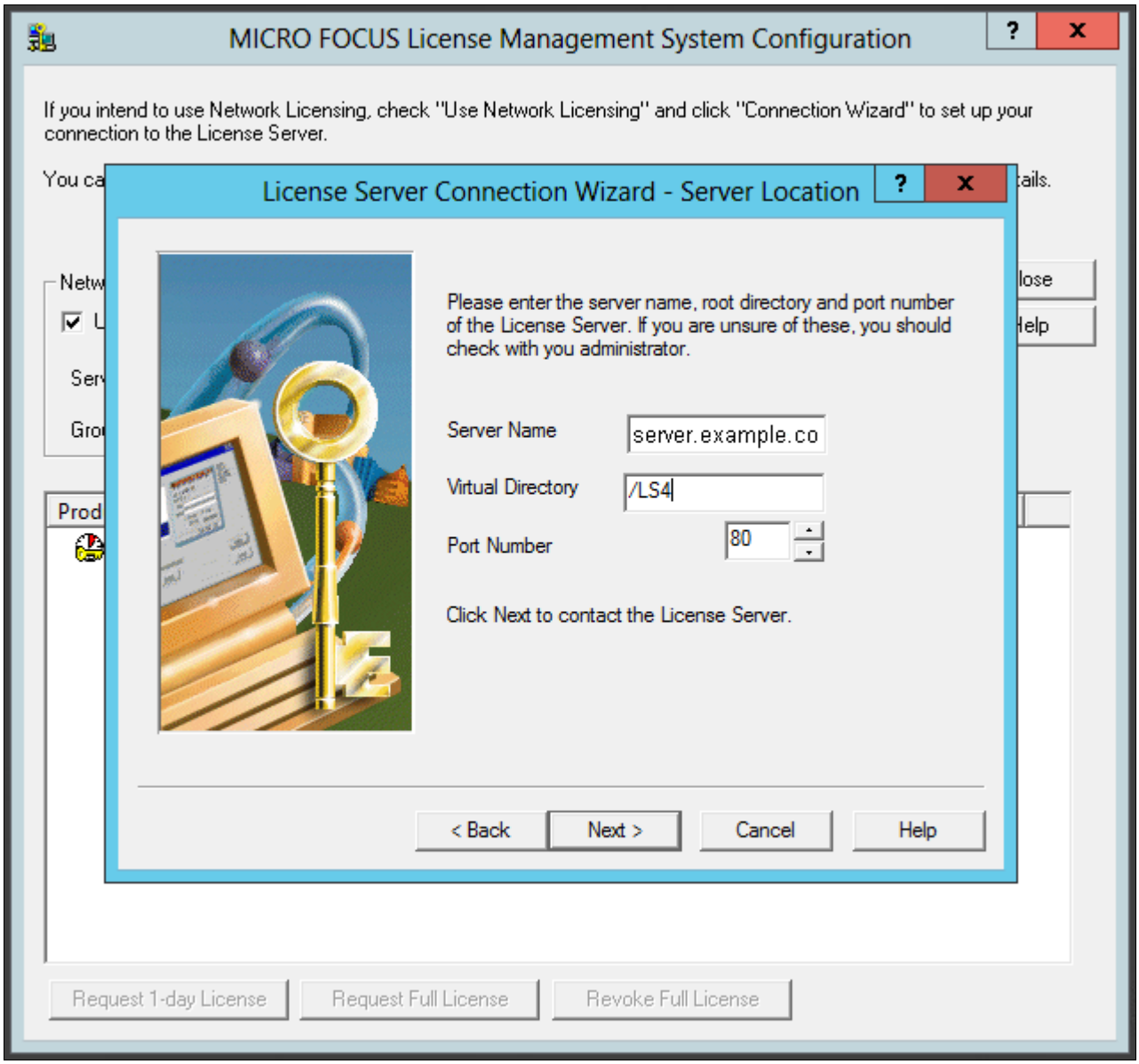
MICRO FOCUS License Management System Configuration window

3. Click Next on the License Server Connection Wizard window, shown in this example:



License Server Connection Wizard window

4. Enter information for the server location, and then click Next.

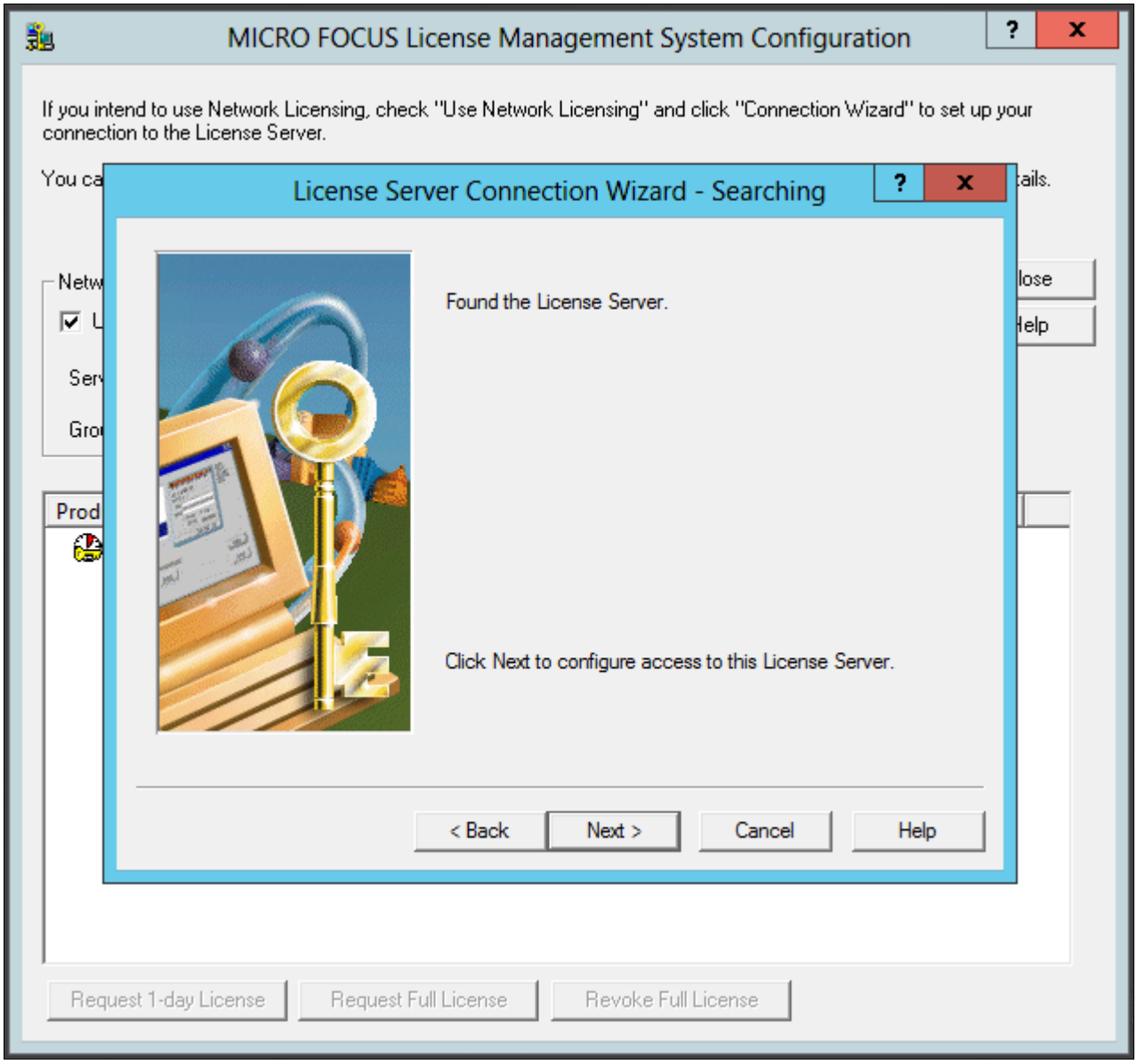


License Server Connection Wizard - Server Location window

- Server Name—Enter the name of the license server; for example, server.example.com.
- Virtual Directory; for example, /LS4.
- Port Number—The default is 80, as shown in the example.

  Select a port that is not in use by another application.

5. You see a message saying the wizard found the server, as in this example.
   Click Next.

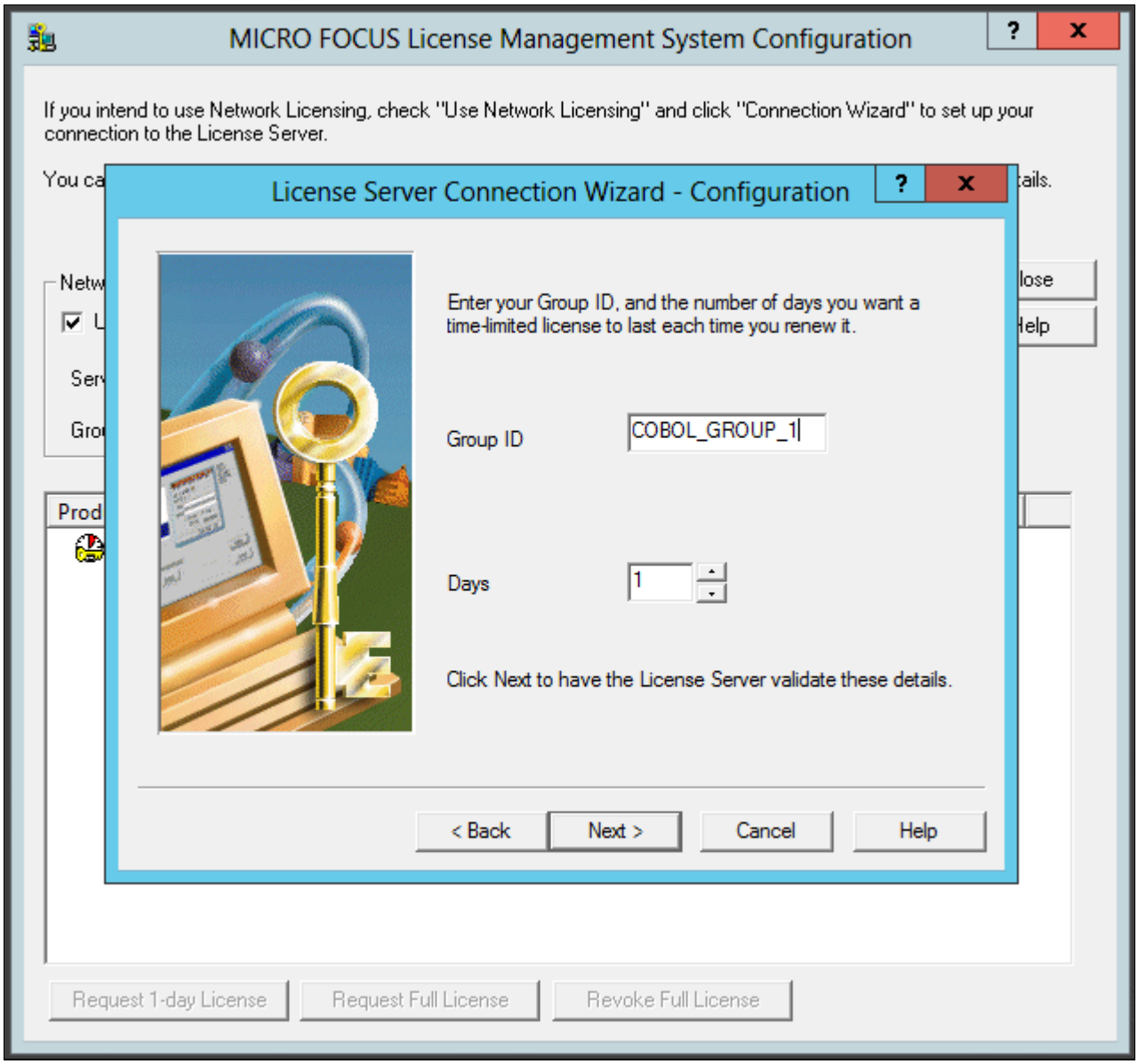


License Server Connection Wizard - Searching window

6. Enter your group ID, which is COBOL_GROUP_1 in this example, and 1 for the number of days before you have to renew the license.

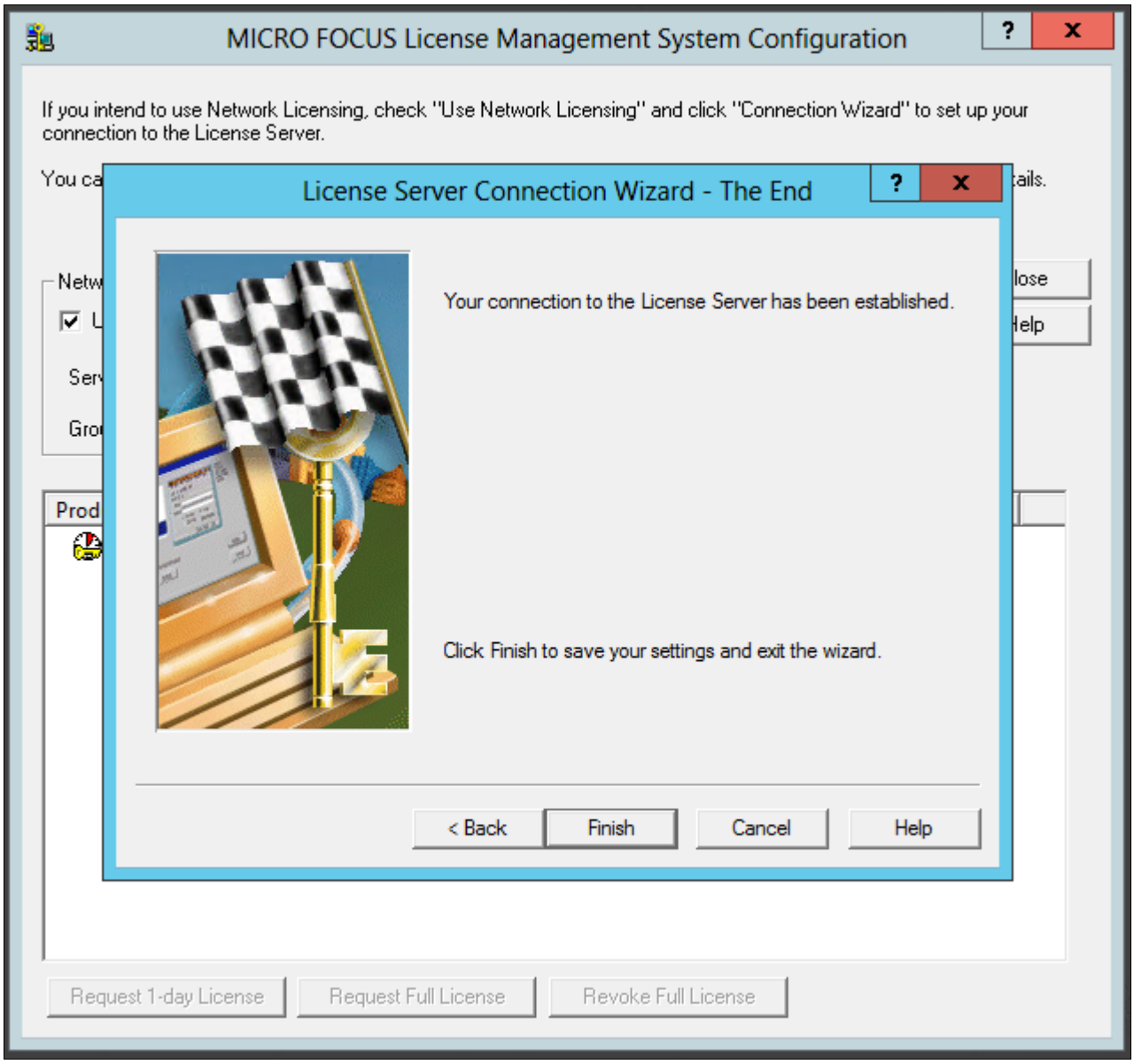
Note. Although you enter one day here, you complete a step later that requests permanent license status.

Click Next.



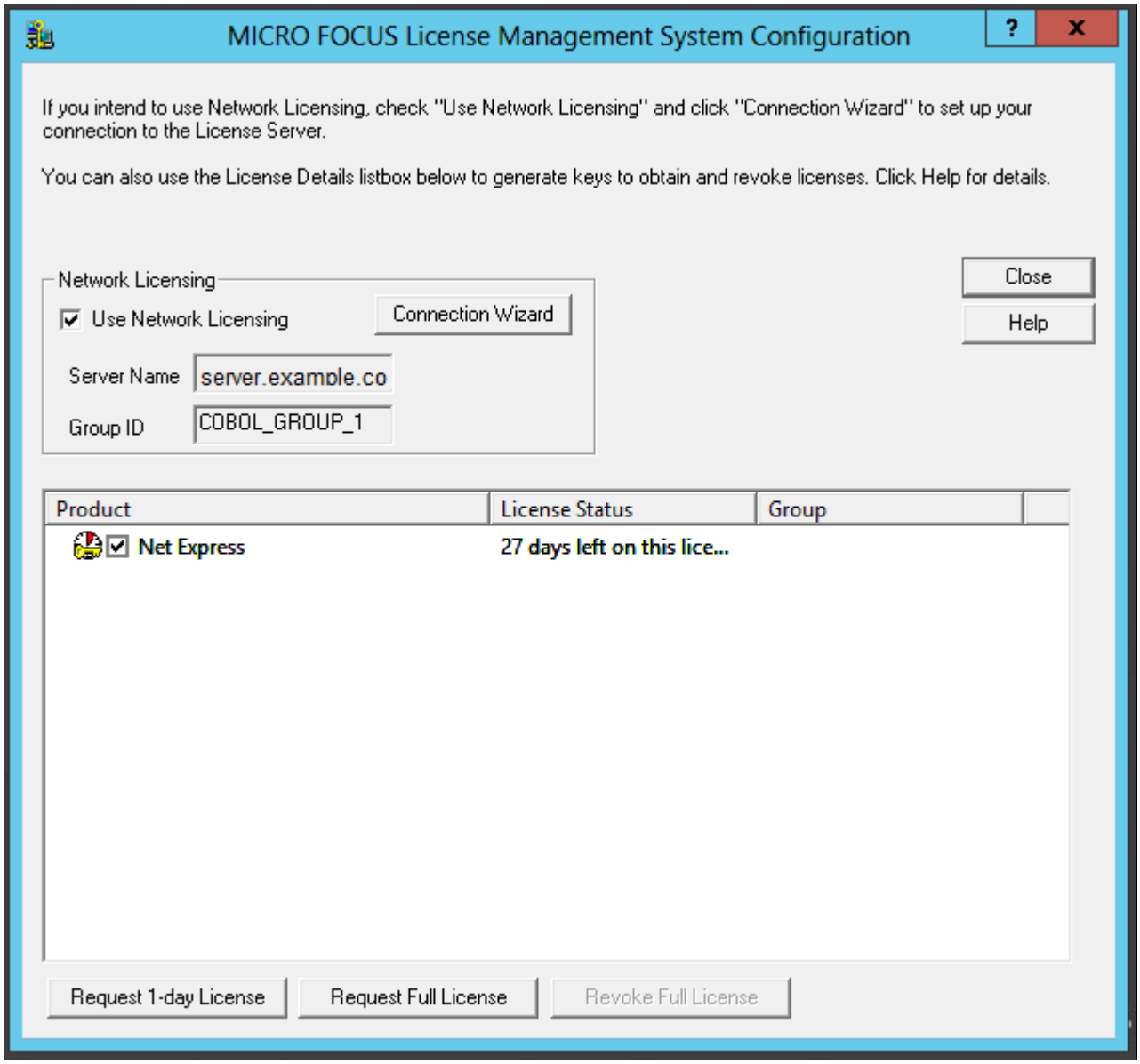
License Server Connection Wizard - Configuration window

7. Click Finish to exit the wizard, as shown in this example:



License Server Connection Wizard - The End window

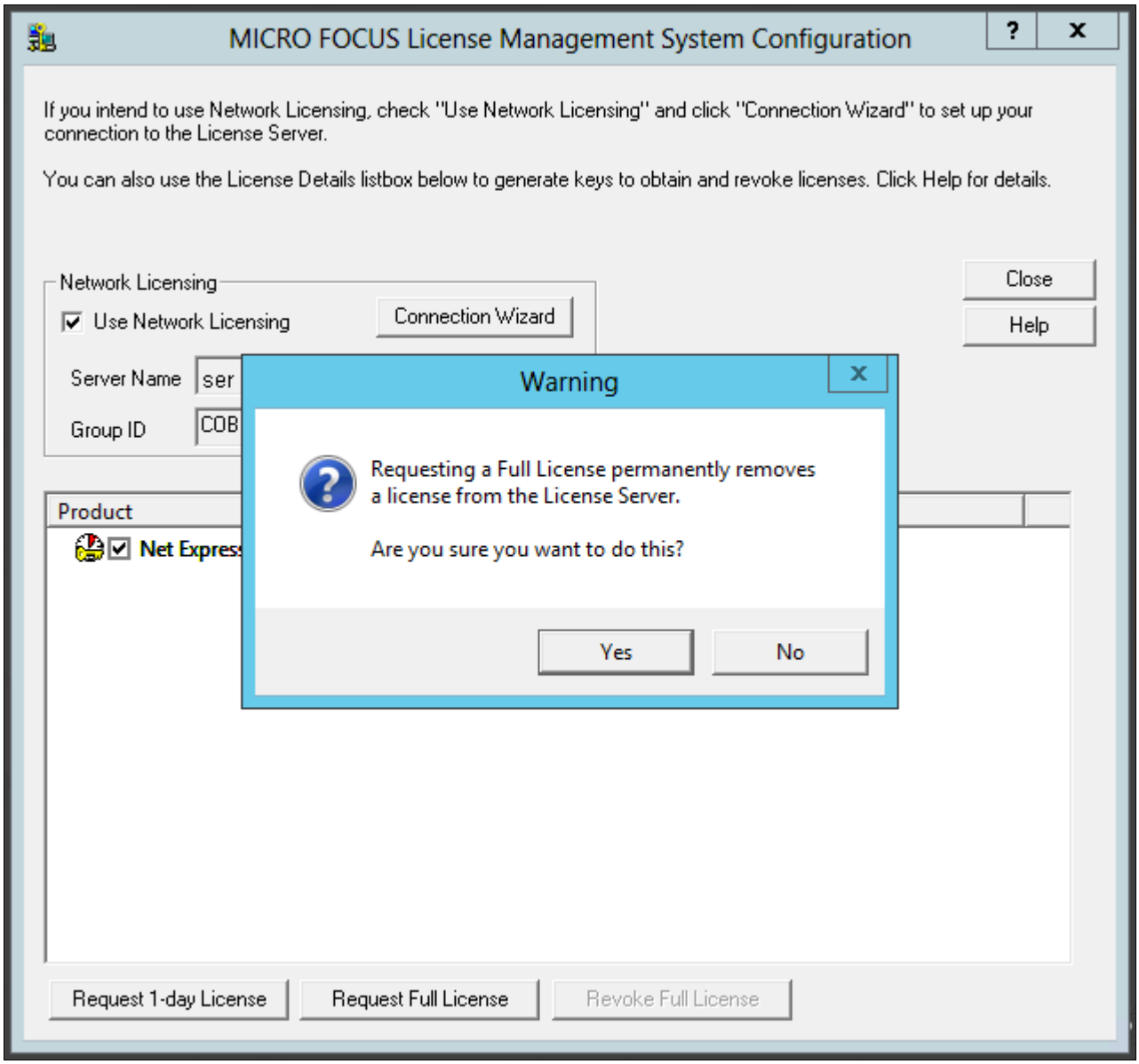
8. In the details list on the MICRO FOCUS License Management System Configuration dialog box, select the check box for Net Express, and then click Request Full License, as shown in this example:



MICRO FOCUS License Management System Configuration window

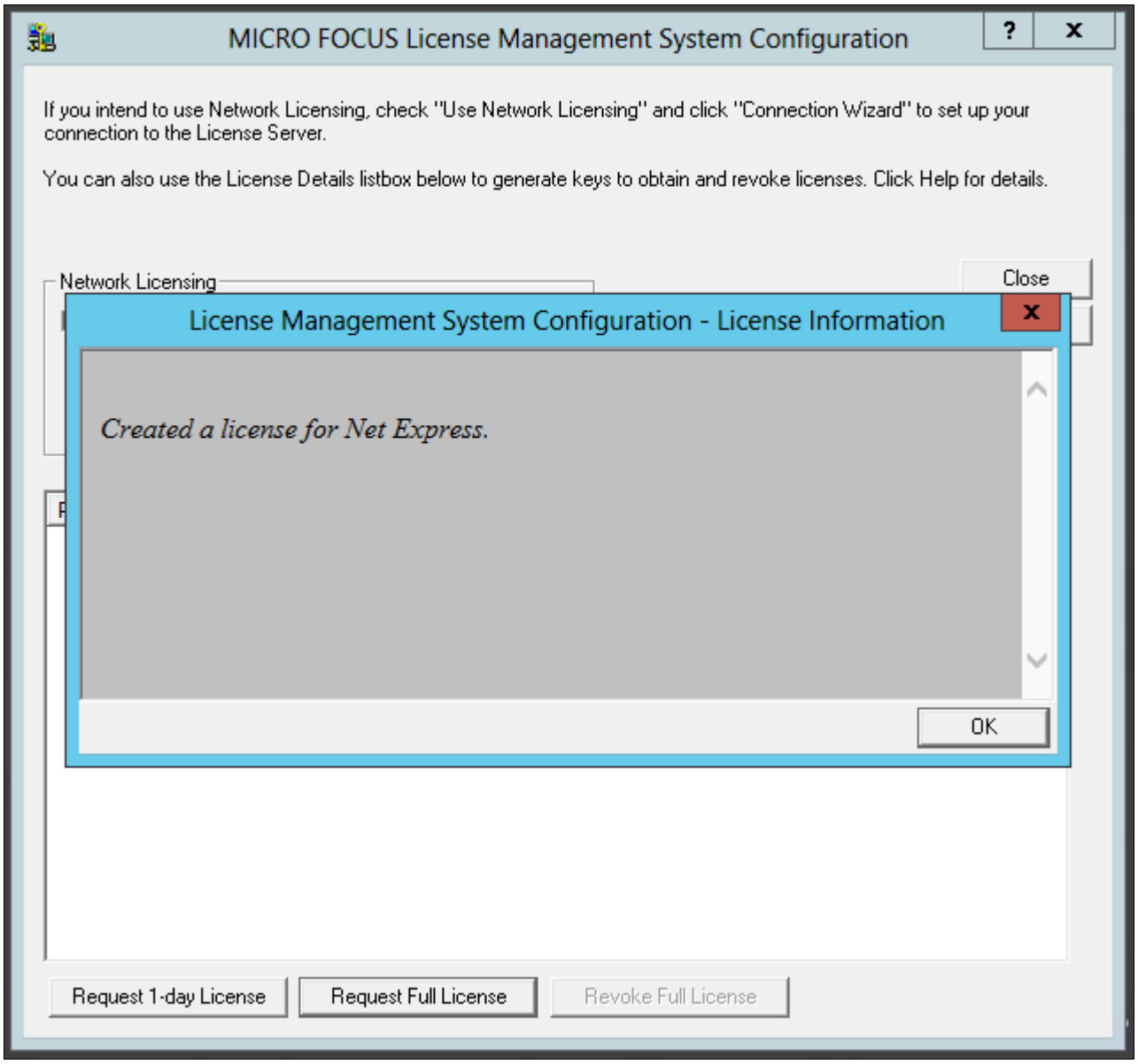
9. Click Yes to confirm that you want to request a full license, as shown in this example.

   The warning message says that requesting a full license permanently removes a license from the license server.



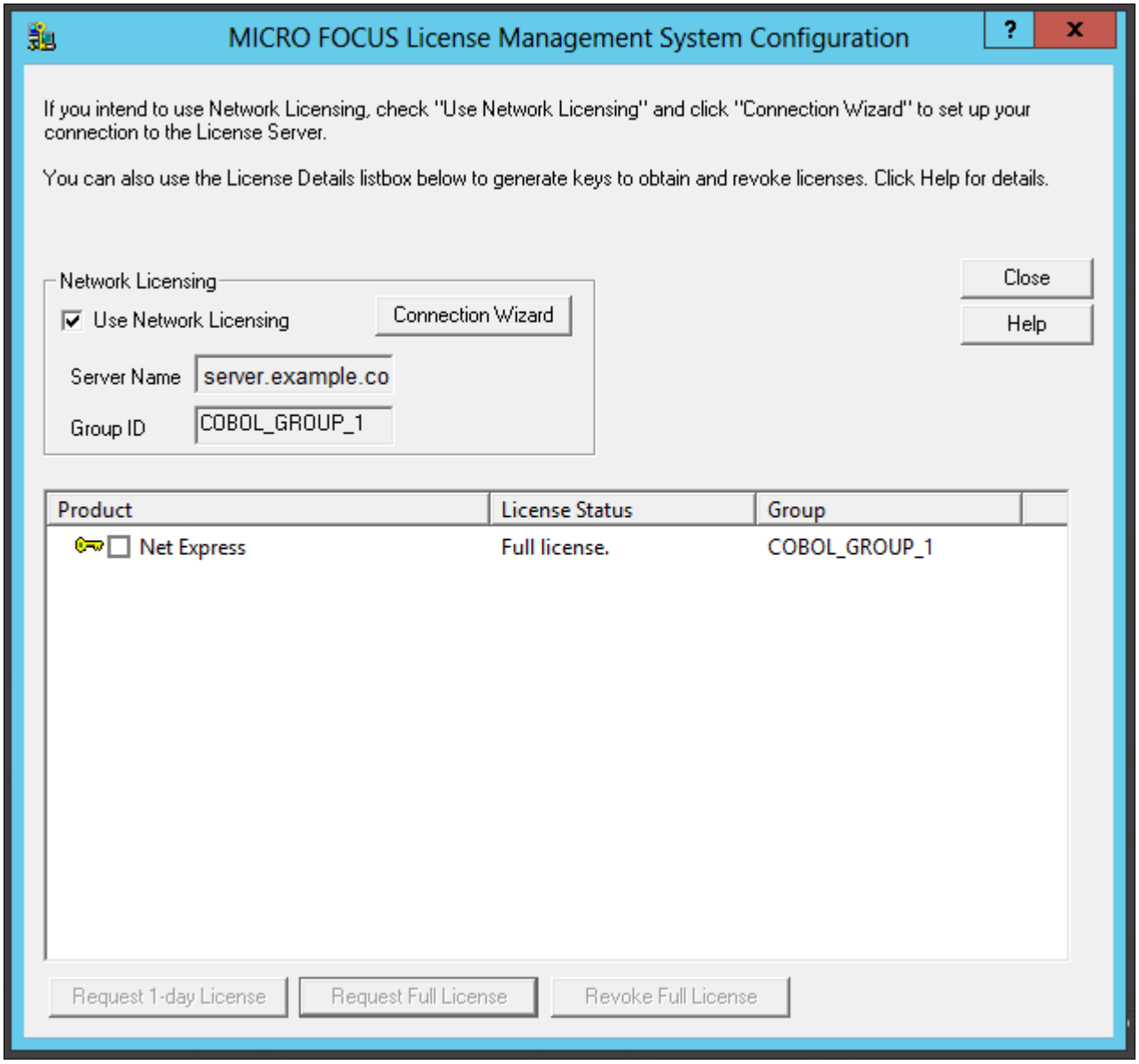
Warning message box when requesting a Full License

10. Click OK on the License Information dialog box.



License Management System Configuration - License Information window

11. Verify that the License Status for Net Express has changed to Full License, as shown in this example, and click Close.



MICRO FOCUS License Management System Configuration window with Full License status

Task 11A-3-2: Configuring a Timed License with the License Server

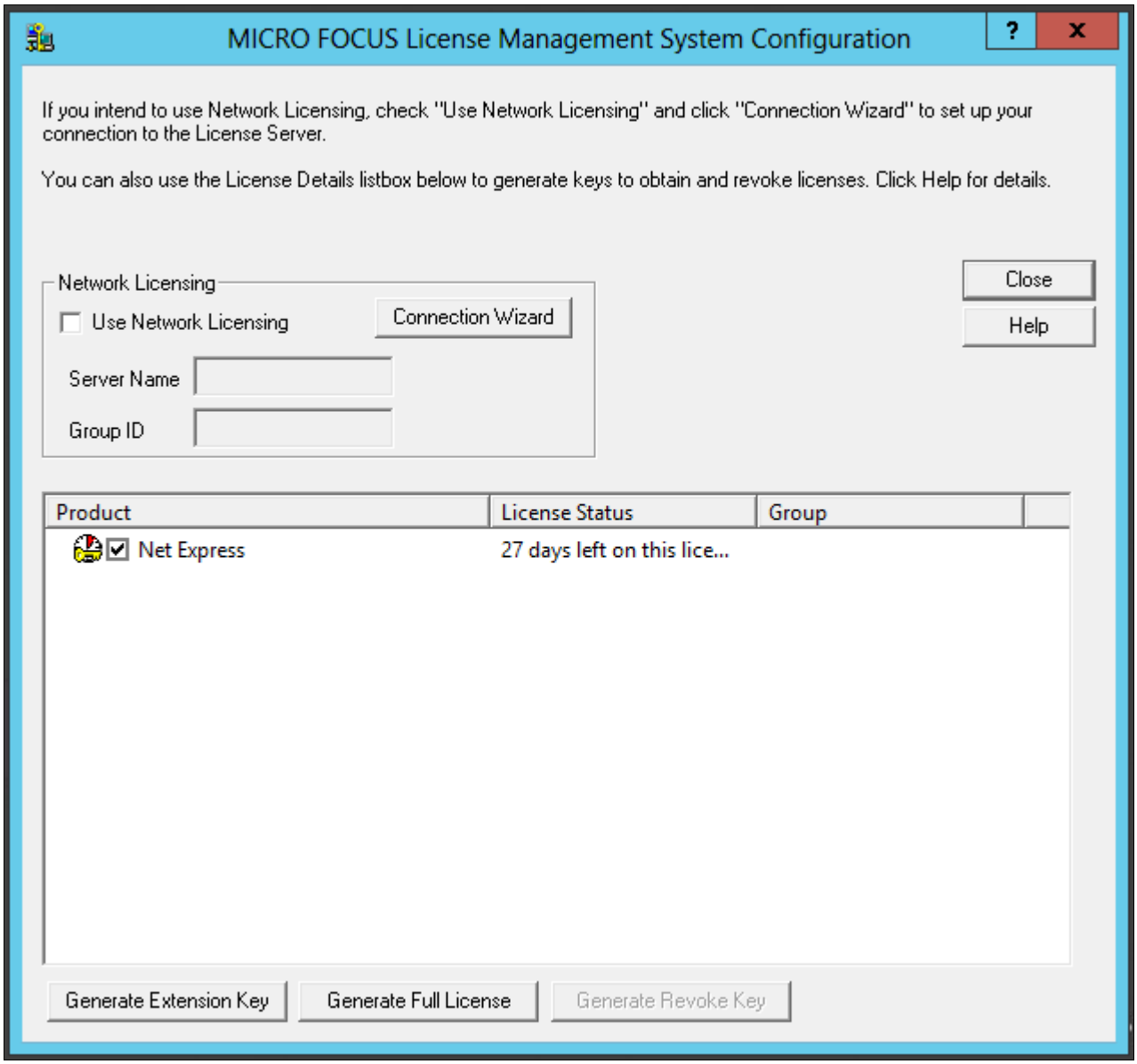
To configure a Timed License for temporary use:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.

Note. Alternatively, run *NE_HOME*\Base\Bin\protcfg.exe, where *NE_HOME* is the directory where you installed Micro Focus Net Express.

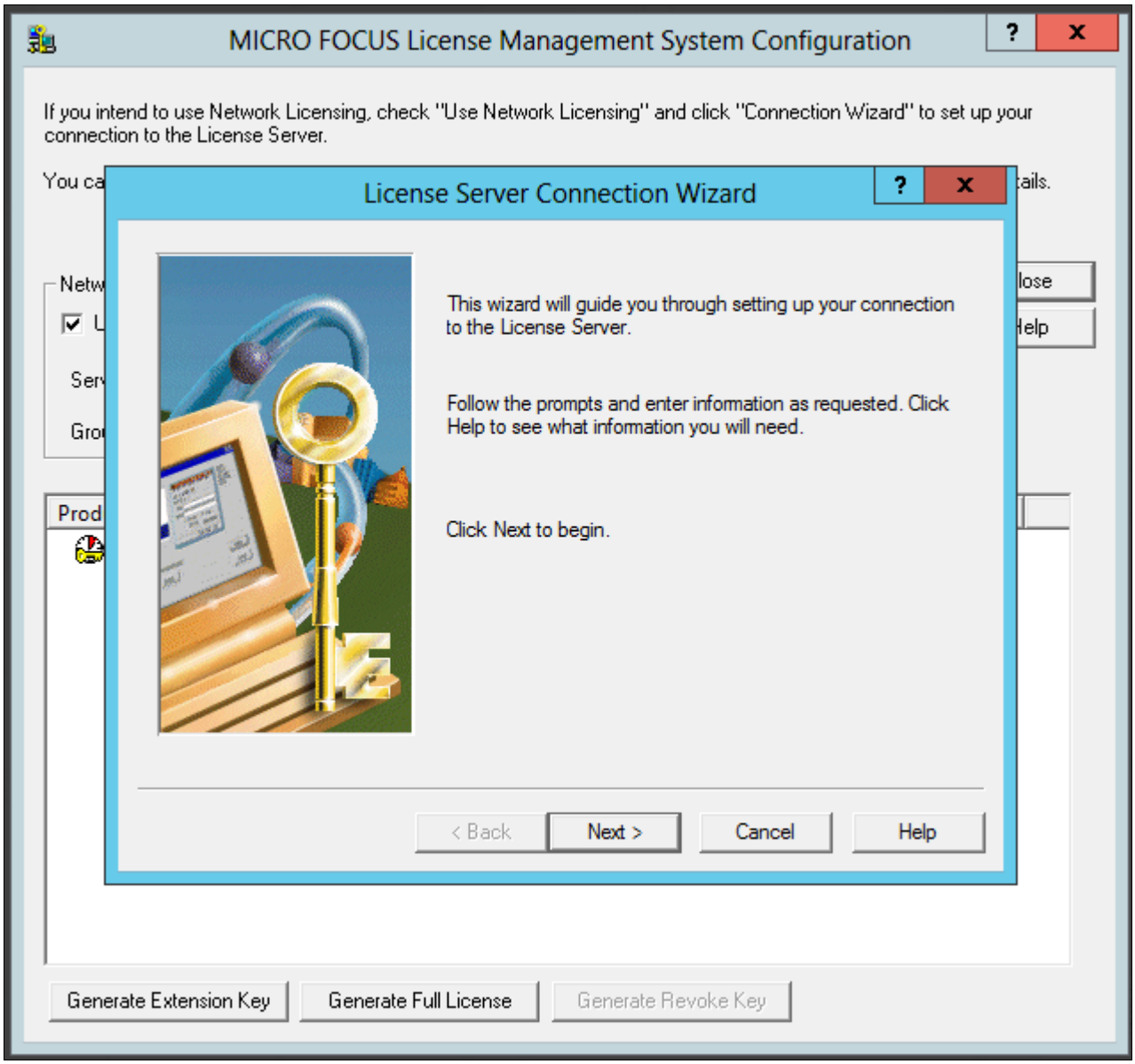
---

2. Select the option Use Network Licensing, and click Connection Wizard, as shown in this example:



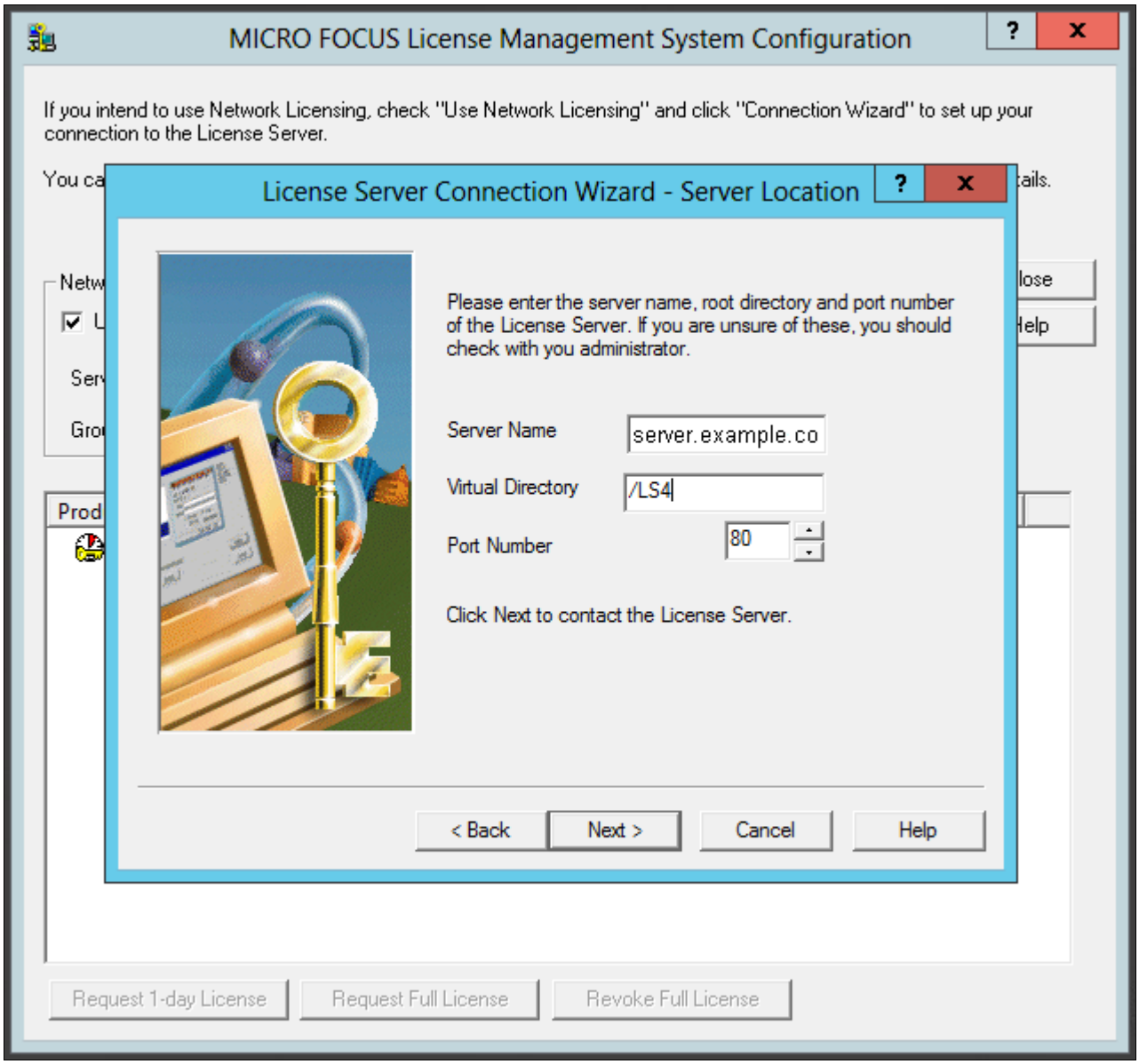
MICRO FOCUS License Management System Configuration window

3. Click Next on the License Server Connection Wizard window, shown in this example:



License Server Connection Wizard window

4. Enter information for the server location, and then click Next.



License Server Connection Wizard - Server Location

- Server Name—Enter the name of the license server; for example, server.example.com.
- Virtual Directory; for example, /LS4.
- Port Number—The default is 80, as shown in the example.

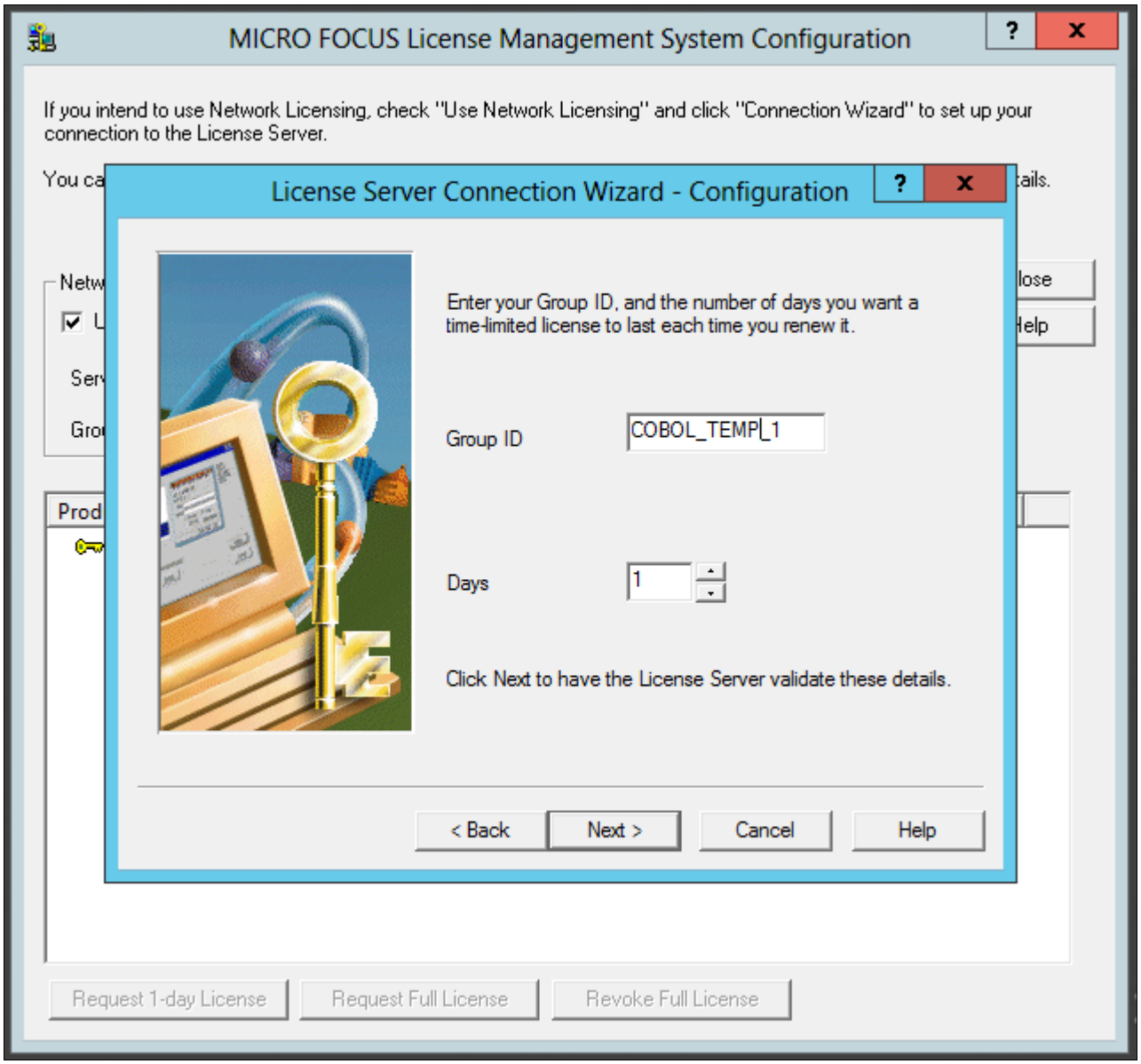
  Select a port that is not in use by another application.

5. You see a message saying the wizard found the server.

   Click Next.

6. Enter your group ID, which is COBOL_TEMP_1 in this example, and specify the number of days before you have to renew the license, which is 1 (one) day in this example.

   Click Next.

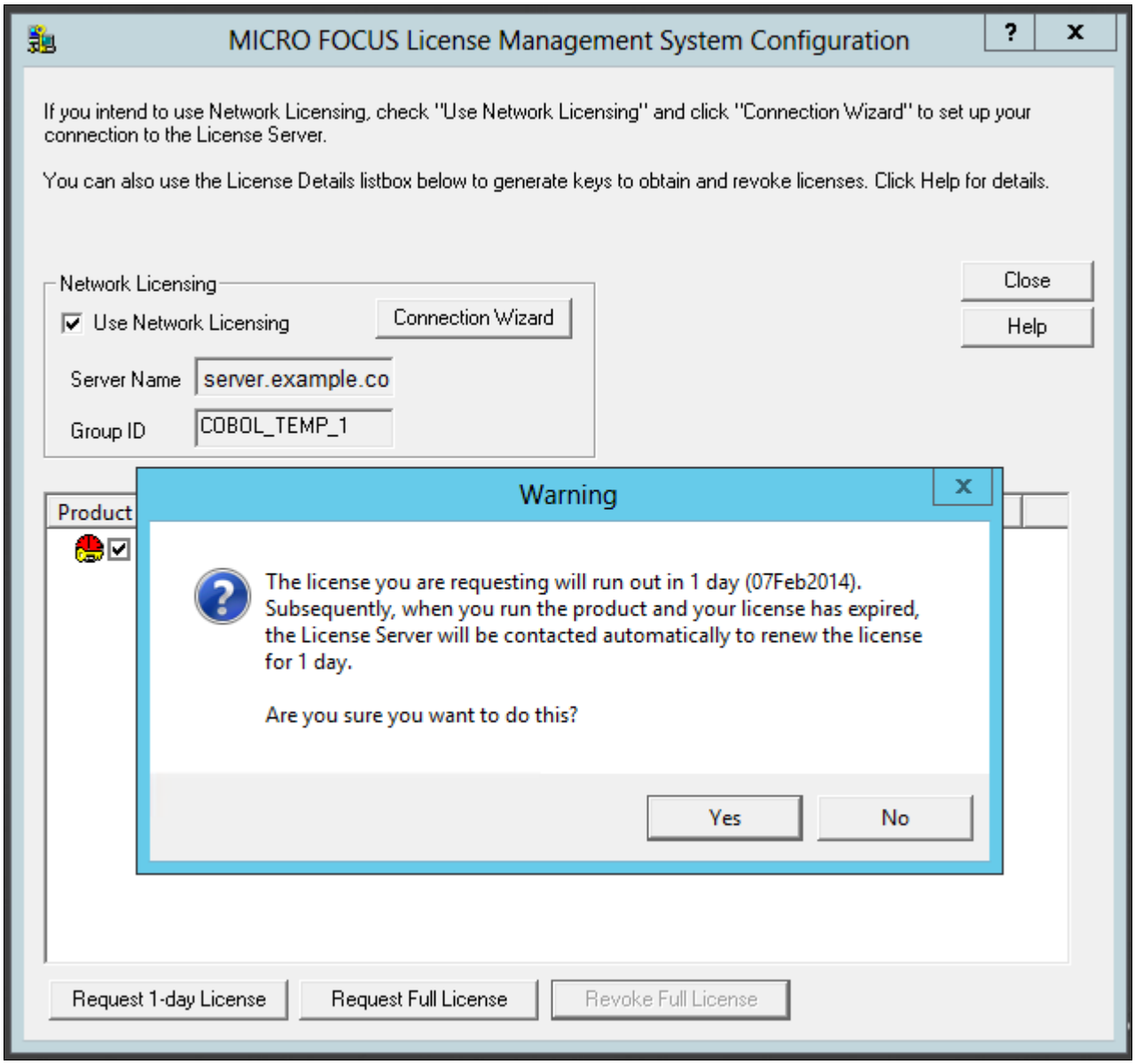


License Server Connection Wizard - Configuration window

7. Click Finish to exit the wizard.
8. In the details list on the MICRO FOCUS License Management System Configuration dialog box, select the check box for Net Express, and then click Request 1-day License.

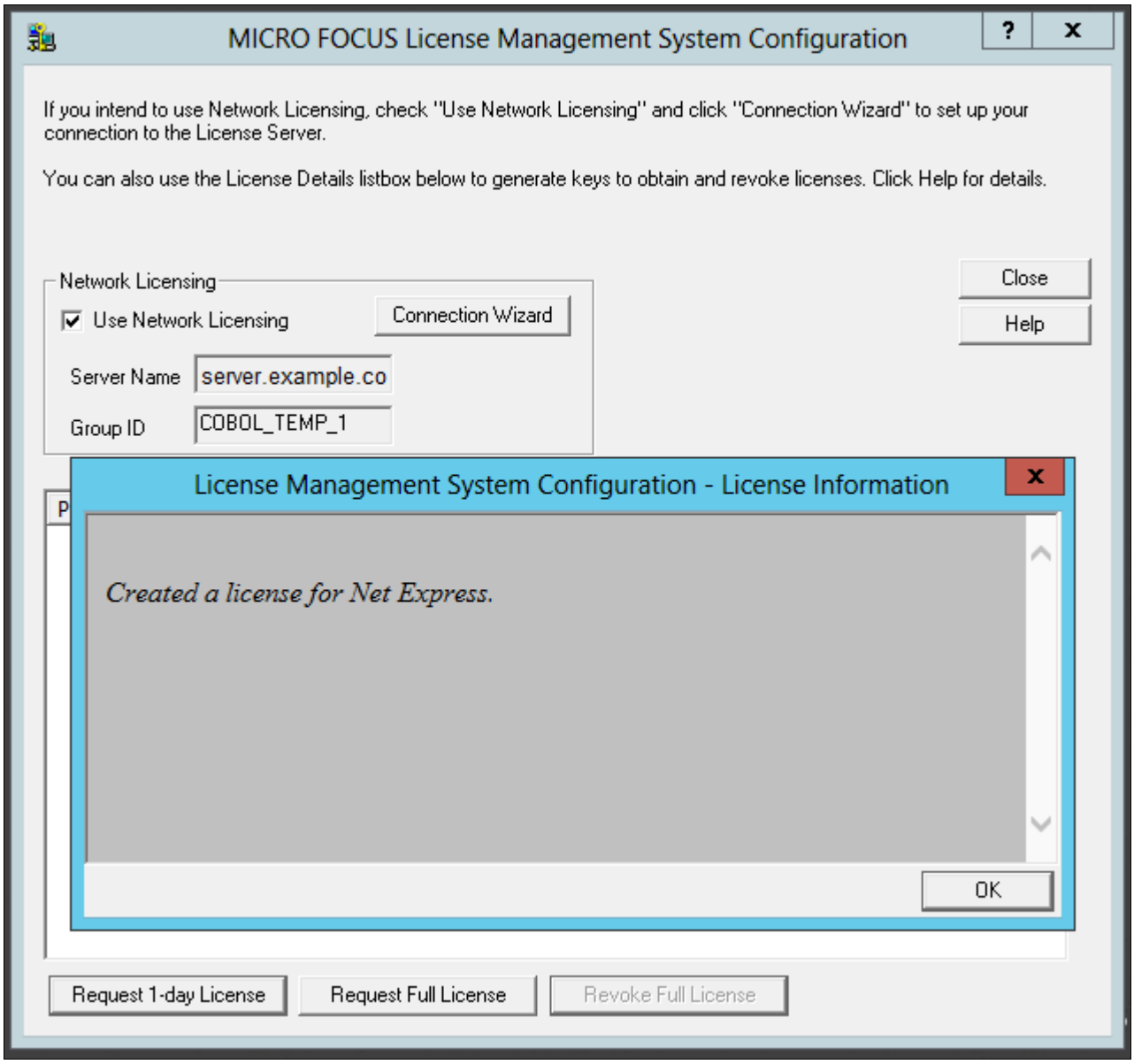
9. Click Yes to confirm that you want to request a timed (temporary) license, as shown in this example.

   The warning message says that the license will run out in one day. When you run the product after the license has expired, the License Server will be contacted automatically to renew the license for one day.



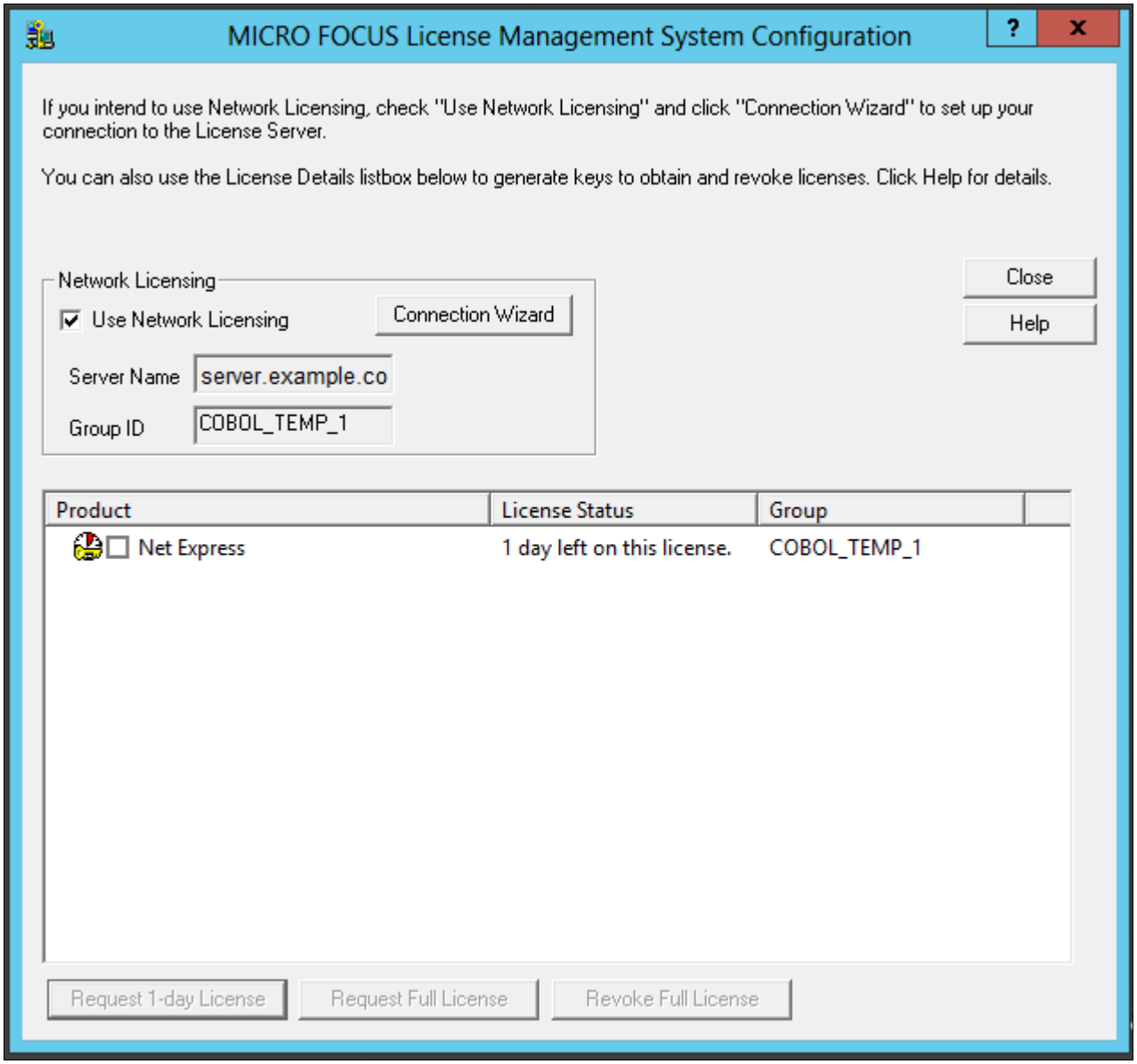
Warning message box when requesting a timed license

10. Click OK on the License Information message box.



License Management System Configuration - License Information window

11. Verify that the license status has changed to "1 day left on this license," as shown in this example, and click Close.



MICRO FOCUS License Management System Configuration window showing Timed License

Task 11A-3-3: Revoking the License Using the License Management System

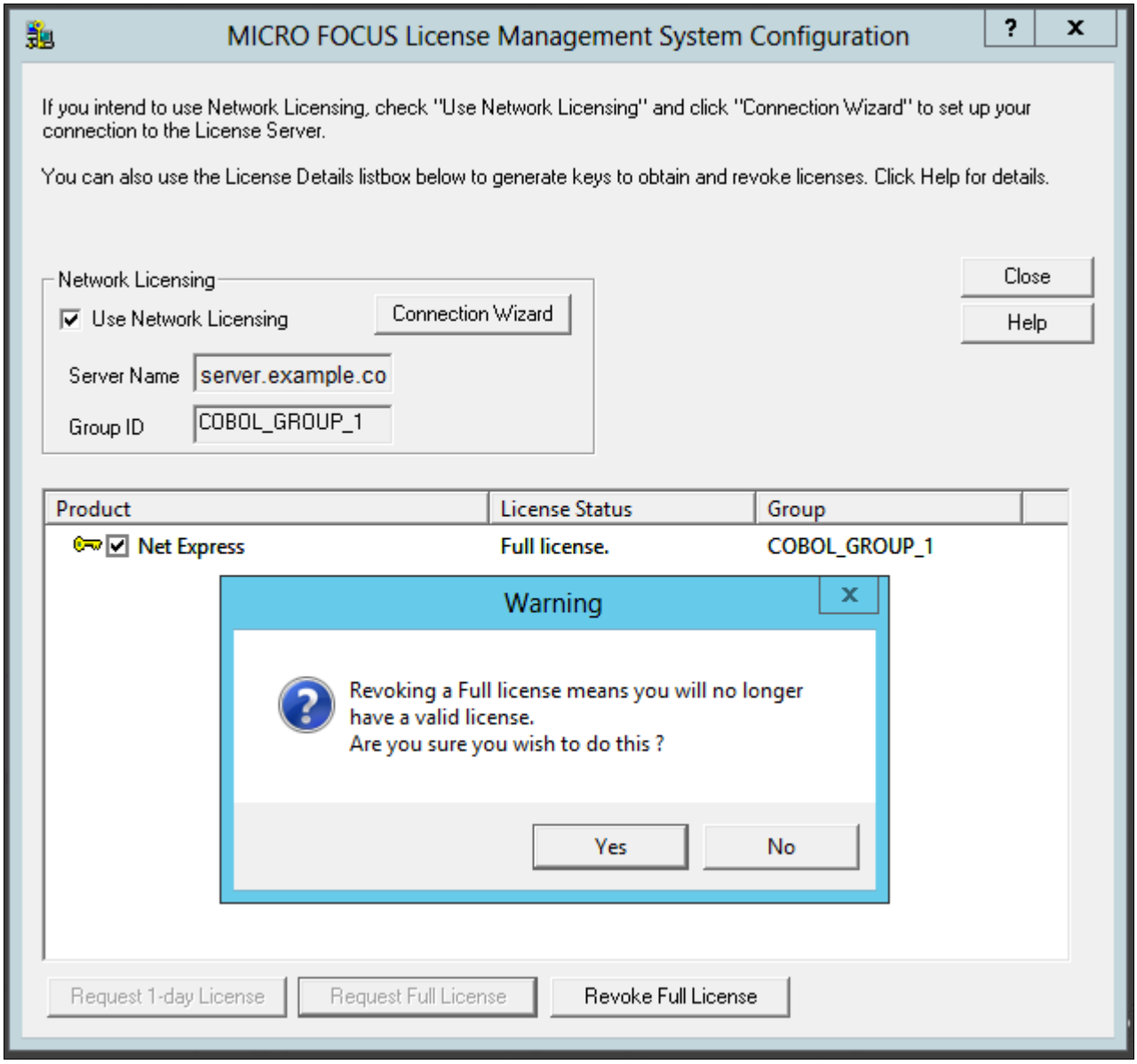
Revoking (unallocating) the compiler license returns it to the license pool, and makes it available for re-use, either by you or another user. This section describes how to use the Micro Focus License Management System to revoke a compiler license. For information on revoking the license by completely removing the Micro Focus Net Express installation, see the following section.

See Revoking the License by Removing the Installation.

To revoke a Full License using the Micro Focus License Management System:

1. Select Start, All Programs, Micro Focus Net Express 5.1, Configuration, License Management System.
2. Select the check box for Net Express under Product in the details list, and click Revoke Full License.
3. Click Yes on the warning message box to confirm that you want to revoke a full license, as shown in this example.

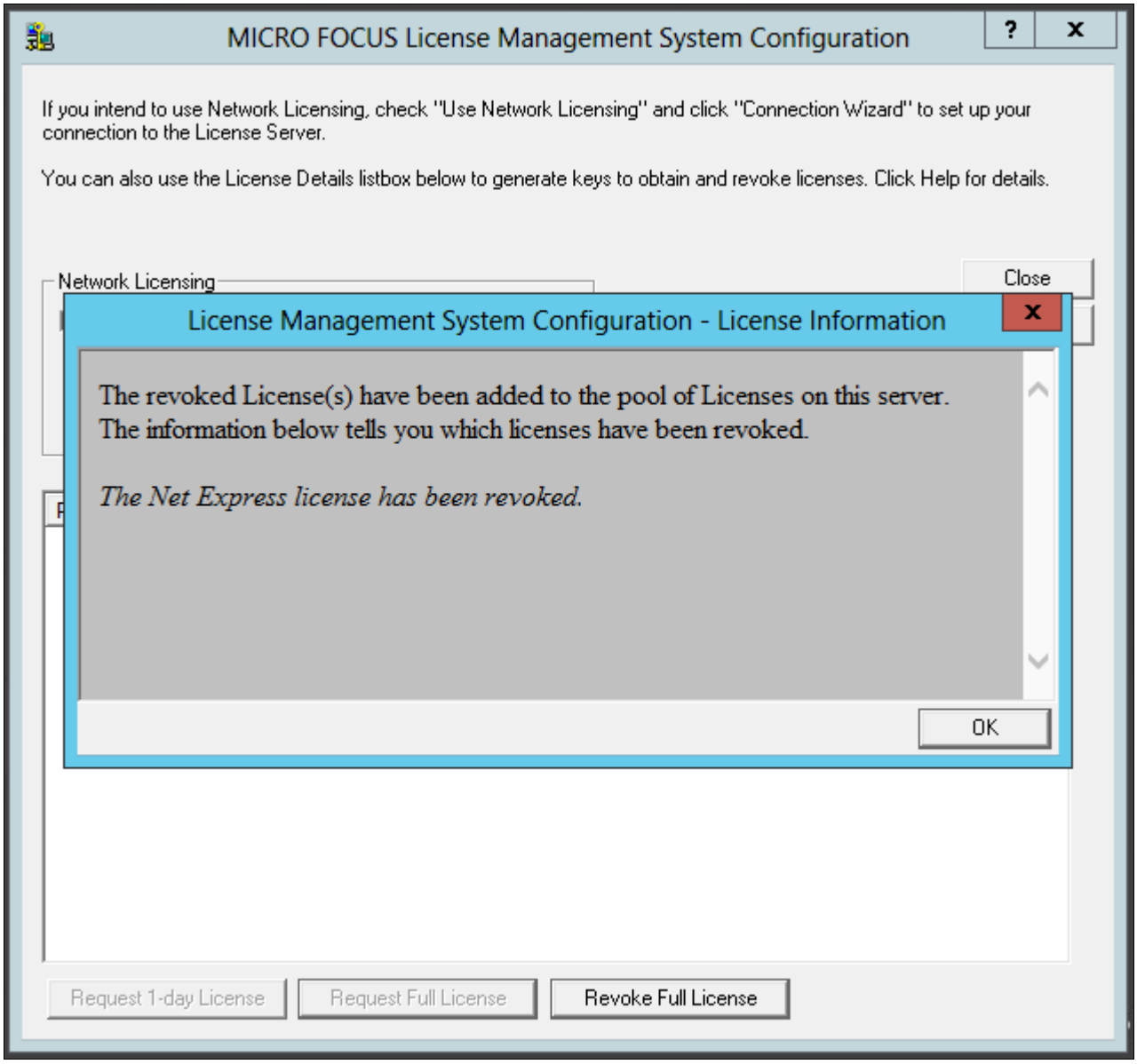
   The warning message says that revoking a full license means that you will no longer have a valid license.



Warning message box on Revoking a Full License

4. Click OK.

   The License Information message box says that the Net Express license has been revoked.



License Management System Configuration - License Information

5. Verify that the license status has changed to "license has expired" and click Close.

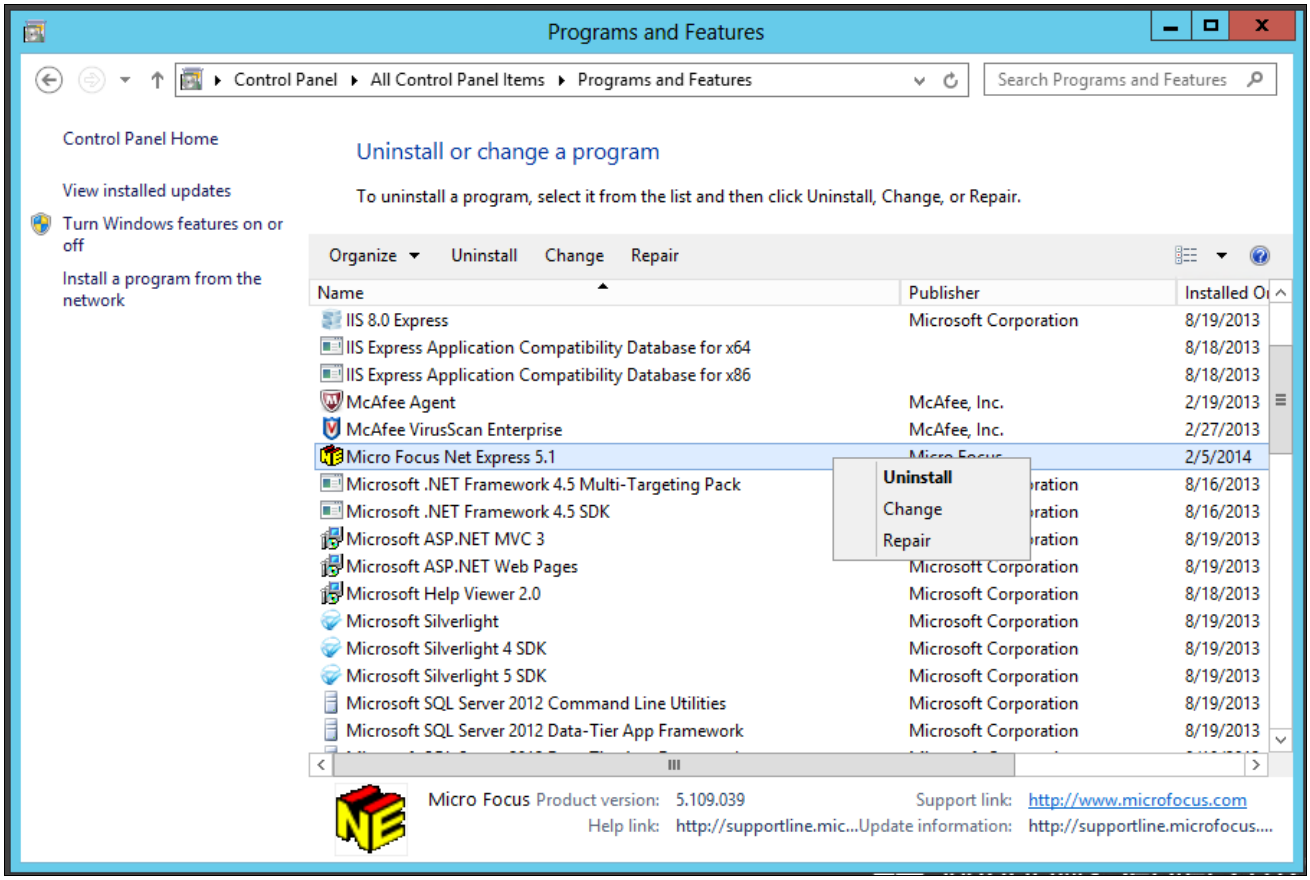
Task 11A-3-4: Revoking the License by Removing the Installation

Revoking (unallocating) the compiler license returns it to the license pool, and makes it available for re-use, either by you or another user. This section describes how to revoke the license by completely removing the Micro Focus Net Express 5.1 installation. For information on using the Micro Focus License Management System to revoke a compiler license, see the previous section.

See Revoking the License Using the License Management System.

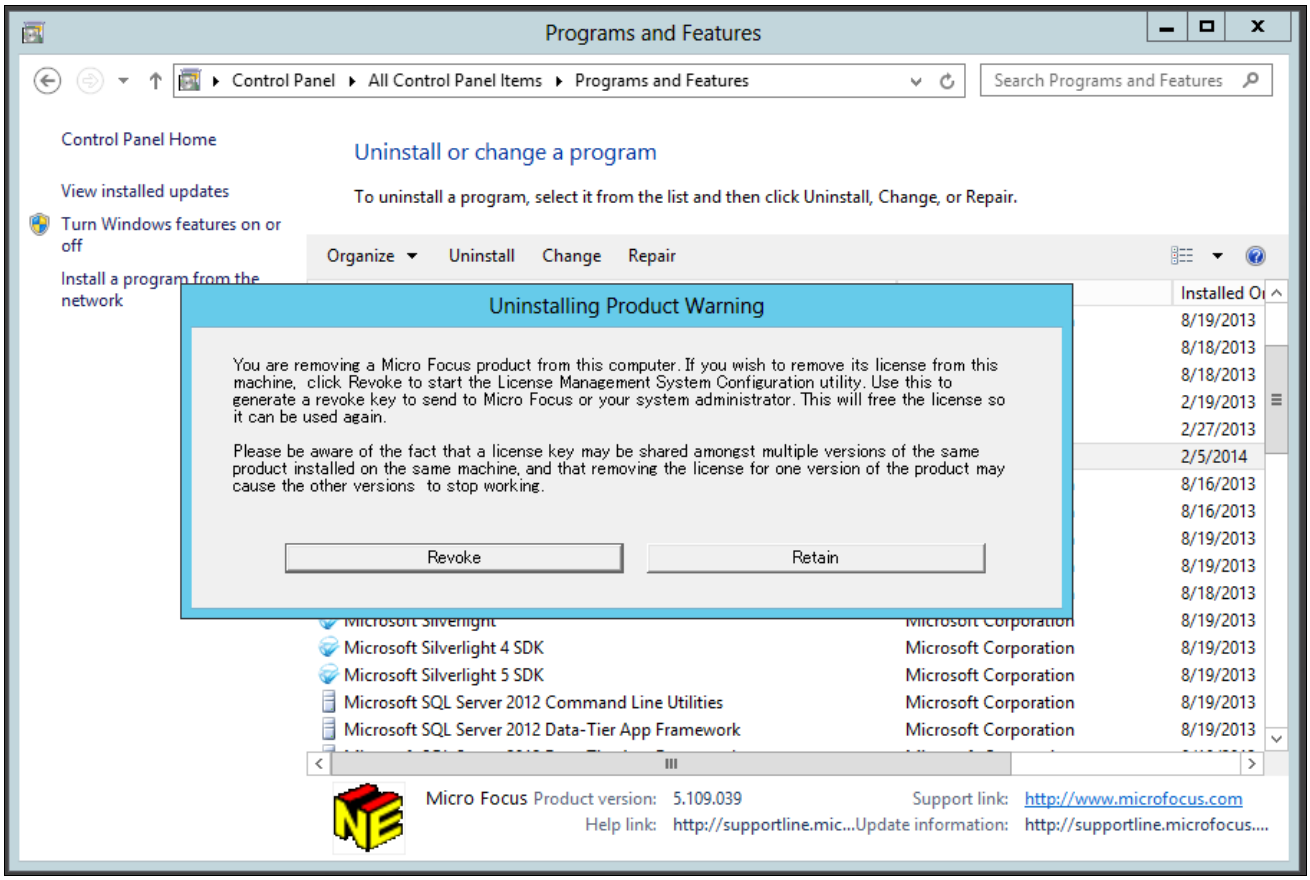
To remove the installation and revoke the license:

1. Select Start, All Programs, All Control Panel Items, Programs and Features.
2. Highlight Micro Focus Net Express 5.1 in the list of programs.
3. Right-click and select Uninstall, as shown in this example:



Microsoft Windows Control Panel Programs and Features

4. Click Revoke on the Uninstalling Product Warning message box, as shown in this example:



Uninstalling Product Warning message box

The MICRO FOCUS License Management System Configuration window appears.

5. Follow the instructions in the previous section to revoke the license.

   See Revoking the License Using the License Management System.

6. When the process to revoke the license is complete, close the MICRO FOCUS License Management System Configuration window, and complete the process to remove Micro Focus Net Express 5.1.

Task 11A-4: Using the Micro Focus COBOL Compiler on Microsoft Windows

This section discusses:

- Understanding COBOL Compilation
- Compiling COBOL on Microsoft Windows with a PS_HOME Setup
- Compiling COBOL on Microsoft Windows with a PS_APP_HOME Setup
- Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup
- Recompiling COBOL on Microsoft Windows
- Setting Up the Micro Focus Net Express Runtime

- Defining the GNT and INT Files
- Distributing COBOL Binaries

Understanding COBOL Compilation

With PeopleSoft PeopleTools 8.50 and higher, your COBOL always needs to be compiled on Microsoft Windows. (This is a change from previous versions of PeopleSoft PeopleTools, which delivered compiled COBOL for Microsoft Windows.) This section assumes that you are carrying out the compile process from your file server. (The COBOL compiler itself does not need to be on the file server, as long as the user can write to the file server and can link to the src and bin directories.) The recommended approach for the PeopleSoft installation is to use CBLBLD.BAT to compile all your COBOL source files at once. Another alternative is CBLMAKE.BAT, which you can use to compile selected COBOL files.

The way that you set up your installation environment determines how you compile COBOL. This section includes different procedures for the different installation environments, as follows:

- *PS_HOME Setup*

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is the same as the *PS_HOME* location where you installed the PeopleSoft PeopleTools software, follow the instructions in these sections:

  - Compiling COBOL on Microsoft Windows with a PS_HOME Setup
  - Defining the GNT and INT Files
- *PS_APP_HOME Setup*

  As described earlier, for PeopleSoft PeopleTools 8.52 and later, you have the option to install the PeopleSoft Application software to a location outside *PS_HOME*. If the PS_APP_HOME environment variable is defined and is different from PS_HOME, the COBOL build scripts behave differently under certain build options. There are also some new build options under certain environments which would be recognized if PS_APP_HOME is defined.

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is different from the *PS_HOME* location where you installed the PeopleSoft PeopleTools software, follow the instructions in these sections:

  - Compiling COBOL on Microsoft Windows with a PS_APP_HOME Setup
  - Defining the GNT and INT Files
- *PS_CUST_HOME Setup*

  For PeopleSoft PeopleTools 8.53 and later, you have the option to place customized COBOL baseline sources into a location referenced by the environment variable PS_CUST_HOME.

  The *PS_CUST_HOME* directory structure must replicate that of *PS_HOME* or *PS_APP_HOME*; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location.

  If your environment includes customized files in a *PS_CUST_HOME* directory, follow the instructions in these sections:

  - Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup
  - Defining the GNT and INT Files

For those systems on which you only need to run COBOL, but do not need to compile it, you must install and license the Micro Focus Net Express Runtime.

See Setting Up the Micro Focus Net Express Runtime.

Make certain to check whether you need to apply any late-breaking patches.

See My Oracle Support, Patches & Updates.

See Also

"Preparing for Installation," Defining Installation Locations.

Task 11A-4-1: Compiling COBOL on Microsoft Windows with a PS_HOME Setup

This section discusses:

- Prerequisites
- Compiling with CBLBLD.BAT with a PS_HOME Setup
- Compiling with CBLMAKE.BAT with a PS_HOME Setup

Prerequisites

This section assumes that you installed both PeopleSoft PeopleTools and PeopleSoft Application software to *PS_HOME,* and that you have not set *PS_CUST_HOME.*

Compiling with CBLBLD.BAT with a PS_HOME Setup

To compile COBOL with CBLBLD.BAT:

1. Set up two environment variables, %PS_HOME% and %COBROOT%, on the machine from which you'll compile COBOL. (This should be either your file server or a machine that has access to your file server.)

   You can do this from a command prompt window. This table gives the environment variables and their purposes.

Environment Variable	Purpose
PS_HOME	PeopleSoft home directory—that is, the drive letter and high-level PeopleSoft directory where you installed PeopleTools and the application.
COBROOT	Drive letter and root directory of the COBOL compiler.

   For example, you could enter the following in the DOS command prompt:

   ```
   set PS_HOME=C:\HR92
   set COBROOT="C:\Program Files\Micro Focus\Net Express 5.1\base"
   ```

2. Open a command prompt window if you do not have one open already, and change directories to *PS_HOME*\ setup.
3. Execute CBLBLD.BAT as follows:

   ```
   cblbld <compile drive>  <compile directory>
   ```

   In this command, *<compile drive>* is the drive where the compile takes place, and *<compile directory>* is the temp directory where the compile takes place.

The CBLBLD.BAT file will create the compile directory for you if it does not already exist.

Note. *Make sure* to include a space between the <*compile drive*> and <*compile directory*> parameters; they are treated as two different parameters within the CBLBLD.BAT batch program. Also ensure that you have write permission to <*compile drive*> and <*compile directory*> as the compile process will take place there.

For example, the following command will take the COBOL source from *PS_HOME*\src\cbl and do the compile process under c:\temp\compile:

```
cblbld c: \temp\compile
```

Make note of the information that is displayed on the screen while the process is running; it provides the locations of important files that you will need to examine.

4. After you have successfully compiled your source code, all of the executables should have been placed in your <*PS_HOME*>\CBLBIN<*X*> directory (this directory will be named CBLBINA or CBLBINU, depending on whether you are using ANSI or Unicode). Make sure that all of the files were copied correctly to this directory.
5. If the files were copied correctly, you can delete the entire temporary compile directory to free space on your disk drive.

Note. You may want to keep the files in the compile directory for testing purposes. Make sure that you have enough space on the drive where <*compile directory*> is located. Estimate about three times the amount in the <*PS_HOME*>\CBLBIN<*X*> directory.

Note. If you chose the Unicode option while running the PeopleSoft Installer, the file UNICODE.CFG was created in the setup directory. UNICODE.CFG automatically triggers the batch file CBL2UNI.BAT when you run CBLBLD.BAT. Another batch file, CBLRTCPY.BAT, copies four DLLs (CBLINTS.DLL, CBLRTSS.DLL, CBLVIOS.DLL, COB32API.DLL) from the Microfocus compiler directory (identified by %COBROOT% setting) into the appropriate CBLBIN directory (CBLBINA or CBLBINU) when you run CBLBLD. These files are needed for COBOL to run; they can reside anywhere as long as they are in the path. You can run either of these BAT files independently from the command line (they reside in *PS_HOME*\setup). For CBLRTCPY.BAT you need to specify a target directory.

Compiling with CBLMAKE.BAT with a PS_HOME Setup

CBLBLD.BAT compiles all your COBOL source files at once, which can take a lot of time. CBLMAKE.BAT, in contrast, lets you employ one or more parameters to compile a specific COBOL source file or a selected group of COBOL source files. Unlike CBLBLD.BAT, however, CBLMAKE.BAT does not automatically trigger the batch file CBL2UNI.BAT or CBLRTCPY.BAT.

Here is the basic syntax for CBLMAKE.BAT:

```
CBLMAKE.BAT [] [ALL] [wildcard filename[ALL]] [wildcard filename |⇒
 wildcard⇒
 filename without extension[INT | GNT | EXE]] [LIST]
```

Note. The switches are well documented in the CBLMAKE.BAT file in the form of comments.

Note. If the change in the COBOL source is a copy member, you must compile all of the COBOL programs using CBLBLD.BAT. You know it is a copy member when the third letter in the file name is a *C,* as in PT*C* SQLRT.CBL.

The following table describes the various options for CBLMAKE.BAT.

Option	Purpose
Cblmake	Compiles all source
Cblmake all	Compiles all source
Cblmake PT*	Compiles all source files that start with PT
Cblmake PT* ALL	Compiles all source files that start with PT
Cblmake PT* INT	Generates INT files for all source files that start with PT
Cblmake PT* GNT	Generates GNT files for all source files that start with PT
Cblmake PT* EXE	Generates EXE files for all source files that start with PT
Cblmake PTPDBTST INT	Generates PTPDBTST.INT file
Cblmake PTPDBTST INT LIST	Generates PTPDBTST.INT and source listing file
Cblmake PTPDBTST GNT	Generates PTPDBTST.GNT file
Cblmake PTPDBTST EXE	Generates PTPDBTST.EXE file

The LIST option creates a source listing file under <*compile directory*>\<*filename*>.lis. The LIST option is useful when the compile fails during the debugging phase. The source listing files show exactly where an error occurred. This option is not recommended when the program compiles successfully because the .LIS files can grow to be quite large.

Note. By default, when the program fails to compile, the system will generate a .LIS file.

To compile with CBLMAKE.BAT:

1. Verify that the %PS_HOME% and %COBROOT% environment variables are set up correctly.
2. Open a command prompt window.
3. Make sure the compile directory exists; it may already exist if you've run CBLBLD.BAT. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.

   Note. Make sure you have write permission to <*compile directory*> as the compile process will take place there.

4. Change to the *PS_HOME*\setup directory.
5. If the installation is Unicode, run CBL2UNI (with no parameters).
6. Execute the following command to copy all the COBOL source files from the *PS_HOME* directory to the compile directory:

   ```
   cblsrc <source directory>    <compile directory>
   ```

   where <*source directory*> is the drive and directory where the source resides (it should be the same as *PS_HOME*), and <*compile directory*> is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_HOME* and copy all the necessary files to the location where the compile process will take place.

```
cblsrc  PS_HOME  c:\temp\compile
```

If the COBOL source that will be compiled is different from the one under *PS_HOME*, copy that COBOL source to <*compile directory*>.

Note. The compile in the next step will generate a GNT file unless the exception file, CBLINT.*XX* already exists (the *XX* represents the Product ID). CBLINT.*XX* contains the list of files that need to be compiled to the INT file. Make sure the intended CBLINT.*XX* is located under <*compile directory*> before executing CBLMAKE.

---

7. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.
8. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate *PS_HOME*\CBLBIN*X* directory (CBLBINA or CBLBINU).

```
copy *.exe PS_HOME\cblbina
copy *.gnt PS_HOME\cblbina
copy *.int PS_HOME\cblbina
```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

Task 11A-4-2: Compiling COBOL on Microsoft Windows with a PS_APP_HOME Setup

This section discusses:

- Prerequisites
- Compiling with CBLBLD.BAT with a PS_APP_HOME Setup
- Compiling with CBLMAKE.BAT with a PS_APP_HOME Setup

Prerequisites

This section assumes that you installed PeopleSoft application software to a *PS_APP_HOME* directory that is different from the *PS_HOME* directory where you installed PeopleSoft PeopleTools. It also assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

Compiling with CBLBLD.BAT with a PS_APP_HOME Setup

The usage for running CBLBLD.BAT is:

```
cblbld <compile drive>  <compile directory> [BUILD_option] [BUILD_home]
```

Substitute the appropriate values as follows:

- <compile drive>

  Enter the drive letter for the drive containing the directory where the compile takes place.
- <compile directory>

Enter the directory where the compile takes place. Be sure to include a space between <compile drive> and <compile directory>.

- BUILD_option

  The allowed values are nothing (blank), ASCII or Unicode.

  BUILD_option refers to the encoding scheme of your PeopleSoft installation. This parameter is optional.

- BUILD_home

  The allowed values are nothing (blank), PS_HOME or PS_APP_HOME.

  Note. The values PS_HOME and PS_APP_HOME are case-insensitive.

  BUILD_home refers to the directory from which the COBOL source files will be compiled.

  This parameter is optional.

  - If the option is PS_HOME, the COBOL source files placed under %PS_HOME%\src\cbl will be compiled.
  - If the option is PS_APP_HOME, the COBOL source files placed under %PS_APP_HOME%\src\cbl will be compiled.
  - If the option is blank, the COBOL source files under %PS_HOME%\src\cbl and COBOL source files under %PS_APP_HOME%\src\cbl will be compiled one after the other.

To compile COBOL sources on Microsoft Windows:

1. In a command prompt, set the environment variables described in this table:

Environment Variable	Purpose
PS_HOME	PeopleSoft PeopleTools home directory—that is, the drive letter and high-level directory where you installed PeopleSoft PeopleTools.
COBROOT	Drive letter and root directory of the COBOL compiler.
PS_APP_HOME	PeopleSoft Application home directory—that is, the drive letter and high-level directory where you installed the PeopleSoft Application software.

   For example:

```
set PS_HOME=C:\PTcompile
set COBROOT="C:\Program Files\Micro Focus\Net Express 5.1\base"
set PS_APP_HOME=C:\HRcompile
```

2. Change directory to *PS_HOME*\setup:

```
cd %PS_HOME%\setup
```

3. Run CBLBLD.BAT, using one of these methods:

   - To compile all the COBOL source files under your PeopleSoft application, that is, all PeopleSoft PeopleTools source files and all PeopleSoft Application source files, run this command:

     ```
     cblbld <compile drive> <compile directory>
     ```

     For example:

```
cblbld c: \temp\PTcompile
```

- To compile only PeopleSoft PeopleTools COBOL source files, run this command:

  ```
  cblbld <compile drive> <compile directory> PS_HOME
  ```

  For example:

  ```
  cblbld c: \temp\PTcompile PS_HOME
  ```

- To compile only PeopleSoft Application COBOL source files, run this command:

  ```
  cblbld <compile drive> <compile directory> PS_APP_HOME
  ```

  For example:

  ```
  cblbld c: \temp\HRcompile PS_APP_HOME
  ```

PeopleSoft PeopleTools COBOL compiled executables will be placed under the <*PS_HOME*>\CBLBIN<*X*> directory. PeopleSoft Application COBOL compiled executables will be placed under the <*PS_APP_HOME*>\CBLBIN<*X*> directory. CBLBIN<X> will be one of the following:

- CBLBINA if you are using ANSI encoding scheme
- CBLBINU if you are using Unicode encoding scheme

Compiling with CBLMAKE.BAT with a PS_APP_HOME Setup

CBLBLD.BAT compiles all your COBOL source files at once, which can take a lot of time. CBLMAKE.BAT, in contrast, lets you employ one or more parameters to compile a specific COBOL source file or a selected group of COBOL source files. The procedure is slightly different depending upon whether the file that you want to compile is a PeopleSoft Application or PeopleSoft PeopleTools COBOL file. Both procedures are covered in this section.

Note. The options for CBLMAKE.BAT are defined in a table in the previous section Compiling with CBLMAKE.BAT with a *PS_HOME* Setup.

To compile a PeopleSoft Application COBOL file with CBLMAKE.BAT:

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

   See Compiling with CBLBLD.BAT with a PS_APP_HOME Setup.
3. Verify that the environment variable PS_compile_apps is set, as follows:

   ```
   set PS_compile_apps=Y
   ```

   Important! This variable setting is required for individual file compilation with CBLMAKE.BAT.

   ---

4. Make sure the compile directory, <*compile directory*>, exists, and that you have write permission to it.

   This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME*\setup directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_APP_HOME* directory to the compile directory:

```
cblsrc <source directory>    <compile directory>
```

Here <*source directory*> is the drive and directory where the source resides (it should be the same as *PS_APP_HOME*), and <*compile directory*> is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_APP_HOME* and copy all the necessary files to the location where the compile process will take place, c:\temp\HRcompile in this example:

```
cblsrc %PS_APP_HOME% c:\temp\HRcompile
```

Note. The compile in the next step will generate a GNT file unless the exception file, CBLINT.*XX* already exists (the *XX* represents the Product ID). CBLINT.*XX* contains the list of files that need to be compiled to the INT file. Make sure the intended CBLINT.*XX* is located under <*compile directory*> before executing CBLMAKE.

---

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

   For example, to compile a file named GPPDPRUN, run this command:

   ```
   cblmake GPPDPRUN
   ```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate <*PS_APP_HOME*>\CBLBIN<*X*> directory (CBLBINA for ANSI or CBLBINU for Unicode).

   These examples use the ANSI encoding:

   ```
   copy *.exe %PS_APP_HOME%\cblbina
   copy *.gnt %PS_APP_HOME%\cblbina
   copy *.int %PS_APP_HOME%\cblbina
   ```

Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

---

10. Verify that the compiler runtime files (CBLINTS.DLL, CBLRTSM.DLL, CBLRTSS.DLL, CBLVIOM.DLL, CBLVIOS.DLL, COB32API.dll, MFLANGDF.lbr) are present in the <*PS_APP_HOME*>\CBLBIN<*X*> directory.

    If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

    ```
    cblrtcpy %PS_APP_HOME%\cblbina
    ```

The procedure to compile a PeopleSoft PeopleTools COBOL file with CBLMAKE.BAT is similar, but the environment variable PS_compile_apps must *not* be set.

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

   See Compiling with CBLBLD.BAT with a PS_APP_HOME Setup.
3. Verify that the environment variable PS_compile_apps is *not* set, as follows:

   ```
   set PS_compile_apps=
   ```

Important! Unsetting this environment variable is required for individual file compilation with CBLMAKE.BAT for PeopleSoft PeopleTools files.

---

4. Make sure the compile directory, <*compile directory*>, exists, and that you have write permission to it.

This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.

5. Change to the *PS_HOME*\setup directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_HOME* directory to the compile directory:

   ```
   cblsrc <source directory>    <compile directory>
   ```

   where <*source directory*> is the drive and directory where the source resides (it should be the same as *PS_HOME*), and <*compile directory*> is the drive and directory to which the source files will be copied.

   For example, the following command will take the COBOL source from *PS_HOME* and copy all the necessary files to the location where the compile process will take place, c:\temp\PTcompile in this example:

   ```
   cblsrc %PS_HOME% c:\temp\PTcompile
   ```

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

   For example, to compile a file named PTPDBTST, run this command:

   ```
   cblmake PTPDBTST
   ```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate <*PS_HOME*>\CBLBIN<*X*> directory (CBLBINA for ANSI or CBLBINU for Unicode).

   These examples use the ANSI encoding:

   ```
   copy *.exe %PS_HOME%\cblbina
   copy *.gnt %PS_HOME%\cblbina
   copy *.int %PS_HOME%\cblbina
   ```

   Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (CBLINTS.DLL, CBLRTSM.DLL, CBLRTSS.DLL, CBLVIOM.DLL, CBLVIOS.DLL, COB32API.dll, MFLANGDF.lbr) are present in the <*PS_HOME*>\CBLBIN<*X*> directory.

    If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

    ```
    cblrtcpy %PS_HOME%\cblbina
    ```

Note. If you plan to use cblmake.bat to compile a single (or a set) of PeopleSoft PeopleTools or PeopleSoft Application COBOL program at the same time, it would be a good idea to use two different command prompts and two different compile directories—one for PeopleSoft PeopleTools COBOL programs and the other for the PeopleSoft Application COBOL programs. This avoids setting and unsetting the PS_compile_apps environment variable.

Task 11A-4-3: Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup

This section discusses:

- Prerequisites
- Compiling with CBLBLD.BAT with a PS_CUST_HOME Setup

- Compiling with CBLMAKE.BAT with a PS_CUST_HOME Setup

Prerequisites

This section assumes that you installed PeopleSoft application software to a *PS_APP_HOME* directory that is different from the *PS_HOME* directory where you installed PeopleSoft PeopleTools. It also assumes that you have set up a PS_CUST_HOME environment variable for customized COBOL source files.

Compiling with CBLBLD.BAT with a PS_CUST_HOME Setup

The usage for running CBLBLD.BAT is:

```
cblbld <compile drive>  <compile directory> [BUILD_option] [BUILD_home]
```

Substitute the appropriate values as follows:

- <compile drive>

  Enter the drive letter for the drive containing the directory where the compile takes place.
- <compile directory>

  Enter the directory where the compile takes place. Be sure to include a space between <compile drive> and <compile directory>.
- BUILD_option

  The allowed values are nothing (blank), ASCII or Unicode.

  BUILD_option refers to the encoding scheme of your PeopleSoft installation. This parameter is optional.
- BUILD_home

  The allowed values are nothing (blank), PS_HOME, PS_APP_HOME, or PS_CUST_HOME.

  Note. The values PS_HOME, PS_APP_HOME, and PS_CUST_HOME are case-insensitive.

  BUILD_home refers to the directory from which the COBOL source files will be compiled.

  This parameter is optional.

  - If the option is PS_HOME, the COBOL source files placed under %PS_HOME%\src\cbl will be compiled.
  - If the option is PS_APP_HOME, the COBOL source files placed under %PS_APP_HOME%\src\cbl will be compiled.
  - If the option is PS_CUST_HOME, the COBOL source files placed under %PS_CUST_HOME%\src\cbl will be compiled.
  - If the option is blank, the COBOL source files under %PS_HOME%\src\cbl, under %PS_APP_HOME%\src\cbl (if PS_APP_HOME is different from PS_HOME), and under %PS_CUST_HOME%\src\cbl will be compiled one after the other.

To compile COBOL sources on Microsoft Windows:

1. In a command prompt, set the environment variables described in this table:

Environment Variable	Purpose
PS_HOME	PeopleSoft PeopleTools home directory—that is, the drive letter and high-level directory where you installed PeopleSoft PeopleTools.
PS_APP_HOME (if different from PS_HOME)	PeopleSoft Application home directory—that is, the drive letter and high-level directory where you installed the PeopleSoft Application software.
PS_CUST_HOME	PeopleSoft Application customized home directory—that is, the drive letter and high-level directory containing your customized PeopleSoft COBOL programs.
COBROOT	Drive letter and root directory of the COBOL compiler.

For example:

```
set PS_HOME=C:\PTcompile
set COBROOT="C:\Program Files\Micro Focus\Net Express 5.1\base"
set PS_CUST_HOME=C:\CUSTcompile

set PS_APP_HOME=C:\HRcompile
```

2. Change directory to *PS_HOME*\setup:

```
cd %PS_HOME%\setup
```

3. Run CBLBLD.BAT, using one of these methods:

- To compile all the COBOL source files under your PeopleSoft application, that is, all PeopleSoft PeopleTools source files, all PeopleSoft Application source files, and all customized PeopleSoft source files, run this command:

  ```
  cblbld <compile drive> <compile directory>
  ```

  For example:

  ```
  cblbld c: \temp\PTcompile
  ```

- To compile only PeopleSoft PeopleTools and PeopleSoft Application COBOL source files, run this command:

  ```
  cblbld <compile drive> <compile directory> PS_HOME
  ```

  For example:

  ```
  cblbld c: \temp\PTcompile PS_HOME
  ```

- To compile only customized PeopleSoft Application or PeopleSoft PeopleTools COBOL source files, run this command:

  ```
  cblbld <compile drive> <compile directory> PS_CUST_HOME
  ```

  For example:

  ```
  cblbld c: \temp\CUSTcompile PS_CUST_HOME
  ```

Delivered (that is, non-customized) PeopleSoft PeopleTools and PeopleSoft Application COBOL compiled executables will be placed under the <*PS_HOME*>\CBLBIN<*X*> directory. Customized PeopleSoft Application or PeopleSoft PeopleTools COBOL compiled executables will be placed under the <*PS_CUST_HOME*>\CBLBIN<*X*> directory. CBLBIN<X> will be one of the following:

- CBLBINA if you are using ANSI encoding scheme
- CBLBINU if you are using Unicode encoding scheme

Compiling with CBLMAKE.BAT with a PS_CUST_HOME Setup

CBLBLD.BAT compiles all your COBOL source files at once, which can take a lot of time. CBLMAKE.BAT, in contrast, lets you employ one or more parameters to compile a specific COBOL source file or a selected group of COBOL files. The procedure is slightly different depending upon whether the file that you want to compile is a PeopleSoft Application, PeopleSoft PeopleTools, or customized COBOL source file. Both procedures are covered in this section.

Note. The options for CBLMAKE.BAT are defined in a table in the previous section Compiling with CBLMAKE.BAT with a *PS_HOME* Setup.

To compile a customized COBOL file with CBLMAKE.BAT:

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, PS_APP_HOME (if not the same as PS_HOME), and PS_CUST_HOME environment variables are set, as previously defined.

   See Compiling with CBLBLD.BAT with a PS_CUST_HOME Setup.
3. Verify that the environment variable PS_compile_cust is set, as follows:

   ```
   set PS_compile_cust=Y
   ```

   Important! This variable setting is required for individual file compilation with CBLMAKE.BAT.

   ---
4. Ensure that the compile directory, <*compile directory*>, exists, and that you have write permission to it.

   This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME*\setup directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_CUST_HOME* directory to the compile directory:

   ```
   cblsrc <source directory>    <compile directory>
   ```

   Here <*source directory*> is the drive and directory where the source resides (it should be the same as *PS_CUST_HOME*), and <*compile directory*> is the drive and directory to which the source files will be copied.

   For example, the following command will take the COBOL source files from *PS_CUST_HOME* and copy all the necessary files to the location where the compile process will take place, c:\temp\CUSTcompile in this example:

   ```
   cblsrc %PS_CUST_HOME% c:\temp\CUSTcompile
   ```

Note. The compile in the next step will generate a GNT file unless the exception file, CBLINT.*XX* already exists (the *XX* represents the Product ID). CBLINT.*XX* contains the list of files that need to be compiled to the INT file. Make sure the intended CBLINT.*XX* is located under <*compile directory*> before executing CBLMAKE.

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

   For example, to compile a file named GPPDPRUN, run this command:

   ```
   cblmake GPPDPRUN
   ```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate <*PS_CUST_HOME*>\CBLBIN<*X*> directory (CBLBINA for ANSI or CBLBINU for Unicode).

   These examples use the ANSI encoding:

   ```
   copy *.exe %PS_CUST_HOME%\cblbina
   copy *.gnt %PS_CUST_HOME%\cblbina
   copy *.int %PS_CUST_HOME%\cblbina
   ```

   Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (CBLINTS.DLL, CBLRTSM.DLL, CBLRTSS.DLL, CBLVIOM.DLL, CBLVIOS.DLL, COB32API.DLL, MFLANGDF.lbr) are present in the <*PS_CUST_HOME*>\CBLBIN<*X*> directory.

    If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

    ```
    cblrtcpy %PS_CUST_HOME%\cblbina
    ```

The procedure to compile a PeopleSoft PeopleTools COBOL file with CBLMAKE.BAT is similar, but the environment variable PS_compile_cust must *not* be set.

1. Open a command prompt window.
2. Verify that the PS_HOME, COBROOT, and PS_APP_HOME environment variables are set, as previously defined.

   See Compiling with CBLBLD.BAT with a PS_APP_HOME Setup.
3. Verify that the environment variable PS_compile_cust is *not* set, as follows:

   ```
   set PS_compile_cust=
   ```

   Important! Unsetting this environment variable is required for individual file compilation with CBLMAKE.BAT for PeopleSoft PeopleTools files.

4. Make sure the compile directory, <*compile directory*>, exists, and that you have write permission to it.

   This directory may already exist if you have run CBLBLD.BAT before. If it does exist, remove any files residing there—just as a safeguard. If it does not exist, you need to create it.
5. Change to the *PS_HOME*\setup directory.
6. If the installation is Unicode, run CBL2UNI (with no parameters).
7. Execute the following command to copy all the COBOL source files from the *PS_HOME* directory to the compile directory:

```
cblsrc <source directory>    <compile directory>
```

Here <*source directory*> is the drive and directory where the source resides (it should be the same as *PS_HOME*), and <*compile directory*> is the drive and directory to which the source files will be copied.

For example, the following command will take the COBOL source from *PS_HOME* and copy all the necessary files to the location where the compile process will take place, c:\temp\PTcompile in this example:

```
cblsrc %PS_HOME% c:\temp\PTcompile
```

8. After CBLSRC completes, change directories to the compile directory, and run CBLMAKE.BAT, using the basic syntax as well as the CBLMAKE table shown earlier as your guide.

   For example, to compile a file named PTPDBTST, run this command:

   ```
   cblmake PTPDBTST
   ```

9. After CBLMAKE.BAT completes, copy the EXE, GNT, or INT files to the appropriate <*PS_HOME*>\CBLBIN<*X*> directory (CBLBINA for ANSI or CBLBINU for Unicode).

   These examples use the ANSI encoding:

   ```
   copy *.exe %PS_HOME%\cblbina
   copy *.gnt %PS_HOME%\cblbina
   copy *.int %PS_HOME%\cblbina
   ```

   Note. You have to copy these files to the appropriate cblbin directory manually when you use CBLMAKE; they are not copied automatically, as when you use CBLBLD.

10. Verify that the compiler runtime files (CBLINTS.DLL, CBLRTSM.DLL, CBLRTSS.DLL, CBLVIOM.DLL, CBLVIOS.DLL, COB32API.DLL, MFLANGDF.lbr) are present in the <*PS_HOME*>\CBLBIN<*X*> directory.

    If they are not present, then you will have to run %PS_HOME%\setup\cblrtcpy.bat as follows:

    ```
    cblrtcpy %PS_HOME%\cblbina
    ```

Note. If you plan to use cblmake.bat to compile a single (or a set) of PeopleSoft PeopleTools or PeopleSoft Application COBOL program at the same time, it would be a good idea to use two different command prompts and two different compile directories—one for PeopleSoft PeopleTools COBOL programs and the other for the PeopleSoft Application COBOL programs. This avoids setting and unsetting the PS_compile_cust environment variable.

Task 11A-4-4: Recompiling COBOL on Microsoft Windows

You always need to compile at installation, so you will only need to recompile COBOL in the following situations:

- You are installing PeopleSoft software for the first time.
- The supported COBOL compiler changes.
- You change the version of your RDBMS.
- You change the version of your operating system.
- You apply a PeopleSoft PeopleTools upgrade, patch, or fix.

You can recompile selected COBOL files by using CBLMAKE.BAT, or recompile all your COBOL source files by using CBLBLD.BAT.

Note. If you want to recompile all your COBOL, you can follow the appropriate procedure for compiling COBOL, as described earlier.

See Compiling COBOL on Microsoft Windows with a PS_HOME Setup, Compiling COBOL on Microsoft Windows with a PS_APP_HOME Setup, or Compiling COBOL on Microsoft Windows with a PS_CUST_HOME Setup.

Task 11A-4-5: Setting Up the Micro Focus Net Express Runtime

This section discusses:

- Understanding the Micro Focus Net Express Runtime
- Installing the Runtime Files and Setting Up the License
- Removing the Runtime License
- Troubleshooting

Understanding the Micro Focus Net Express Runtime

The Micro Focus Net Express 5.1 Runtime provides the COBOL runtime environment required for COBOL programs to run. Install and license the runtime on each system that will run PeopleSoft COBOL applications. Typically, PeopleSoft COBOL application programs are run on PeopleSoft application server systems and PeopleSoft batch (Process Scheduler) systems.

The Micro Focus Net Express 5.1 Runtime consists of the following components:

- Six DLLs
  - CBLINTS.DLL
  - CBLRTSM.DLL
  - CBLRTSS.DLL
  - CBLVIOM.DLL
  - CBLVIOS.DLL
  - COB32API.DLL
- A Microsoft Windows registry entry for ASLMF

  For 64-bit Microsoft Windows systems, the entry is:

  HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\MICRO FOCUS\ASLMF
- The directory that contains the runtime license database, C:\psft-mf-nx-as-license, which contains the following files:
  - mfasdb
  - prodfile
  - semfile
- The Application Server License Manager Service

The Micro Focus Net Express 5.1 Runtime DLLs installation is done automatically as part of the COBOL compilation process. When CBLBLD.bat is run, it invokes CBLRTCPY.bat to copy the COBOL runtime DLLs listed above, from the %COBROOT%\bin directory to %PS_HOME%\CBLBIN*x* directory.

CBLBIN*x* is CBLBINA, CBLBINE or CBLBINU, based on the compilation mode of ASCII, EBCDIC or Unicode respectively.

If you have already set up the Micro Focus Net Express COBOL compiler on a system, there is no explicit installation necessary for the runtime. For those systems where you only want to run COBOL, but have no need to compile it, use the following instructions in the section Installing the Runtime Files and Setting Up the License.

Installing the Runtime Files and Setting Up the License

The license files are included with the files that you downloaded from Oracle Software Delivery Cloud. The Micro Focus Net Express 5.1 Wrap Pack 14 Runtime Licensing files are contained in the self-extracting zip file, MFLicense_51WP14.exe. This executable provides the COBOL runtime system with unlimited runtime Net Express licenses specifically for PeopleSoft installations.

Always use the runtime files created for the version of the compiler that you used in compiling the COBOL files. For example, use the MFLicense_51WP14.exe runtime license file for the Micro Focus Net Express 5.1 Wrap Pack 14 compiler.

This section assumes that:

- You installed and compiled the PeopleSoft COBOL application files on the runtime system.
- You saved the files from Oracle Software Delivery Cloud in a directory referred to as *NE_INSTALL*.

To set up the runtime license:

1. Set the environment variable PS_HOME to the directory where your PeopleSoft software is installed.

   For example, use this command in a command prompt window:

   ```
   set PS_HOME=C:\HR92
   ```

2. Delete the following Microsoft Windows registry entry if it exists:

   \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF
3. Delete the directory C:\psft-mf-nx-as-license if it exists.
4. Go to *NE_INSTALL*, and run the self-extracting zip file MFLicense_51WP14.exe.
5. Specify the directory to save the files, for example C:\MFLicense-Extract-51WP14.
6. Change directory to C:\MFLicense-Extract-51WP14 and run the script setupMF.bat.

   This script makes the following changes:

   - Installs the Micro Focus Net Express Application Server License Database.
   - Creates the Microsoft Windows registry entry \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF, which point to the directory c:\psft-mf-nx-as-license.
   - Adds the files mfasdb, prodfile, and semfile to the directory C:\psft-mf-nx-as-license.
7. Run the command MFLMWin with the option to install, as follows:

   ```
   MFLMWin.exe -i
   ```

8. To verify that the Micro Focus license manager was installed, run Microsoft Windows Services.

   For example, run the following command in the command prompt window:

   ```
   services.msc
   ```

   You should see the service Micro Focus License Manager with status Started, and the Startup type should be Automatic.

Removing the Runtime License

To uninstall the runtime license:

- Delete the Microsoft Windows registry key:

  \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Micro Focus\ASLMF
- Delete the C:\psft-mf-nx-as-license directory and its contents.

Troubleshooting

If you install the Micro Focus Net Express 5.1 Runtime License on a system where the Micro Focus Net Express 5.1 compiler is already installed, you see an error message that mentions that Runtime DLL CBLRRSS is not found. Use one of the following solutions:

- If the system where you are installing the license will be used only for running COBOL programs, but not compiling, remove the Micro Focus Net Express 5.1 COBOL compiler installation, and then re-install the Micro Focus Net Express 5.1 Runtime License.
- If the system where you are installing the license will be used for both compiling and running COBOL programs, just ignore the error message. The Net Micro Focus Express 5.1 COBOL compiler is already installed, and has an embedded runtime, which will be used to execute the COBOL programs. Thus there is no need to install and license the Micro Focus Net Express 5.1 Runtime.

If you see an error "ASLM: Errno 1000" it means the runtime license is not installed. Use the instructions in the earlier section to install the license.

See Installing the Runtime Files and Setting Up the License.

Task 11A-4-6: Defining the GNT and INT Files

By default, the compile generates a GNT file unless the exception file, CBLINT.*XX* already exists. CBLINT.*XX* contains the list of files that need to be compiled to the INT file.

Note. The INT exception file is sometimes needed to overcome Micro Focus execution error with GNT files.

For example, the exception file, CBLINT.PT, where *PT* represents PeopleTools, would contain the following information:

```
Call cblcrint <file name without file extension>
```

or:

```
Call cblcprint PTPDBTST
```

Task 11A-4-7: Distributing COBOL Binaries

After you have compiled your COBOL, you must transfer it to the needed locations. The required action depends upon how you set up *PS_HOME, PS_APP_HOME,* and *PS_CUST_HOME.*

- *PS_HOME* Setup

  If the *PS_APP_HOME* location is the same as the *PS_HOME* location:

  Copy the contents of <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.

- *PS_APP_HOME* Setup

  If the *PS_APP_HOME* location is different than the *PS_HOME* location:

  1. Copy the contents of <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.
  2. Copy the contents of <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.

- *PS_CUST_HOME* Setup

  If you have customized files in *PS_CUST_HOME*:

  1. Copy the contents of <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.
  2. If *PS_APP_HOME* is different from *PS_HOME*, copy the contents of <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_APP_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.
  3. Copy the contents of <*PS_CUST_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) directory into <*PS_CUST_HOME*>\CBLBIN<*X*> (CBLBINA or CBLBINU) on your batch and application server machines.

Chapter 11B

Installing and Compiling COBOL on UNIX

This chapter discusses:

- Understanding COBOL
- Prerequisites
- Preparing COBOL for a PeopleTools-only Upgrade
- Installing Micro Focus Server Express for UNIX
- Using the Micro Focus COBOL Compiler on UNIX
- Installing IBM COBOL on IBM AIX
- Using the IBM COBOL Compiler on IBM AIX

Understanding COBOL

This chapter describes how to compile and link PeopleSoft COBOL batch programs, if necessary.

COBOL is not needed for PeopleSoft PeopleTools because the Process Scheduler is written in C++. In addition, COBOL is not required for PeopleSoft applications that contain no COBOL programs. See My Oracle Support for the details on whether your application requires COBOL.

The chapter includes instructions for Micro Focus Net Express COBOL compiler, sometimes referred to here as "Micro Focus COBOL", and the IBM COBOL compiler for IBM AIX, sometimes referred to here as "IBM COBOL."

See Also

"Preparing for Installation," Installing Supporting Applications

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, (search for the article name)

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler, My Oracle Support, (search for the article name)

PeopleTools Certifications - Suggested Fixes COBOL, My Oracle Support, (search for the article name and select the current release)

PeopleTools: Global Technology, "Understanding COBOL in a Unicode Environment"

Prerequisites

Before you attempt to run COBOL from the command line you should make sure the variable PS_SERVER_CFG points to a valid psprcs.cfg file.

Task 11B-1: Preparing COBOL for a PeopleTools-only Upgrade

When performing a PeopleTools-only upgrade, if you have COBOL modules, you must recompile all COBOL.

For Micro Focus Server Express COBOL, recompile and relink all COBOL programs for PeopleSoft PeopleTools and PeopleSoft applications, as described in a later section.

See Using the Micro Focus COBOL Compiler on UNIX.

Task 11B-2: Installing Micro Focus Server Express for UNIX

This section discusses:

- Understanding Micro Focus Server Express
- Prerequisites
- Obtaining the Installation Files for Micro Focus Server Express from Oracle Software Delivery Cloud
- Installing Micro Focus Server Express

Understanding Micro Focus Server Express

Micro Focus® Server Express™ 5.1 Wrap Pack 14 is the supported COBOL compiler on UNIX operating system platforms for the current PeopleSoft PeopleTools release. This section provides installation instructions for Micro Focus Server Express 5.1 Wrap Pack 14 COBOL compiler and the License Management Facility used to manage product licenses. These instructions are specifically for installing the Server Express COBOL compiler to use with PeopleSoft software. For more general installation instructions or other supporting documentation concerning Server Express, consult the documentation that comes with the installation software.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is sometimes used to refer to all UNIX-like operating systems, including IBM AIX, Linux, HP-UX, and Oracle Solaris for SPARC. For the most up-to-date information on operating system support for your database platform, see the Certification information on My Oracle Support.

Note that Oracle is the exclusive reseller of the Micro Focus COBOL compiler for use with PeopleSoft applications.

See Also

PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1

Micro Focus web site: http://supportline.microfocus.com/

Server Express Documentation

Using the Micro Focus COBOL Compiler on UNIX

Prerequisites

You must install the Micro Focus Server Express COBOL compiler on any machine that will compile, execute, or run COBOL programs. The Micro Focus Server Express COBOL compiler includes an embedded runtime system. You can compile COBOL programs on those servers for which you have licenses, and copy the compiled programs to other servers, but to run the compiled programs, you must also install the compiler with the runtime system.

In addition, in order to execute COBOL programs that are created using a Server Express product and deployed in a UNIX environment, the Server Express compiler with the embedded runtime system, must be installed on the target runtime system, and the "Micro Focus Application Server runtime license" must also be installed on the target runtime system.

For information on obtaining licenses for Micro Focus COBOL compilers, see:

- The documentation included with the software on Oracle Software Delivery Cloud.
  - The Micro Focus Server Express Extras Install Documentation for PeopleSoft and Runtime Licenses, includes information on how to add development, Application Server, and unlimited license patch (ULP) licenses
  - The Micro Focus COBOL for PeopleSoft Quick Reference Guide summarizes the delivered software and licensing requirements.
- PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers, My Oracle Support, Doc ID 747059.1.

If you have a previous Micro Focus COBOL product installed we recommend that you make a backup of any COBOL systems files that you have changed. Examples include cobkeymp, ADISCTRL, cobopt and cobconfig. After you have installed Server Express you might want to apply to the new COBOL product the changes previously applied to these files.

If you want to maintain more than one COBOL installation, Oracle recommends that you do not install one version over another. Instead, use one of these suggested methods:

- Remove (uninstall) the existing version before installing the new version
- Leave the existing version in its current directory (do not move it) and install the new version in its own, different directory.

If you have installed, or plan to install, Micro Focus Application Server or any other Micro Focus product on the same machine as this product, you must install them in different directories.

This Micro Focus product is managed by a License Management Facility (LMF). This facility helps you keep track of the number of licenses you have for the product. In order to use this product it is necessary for you to install the License Management Facility (which is provided with the Server Express software). This software should not be installed in the same directory as Server Express. The default directory depends upon the operating system; for example:

- /opt/lib/mflmf for HP-UX Itanium
- /usr/lib/mflmf for RS/6000 and PowerPC systems running AIX
- /opt/lib/mflmf on other systems

If /opt/lib does not exist, use /usr/lib/mflmf instead.

Task 11B-2-1: Obtaining the Installation Files for Micro Focus Server Express from Oracle Software Delivery Cloud

The Micro Focus Server Express installation files are available on Oracle Software Delivery Cloud. At this point you should have already downloaded the necessary files. This section includes additional information on finding and using the files for Micro Focus Server Express if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

To obtain the files for the Micro Focus Server Express installation:

1. Log in to Oracle Software Delivery Cloud at https://edelivery.oracle.com.
2. Enter Micro Focus in the type-ahead Product field, and select Micro Focus International Ltd. Server Express COBOL for UNIX from the drop-down list.
3. Click Select Platform, select the operating system you are running on, and then click Select.
4. Click Continue.
5. Click Continue.
6. Read the license agreement, select the check box to acknowledge that you accept the terms, and then click Continue.
7. Click one of the file names to download an individual zip file, or click Download All to obtain all of the files listed.

   The files include software, wrap packs, and documentation. Save the zip files to a temporary directory on your local system. You must extract (unzip) the file on the platform for which it is intended. For example, if you download the zip file for Oracle Solaris, you must unzip it on Oracle Solaris to avoid problems. If you unzip the file to a staging directory on a Microsoft Windows computer and copy the staging directory to an Oracle Solaris computer, the stage area files may be corrupt.

Task 11B-2-2: Installing Micro Focus Server Express

The following section is provided as an example installation and illustrates a typical Micro Focus Server Express 5.1 Wrap Pack 14 installation for PeopleSoft application, as outlined in the overview section above.

The answers to the prompts provided in the following example are recommended by Oracle for PeopleSoft installations, with the exception of the installation directory for the Micro Focus License Management Facility. For this step, you can use the default directory names or choose directory names based on your site's naming conventions.

It is recommended by Micro Focus and Oracle to install LMF in its own directory, instead of in a sub-directory of the Server Express install.

Important! Make sure to specify the *correct* bit mode for your UNIX platform. Enter *64* for all UNIX platforms.

The following example was done on a Red Hat Linux x86-64 operating system platform. Installation prompts will vary slightly with respect to specifics of the different UNIX platforms.

1. Log in as root.
2. Create a directory (if it does not exist) where you want to install the Micro Focus Server Express 5.1 Wrap Pack 14. For example:

   ```
   $ mkdir -p /products/mf/svrexp-5.1_wp14-64bit
   ```

3. Change directory to the one you created in the previous step.

```
$ cd /products/mf/svrexp-5.1_wp14-64bit
```

4. Copy or ftp the Micro Focus Server Express 5.1 Wrap Pack 14 tar file that you obtained from Oracle Software Delivery Cloud to this directory.

   In this example, the file name is sx51_wp14_redhat_x86_64_dev.tar.

5. List the items in the directory with the following command:

```
$ ls -l /products/mf/svrexp-5.1_wp14-64bit
total 409600
-rwxr-xr-x   1 root   root      209295360 Feb 03 19:23 sx51_wp14_redhat_⇒
x86_64_dev.tar
```

6. Extract the tar file:

```
$ tar -xvf sx51_wp14_redhat_x86_64_dev.tar
```

7. List the items in the directory with the following command:

```
$ ls
ADISCTRL  bin     demo    dialog  dynload    es          etc     ⇒
 install  lib  snmp  sx51_ws6_redhat_x86_64_dev.tar  xdb aslmf    ⇒
 cpylib  deploy  docs    dynload64  eslmf-mess  include  lang     lmf ⇒
 src   terminfo
```

8. To begin the installation, type:

```
$sh ./install
```

9. Read the text and follow the instructions to review the readme.txt file:

```
This script will install Micro Focus Server Express 5.1 on this⇒
 computer.

The readme.txt file included in this delivery contains details of new⇒
 features, enhancements and any restrictions of which you should be⇒
 aware. This file is located in :

 /products/mf/svrexp-5.1_wp14-64bit/docs

We strongly recommend you read this file once the installation is⇒
 complete.

Do you wish to continue (y/n): y
```

10. Read the following License Agreement and type *y* (yes) to accept it:

```
Before installing and using this software product you must agree to be⇒
 bound by the terms and conditions of the end user license agreement ⇒
("License Agreement") which accompanies this product. Please take⇒
 this time to read the License Agreement. If you are not in agreement⇒
 with the terms and conditions of the License Agreement, please return⇒
 the product to your Account Representative and your money will be⇒
 refunded.  If you require a replacement copy of the License Agreement,⇒
 please contact your Account Representative before proceeding with the⇒
```

```
 install process.
Do you agree to the terms of the License Agreement? (y/n): y
```

11. If you are installing on an operating system platform that Micro Focus has not built the product on, you see the following message. Type *y* (yes) at the prompt:

```
                 Micro Focus Install

This product was not built or tested on this version of the Operating⇒
 System.
This product was built on Operating System:
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
Red Hat Enterprise Linux Server release 5.9 (Tikanga)
and you are installing it on Operating System:
Linux 3.8.13-16.2.1.el6uek.x86_64
Any product issues you report will only be corrected if they can be⇒
 reproduced on one of our systems running:
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
Red Hat Enterprise Linux Server release 5.9 (Tikanga)
OracleServer 3.8.13-35.3.5.el6uek.x86_64 x86_64
Red Hat Enterprise Linux Server release 6.5 (Santiago)
RedHatEnterpriseServer 2.6.18-398.el5 x86_64
Red Hat Enterprise Linux Server release 5.11 (Tikanga)
RedHatEnterpriseServer 2.6.32-504.el6.x86_64 x86_64
Red Hat Enterprise Linux Server release 6.6 (Santiago)

Please confirm that you want to continue with this installation (y/n): y
```

12. After reading the following information press ENTER to continue:

```
When you press return you will be shown details of the reference⇒
 environment (and any compatibility environments).

Please press return when you are ready:
```

13. Type *y* (yes) to continue after reading the listing of the reference environment. For the sake of brevity, the text has been truncated, as indicated by [...].

```
This product is certified on the following reference environment:
The command(s) used to gather the information is given following each⇒
 entry.
Operating System
----------------
RedHatEnterpriseServer 2.6.18-348.el5 x86_64
Red Hat Enterprise Linux Server release 5.9 (Tikanga)

lsb_release -si
uname -r
uname -m
cat /etc/redhat-release

C Compiler
----------
cc gcc version 4.1.2 20080704 (Red Hat 4.1.2-54)
```

```
gcc -v 2>&1 | tail -1

C++ Compiler
------------
/usr/bin/g++ gcc version 4.1.2 20080704 (Red Hat 4.1.2-54)

g++ -v 2>&1 | tail -1

Assembler
---------
as GNU assembler version 2.17.50.0.6-20.el5_8.3 (x86_64-redhat-linux)⇒
 using BFD version 2.17.50.0.6-20.el5_8.3 20061020

as -v 2>&1 < /dev/null

Linker
------
ld GNU ld version 2.17.50.0.6-20.el5_8.3 20061020

ld -V 2>&1 | head -1

Supported versions of Java
--------------------------
Java version = 1.6.0_15
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = amd64
Java OS version = 2.6.18-348.el5

Java version = 1.6.0_15
Java vendor = Sun Microsystems Inc.

Java OS name = Linux
Java OS arch = amd64
Java OS version = 2.6.18-348.el5

Java version = 1.7.0_05
Java vendor = Oracle Corporation
Java OS name = Linux
Java OS arch = i386
Java OS version = 2.6.18-348.el5

Java version = 1.7.0_05
Java vendor = Oracle Corporation
Java OS name = Linux
Java OS arch = amd64
Java OS version = 2.6.18-348.el5

$JAVA_HOME/bin/java -classpath $COBDIR/lib  WhatJava

Unicode
-------
Unicode mapping tables must be installed for J2EE and Web Services to
```

```
function correctly. These tables are required for converting between
any combination of UTF-16/UCS-2, UTF-8 and other installed locales.

[...]

Please confirm your understanding of the above reference environment⇒
 details (y/n): y
If you require this support, you will need to install the TCP/IP⇒
 Development System libraries prior to installation of your COBOL⇒
 system.
```

14. Answer *n* (no) to the following prompt:

```
Do you want to make use of COBOL and Java working together? (y/n): n
Skipping Java setup
Should you want to use Java with COBOL later on as super user, run the⇒
 command /products/mf/svrexp-5.1_wp14-64bit/bin/java_setup to select⇒
 the version of Java you want to use.
```

Note. PeopleSoft COBOL implementations do not require COBOL and Java to work together.

---

15. Answer *y* (yes) to the following prompt concerning the License Management Facility:

```
This product is protected using the Micro Focus License Management⇒
 Facility (LMF). Please refer to the Development System Licensing Guide⇒
 for information relating to the installation of the licensing system⇒
 and licenses.
If you do not have LMF installed or want to upgrade to the latest⇒
 version, we recommend that you install it now.

Would you like to install LMF now? (y/n): y
```

16. At the following prompt, enter the directory name where you want to install License Manager.

Note. Micro Focus and Oracle recommend that you install LMF in its own directory, instead of a sub-directory of the Server Express installation.

```
Enter the directory name where you wish to install License Manager.
(Press Enter for default directory /opt/microfocus/mflmf)
```

/products/mf/mflmf-svrexp-5.1_wp14-64bit

17. Enter *y* (yes) to restrict access to the License Admin System to the superuser account:

```
Do you want only superuser to be able to access the License Admin⇒
 System? (y/n) y
```

18. Enter *y* (yes) to start license manager automatically at boot time:

```
It is recommended that you let license manager autostart at boot time.
Do you want license manager to be automatically started at boot time? ⇒
(y/n) y
LMF installation complete.
```

19. If you want to consult the documentation on how to install licenses, follow the instructions in this prompt:

```
Please consult the Development Licensing Guide for detailed information⇒
 on how to install licenses.

This may be done by running the mflicense tool.
-------------------------------------------------------
To run your applications you need a deployment license installed using⇒
 Apptrack.
See your Deployment Licensing Guide for details.
Installing Apptrack...

Access permissions on directory /var/mfaslmf have changed on this⇒
 release
Write access permission has been removed except for superuser use
Apptrack installation complete
```

20. Enter *64* for the system default bit mode:

```
This product can be used in either 32-bit or 64-bit modes.
Please enter either 32 or 64 to set the system default mode: 64
System default COBMODE has been set to 64.
```

21. Wait for the documentation to be installed:

```
Installing documentation. Please wait...
```

22. Enter *n* (no) at the following prompt:

```
Enterprise Server provides a scalable, managed, and high-performance⇒
 transactional environment for the deployment of COBOL applications and⇒
 services, COBOL/J2EE applications and direct COBOL Web Services.

Your Enterprise Server requires configuration. You can either do it now⇒
 or later. To do it now, you need to know the alphanumeric user ID of⇒
 the Enterprise Server System Administrator.
To do it later, enter the following commands whilst logged in as root:

/products/mf/svrexp-5.1_wp14-64bit/bin/eslminstall
/products/mf/svrexp-5.1_wp14-64bit/bin/casperm

Do you wish to configure Enterprise Server now? (y/n): n
```

23. Review the information concerning setting the COBDIR, LD_LIBRARY_PATH, and PATH environment variables in the concluding prompt:

```
(Remember to set COBDIR to /products/mf/svrexp-5.1_wp14-64bit, include ⇒
/products/mf/svrexp-5.1_wp14-64bit/lib in LD_LIBRARY_PATH, and include ⇒
/products/mf/svrexp-5.1_wp14-64bit/bin on your PATH.)

WARNING: Any executables (whether a Run-Time System or an application)⇒
 must be relinked using this new release. Otherwise, the results of⇒
 running the older executables with this new release are undefined.

Installation completed successfully.
```

```
The COBOL system is ready to use.
```

Task 11B-3: Using the Micro Focus COBOL Compiler on UNIX

This section discusses:

- Understanding COBOL Compilation
- Setting Environment Variables
- Modifying the Liblist64 File (IBM AIX)
- Compiling COBOL on UNIX with a PS_HOME Setup
- Compiling COBOL on UNIX with a PS_APP_HOME Setup
- Compiling COBOL on UNIX with a PS_CUST_HOME Setup
- Linking COBOL
- Recompiling COBOL on UNIX

Understanding COBOL Compilation

On UNIX operating systems platforms, you always need to compile your COBOL programs at installation time. After you set up your application or batch server, perform the steps discussed in this section.

The Micro Focus Server Express COBOL compiler includes an embedded runtime system, so the compiler must be installed on machines that will compile the COBOL programs and also on any machine where COBOL programs are to be executed or run.

You have two options for compiling:

- You can treat one application or batch server as your compile server, compile all your COBOL programs there, and then distribute cblbin from there to all other relevant servers. In this case, you would copy any patches and customizations from your file server to this designated server before carrying out the compile. You would also need to install the Server Express compiler on all servers, in order to have the embedded runtime system present.
- The second option is to compile on all servers. In this situation, all servers would need a COBOL compiler, and you would need to copy any patches and customizations from the file server to all of these servers before carrying out the compile.

Note. You should have read/write access to the directory *PS_HOME/*cblbin to be able to compile the COBOL programs.

Note. To copy a compiled COBOL program from one UNIX server to another, they must be on the same operating system that the compile took place on. For example, if you compile on Oracle Solaris for the Application Server, and the Process Scheduler is on AIX, you cannot copy the compiled program (you will also need to compile on the AIX machine).

The way that you set up your installation environment determines how you compile COBOL. This section includes different procedures for the different installation environments, as follows:

- *PS_HOME Setup*

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is the same as the *PS_HOME* location where you installed PeopleSoft PeopleTools, follow the instructions in the section Compiling COBOL on UNIX with a PS_HOME Setup.

- *PS_APP_HOME Setup*

  As described earlier, for PeopleSoft PeopleTools 8.52 and later, you have the option to install the PeopleSoft Application software to a location outside *PS_HOME*. If the PS_APP_HOME environment variable is defined and is different from PS_HOME, the COBOL build scripts behave differently under certain build options. There are also some new build options under certain environments which would be recognized if PS_APP_HOME is defined.

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is different from the *PS_HOME* location where you installed PeopleSoft PeopleTools, follow the instructions in the section Compiling COBOL on UNIX with a PS_APP_HOME Setup.

- *PS_CUST_HOME Setup*

  For PeopleSoft PeopleTools 8.53 and later, you have the option to place customized COBOL baseline sources into a location referenced by the environment variable PS_CUST_HOME.

  The *PS_CUST_HOME* directory structure must replicate that of *PS_HOME* or *PS_APP_HOME*; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location. If your environment includes customized files in a *PS_CUST_HOME* directory, follow the instructions in the section Compiling COBOL on UNIX with a PS_CUST_HOME Setup.

See Also

"Preparing for Installation," Defining Installation Locations.

Task 11B-3-1: Setting Environment Variables

On your UNIX system, you need to log in and ensure the following environment variables are set appropriately. Alternatively, make sure the following environment variables are set in the *.profile* file in the user's home directory:

- $ORACLE_HOME must point to the correct Oracle installation; for example:

  ```
  ORACLE_HOME=/products/oracle/11.2.0;export ORACLE_HOME
  ```

- $ORACLE_HOME/bin must be added to PATH; for example:

  ```
  PATH=$PATH:$ORACLE_HOME/bin;export PATH
  ```

- $ORACLE_HOME/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform.
- $ORACLE_SID must be set to the correct Oracle instance; for example:

  ```
  ORACLE_SID=hdmo;export ORACLE_SID
  ```

- $COBDIR must be set to the Micro Focus Server Express installation; for example:

  ```
  COBDIR=/products/mf/svrexp-51_wp14;export COBDIR
  ```

- $COBDIR/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform.

  ```
  LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$COBDIR/lib; export LD_LIBRARY_PATH
  LIBPATH=$LIBPATH:$COBDIR/lib; export LIBPATH
  SHLIB_PATH=$SHLIB_PATH:$COBDIR/lib; export SHLIB_PATH
  ```

- $COBDIR/bin must be appended to the PATH; for example:

  ```
  PATH=$PATH:$COBDIR/bin;export PATH
  ```

To set the required PeopleSoft environment variables, source the script psconfig.sh. Enter the following command from the *PS_HOME* directory:

```
. ./psconfig.sh
```

Task 11B-3-2: Modifying the Liblist64 File (IBM AIX)

Understanding Liblist Modifications

If you are compiling COBOL on AIX, modify the liblist64 file as described here. Check My Oracle Support for additional information about modifications that need to be made in the liblist64 file for COBOL.

See My Oracle Support, Certifications.

Modifying the Liblist64 File for AIX

To modify the liblist64 file for AIX:

1. cd to $COBDIR/lib.
2. Add the following line to the liblist file:

   ```
   x:*:s!t:-lC
   ```

The following listing shows where to make the changes (in bold font):

```
#       More emulation of cc (MUST be after MF/user libraries):
x:*:st:-L/usr/lib/threads
x:*:st:-lpthreads
x:*:s!t:-lC                    <=== Add this line
x:*:s:-lc
```

Task 11B-3-3: Compiling COBOL on UNIX with a PS_HOME Setup

This section assumes that you installed the PeopleSoft Application software to a *PS_APP_HOME* directory that is the same as the *PS_HOME* directory where you installed PeopleSoft PeopleTools. It also assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

To compile COBOL on UNIX:

1. If you haven't already done so, download all required patches to your file server, and from there FTP the contents of src\cbl\base and src\cbl\unix over to src/cbl on the relevant application or batch server.

   Note. When you copy patches over from the file server, the files need to have a lowercase cbl extension and an uppercase program name, as in PATCH.cbl.

2. Source the script psconfig.sh from *PS_HOME* to set up environment variables correctly on your application or batch server.

   ```
   . ./psconfig.sh
   ```

3. Change to the *PS_HOME/*setup directory:

   ```
   cd $PS_HOME/setup
   ```

4. To compile all the COBOL source dynamically, issue the command:

   ```
   ./pscbl.mak
   ```

   The dynamic compile creates INT, LST, and GNT files, which are copied to these locations:

File	Location
INT	*PS_HOME/*src/cbl/int
LST	*PS_HOME/*src/cbl/lst
GNT	*PS_HOME/*cblbin

Warning! Proposed ISO 2000 COBOL features are enabled. Please refer to documentation for details, and do not rely on these features being supported in future products from Micro Focus due to changes in the proposed COBOL standard.

Note. For Server Express, PeopleSoft sets the COBOL directive INTLEVEL to 4. Setting this directive to this value enables you to raise the significant digits of numeric fields from 18 to 31. This is in accordance with the ISO 2000 COBOL standard. During the compilation of each program, the vendor of Server Express will display a warning. This should not be considered a compilation error.

Task 11B-3-4: Compiling COBOL on UNIX with a PS_APP_HOME Setup

This section assumes that you installed the PeopleSoft Application software to a *PS_APP_HOME* directory that is different from the *PS_HOME* directory where you installed PeopleSoft PeopleTools. It also assumes that there is no separate *PS_CUST_HOME* directory with customized COBOL source files.

Use the shell script pscbl.mak, found in *PS_HOME/*setup, to do the PeopleSoft COBOL compilation. This table describes the allowed arguments for pscbl.mak:

Command	Description
pscbl.mak	Use this command, with no argument, to compile all the COBOL programs.
pscbl.mak PS_HOME	Use this argument to compile only the PeopleSoft PeopleTools COBOL programs.
pscbl.mak PS_APP_HOME	Use this argument to compile only the PeopleSoft Application COBOL programs.
pscbl.mak <*COBOL_PROGRAM*>	Enter the name for a valid PeopleSoft PeopleTools or PeopleSoft Application COBOL program to compile a specific program.

If you specify any argument other than the ones mentioned above, you will get the following usage display message:

```
echo Correct usage of the program is:
```

```
    echo 1. pscbl.mak
    echo 2. pscbl.mak PS_HOME
    echo 3. pscbl.mak PS_APP_HOME
    echo 4. pscbl.mak PTPDBTST (or any tools/apps program, Note Peoplesoft⇒
 COBOL programs are 6, 7 or 8 characters long)
```

To compile COBOL programs on UNIX:

1. Set PS_HOME environment variable in the UNIX shell prompt from which you want to run the COBOL compile.

   You can run *PS_HOME/*psconfig.sh with the following command to set the PS_HOME environment variable in the shell.

   ```
   cd <PS_HOME>
   . ./psconfig.sh
   ```

   Verify if PS_HOME is set with this command:

   ```
   $ echo $PS_HOME
   $ /home/<user>/PTcompile
   ```

2. Set the PS_APP_HOME environment variable (PS_APP_HOME refers to the location where you have installed the PeopleSoft Application software) with this command:

   ```
   PS_APP_HOME=/home/<user>/HRcompile; export PS_APP_HOME
   ```

3. Run pscbl.mak, using one of these methods:

   - To compile all PeopleSoft COBOL programs, that is, those for PeopleSoft PeopleTools and PeopleSoft Application, run this command:

     ```
     pscbl.mak
     ```

     This will compile the programs that are under *PS_HOME/*src/cbl and *PS_APP_HOME/*src/cbl.
   - To compile only PeopleSoft PeopleTools COBOL programs, run this command:

     ```
     pscbl.mak PS_HOME
     ```

   - To compile only PeopleSoft Application COBOL programs, run this command:

     ```
     pscbl.mak PS_APP_HOME
     ```

   - To compile a single COBOL program, run the command with the COBOL program name excluding the .cbl extension.

     For example, for a PeopleSoft PeopleTools COBOL program PTPDBTST.CBL, or a PeopleSoft Application COBOL program GPPDPRUN.CBL, run:

     ```
     pscbl.mak PTPDBTST
     pscbl.mak GPPDPRUN
     ```

PeopleSoft PeopleTools compiled COBOL programs will be placed under the *PS_HOME*\cblbin directory. PeopleSoft Application compiled COBOL programs will be placed under the *PS_APP_HOME*\cblbin directory.

Task 11B-3-5: Compiling COBOL on UNIX with a PS_CUST_HOME Setup

This section assumes that you have set up a PS_CUST_HOME environment variable for customized COBOL source files.

To compile COBOL programs on UNIX:

1. Set PS_HOME environment variable in the UNIX shell prompt from which you want to run the COBOL compile.

   You can run *PS_HOME/*psconfig.sh with the following command to set the PS_HOME environment variable in the shell:

   ```
   cd <PS_HOME> . ./psconfig.sh
   ```

   Verify if the PS_HOME environment variable is set with this command:

   ```
   $ echo $PS_HOME $ /home/<user>/PTcompile
   ```

2. If *PS_APP_HOME* is different from *PS_HOME*, set the PS_APP_HOME environment variable with this command:

   ```
   PS_APP_HOME=/home/<user>/HRcompile; export PS_APP_HOME
   ```

3. Set the PS_CUST_HOME environment variable with this command:

   ```
   PS_CUST_HOME=/home/<user>/CUSTcompile; export PS_CUST_HOME
   ```

4. To compile all the COBOL source under *PS_CUST_HOME* dynamically, issue the command:

   ```
   ./pscbl.mak PS_CUST_HOME
   ```

PeopleSoft PeopleTools compiled COBOL programs and PeopleSoft Application compiled COBOL programs will be placed under the *PS_CUST_HOME*\cblbin directory.

Task 11B-3-6: Linking COBOL

This section discusses:

- Understanding COBOL Linking
- Linking COBOL Components on UNIX

Understanding COBOL Linking

PSRUN is the PeopleSoft procedure that connects the COBOL batch programs with the RDBMS API. PSRUNRMT is the PeopleSoft procedure that connects the remote COBOL programs with the RDBMS API.

Both PSRUN and PSRUNRMT are compiled uniquely for each platform and consist of modules provided with PeopleSoft software, the RDBMS platform, and the operating system.

You need to create the PSRUN and PSRUNRMT programs in the following situations:

- You are installing PeopleSoft software for the first time.
- Any COBOL programs have changed.
- The version of the RDBMS running the PeopleSoft system has changed.
- The COBOL compiler has changed.
- One of the C programs supplied with the PeopleSoft system has changed.

Note. The PeopleSoft system only supports dynamic linking of COBOL. Static linking is not an option.

Linking COBOL Components on UNIX

To link COBOL components on UNIX:

1. Change to the *PS_HOME/*setup directory:

   ```
   cd $PS_HOME/setup
   ```

2. For dynamic linking, run:

   ```
   ./psrun.mak
   ```

   The PSRUN.MAK script should return the UNIX prompt when done. If the compile completes without errors, the files PSRUN and PSRUNRMT will now exist in the *PS_HOME/*bin directory. If you encounter errors, check *PS_HOME/*setup/psrun.err and *PS_HOME/*setup/psrunrmt.err

If you are running on an Oracle 11.2.0.4 database platform, you may see the following error when you attempt to compile:

"Undefined symbol nzosSCSP_SetCertSelectionParams referenced in file /products/oracle/11.2.0.4.0-64bit/lib/libclntsh.so.11.1"

To resolve this problem:

1. Edit the LD_LIBRARY_PATH environment variable so that $ORACLE_HOME/lib comes before $TUXDIR/lib.
2. Execute psrun.mak again.
3. Reverse the change you made in step 1.

Task 11B-3-7: Recompiling COBOL on UNIX

You always need to compile at installation, so you will only need to recompile COBOL in the following situations:

- You are installing PeopleSoft software for the first time.
- The supported COBOL compiler changes.
- You change the version of your RDBMS.
- You change the version of your operating system.
- You apply a PeopleSoft PeopleTools upgrade, patch, or fix.

Note. Remember, you must always use your file server as the source repository for your COBOL. You should download any patches and apply any customizations to the file server, and disseminate them from there.

You can compile a *single* COBOL program dynamically by using this command syntax:

```
./pscbl.mak <PROGRAM NAME WITHOUT "cbl" EXTENSION>
```

For example, the following command compiles the lone file PTPDBTST.

```
./pscbl.mak PTPDBTST
```

Note. If you want to recompile all your COBOL, you can follow the appropriate procedure as described earlier.

See Compiling COBOL on UNIX with a PS_HOME Setup, Compiling COBOL on UNIX with a PS_APP_HOME Setup, or Compiling COBOL on UNIX with a PS_CUST_HOME Setup.

The compile should run without errors until it completes. After the script is complete, check the destination directories for the newly created files. They should have a length greater than zero as well as a current date and time stamp. You can find the files in the following locations:

- For PS_HOME Setup: *PS_HOME/*src/cbl/int, *PS_HOME/*src/cbl/lst, and *PS_HOME/*cblbin
- For PS_APP_HOME Setup: *PS_APP_HOME/*src/cbl/int, *PS_APP_HOME/*src/cbl/lst, and *PS_APP_HOME/* cblbin
- For PS_CUST_HOME Setup: *PS_CUST_HOME/*src/cbl/int, *PS_CUST_HOME/*src/cbl/lst, and *PS_CUST_HOME/*cblbin

Note. You can also use pscbl.mak PTP*** to compile all source files that start with PTP.

Task 11B-4: Installing IBM COBOL on IBM AIX

This section discusses:

- Understanding the IBM COBOL for AIX Installation
- Prerequisites
- Installing IBM COBOL for AIX v4.1.1.1

Understanding the IBM COBOL for AIX Installation

The IBM COBOL for AIX compiler version 4.1.1.1 is supported for the current PeopleSoft PeopleTools release. This section includes the installation of the IBM COBOL Compiler on IBM AIX.

Prerequisites

To install and use IBM COBOL for AIX 4.1.1.1, you must have the following:

- PeopleSoft PeopleTools

  We recommend that you take the latest available PeopleSoft PeopleTools patch level. You should install PeopleSoft PeopleTools and your PeopleSoft application software before you compile the IBM COBOL for AIX source files.
- IBM COBOL for AIX version 4.1.1.1.

  You must obtain IBM COBOL for AIX compiler from your IBM vendor. Obtain the installation documentation and review the information on system prerequisites and installation methods. The following installation instructions assume that you have the IBM installation files and installation documentation. Review the information on planning your installation, but use the instructions in this document to carry out the installation. Contact your IBM representative to obtain the software.

  See http://www-01.ibm.com/software/awdtools/cobol/aix/

  See http://www-01.ibm.com/software/awdtools/cobol/aix/library/
- The IBM COBOL compiler uses the system temporary space for some steps. Be sure the space is not full before beginning the compilation.

  See Using the IBM COBOL Compiler on IBM AIX, Troubleshooting the IBM COBOL Compiler.
- Documentation for IBM System Prerequisites

  Refer to the "System Prerequisites" section in the IBM Installation guide for COBOL for AIX 4.1, before installing and running the software.

Task 11B-4-1: Installing IBM COBOL for AIX v4.1.1.1

This procedure assumes that you obtained the installation file from your IBM vendor and saved the compressed installation file in a local directory, referred to here as *CBL_INSTALL*. The compressed installation file includes several filesets. All of the filesets listed must be installed. This table lists the filesets for IBM COBOL for AIX compiler v4.1.1.1, and the locations where they will be installed:

Fileset Name	Fileset Description	Installation Locations*	Required Fileset Level
cobol.cmp	IBM COBOL for AIX compiler	/usr/lpp/cobol/ /usr/lpp/cobol/bin/ /usr/lpp/cobol/samples/ /usr/lpp/cobol/include/ /usr/bin/	4.1.1.1
cobol.dbg	IBM COBOL for AIX debugger	/usr/lpp/cobol/lib /usr/lib/	4.1.1.1
cobol.lic	IBM COBOL for AIX license files	/usr/lpp/cobol/lib/	4.1.1.0
cobol.license	IBM COBOL for AIX license	NONE	4.1.1.0
cobol.man	IBM COBOL for AIX compiler manual pages	/usr/share/man/ /usr/lpp/cobol/man/	4.1.1.1
cobol.msg.*LANG*	IBM COBOL for AIX compiler messages	/usr/lpp/cobol/lib/nls/msg/*LANG/* *LANG* = [en_US, ja_JP, Ja_JP]	4.1.1.0
cobol.rte	IBM COBOL for AIX Runtime	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0
cobol.rte.msg.LANG	IBM COBOL for AIX runtime messages	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0
cobol.tools	IBM COBOL for AIX tools	/usr/lpp/cobol/	4.1.1.1

* If more than one location is listed, the fileset is copied into all the locations.

To extract and install:

1. Go to the location where you saved the compressed installation file:

   ```
   cd CBL_INSTALL
   ```

2. Uncompress and unpack the downloaded file with this command:

   ```
   zcat cobol.411.aix.GM.tar.Z | tar -xvf
   Note: The name of the compressed file you downloaded may be different⇒
    than what is mentioned above.
   ```

3. Change directory to *CBL_INSTALL*/usr/sys/inst.images, and use the inutoc command to generate a list of the files in this directory:

   ```
   cd usr/sys/inst.images
   inutoc .
   ```

4. Use the AIX command `installp` to install.

   For information on using the options for `installp`, see the IBM COBOL for AIX documentation. For example:

   - To install all available filesets to the locations specified in the table at the beginning of this procedure, and write an installation log, use this command:

     ```
     installp -aXYgd <CBL_INSTALL>/usr/sys/inst.images -e <LOG_DIR/logfile_⇒
     name> all
     ```

   - To install a specific fileset, and write an installation log, use this command:

     ```
     installp -aXYgd <CBL_INSTALL>/usr/sys/inst.images -e <LOG_DIR/logfile_⇒
     name>  <fileset_name>
     ```

5. Download the required maintenance packs for IBM COBOL 4.1.1.1 from the IBM web site:

   a. Go the IBM Support Fix Central web site: http://www-933.ibm.com/support/fixcentral/

   b. Select the Product Group as Rational, Product as COBOL for AIX, Installed Version as 4.1.1.0 and Platform as AIX. Click Continue.

   c. Select the Browse for fixes radio button. Click Continue.

   d. Select the fix pack 4.1.1.1 or higher. Click Continue.

   e. Download the fix pack using one of the download options available.

6. Install the filesets included in the fix pack using the `installp` command as described above.

   - You must install all the available filesets for 4.1.1.1.
   - For the fileset cobol.msg.*LANG* (where *LANG* = [en_US, ja_JP, Ja_JP]), choose to install only the filesets relevant to your desired language and location.

     Note. The LANG environment variable determines which message catalogs are used. The en_US (English) message catalogs are installed by default. If LANG is not defined or is assigned an unsupported locale, en_US message catalogs are used.

7. Use the lslpp command to check the status of the installed COBOL filesets:

   ```
   lslpp -L cobol*
   ```

Task 11B-5: Using the IBM COBOL Compiler on IBM AIX

This section discusses:

- Setting Environment Variables for IBM COBOL
- Compiling COBOL on AIX with a PS_HOME Setup
- Compiling COBOL on AIX with a PS_APP_HOME Setup
- Compiling COBOL on AIX with a PS_CUST_HOME Setup
- Troubleshooting the IBM COBOL Compiler
- Setting Up the IBM COBOL Runtime
- Removing the IBM COBOL Installation

Setting Environment Variables for IBM COBOL

Before compiling the IBM COBOL for AIX, or before installing the files on machines where the COBOL will be run, you must specify environment variables as described in this section. This procedure assumes that the installation directory for PeopleSoft PeopleTools is *PS_HOME.*

To set the environment variables for IBM COBOL for AIX, go to the PeopleSoft PeopleTools installation directory and source the psconfig.sh script:

```
cd <PS_HOME>
. ./psconfig.sh
```

This section includes different procedures depending upon how you set up your installation environment.

- *PS_HOME Setup*

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is the same as the *PS_HOME* location where you installed the PeopleSoft PeopleTools software, follow the instructions in the section Compiling COBOL on AIX with a PS_HOME Setup.

- *PS_APP_HOME Setup*

  If you installed the PeopleSoft Application software to a *PS_APP_HOME* location that is different from the *PS_HOME* location where you installed the PeopleSoft PeopleTools software, follow the instructions in the section Compiling COBOL on AIX with a PS_APP_HOME Setup.

- *PS_CUST_HOME Setup*

  For PeopleSoft PeopleTools 8.53 and later, you have the option to place customized COBOL baseline sources into a location referenced by the environment variable PS_CUST_HOME.

  The *PS_CUST_HOME* directory structure must replicate that of *PS_HOME* or *PS_APP_HOME*; that is, any COBOL source file that is customized should be placed in the same relative path as was present in the original location. If you set up a *PS_CUST_HOME* directory for your customized COBOL source files, follow the instructions in the section Compiling COBOL on AIX with a PS_CUST_HOME Setup.

See Also

"Preparing for Installation," Defining Installation Locations.

Task 11B-5-1: Compiling COBOL on AIX with a PS_HOME Setup

This section assumes that you have installed the PeopleSoft Application software in the same directory *(PS_APP_HOME)* where you installed the PeopleSoft PeopleTools software *(PS_HOME),* and that you do not have customized COBOL source files in a *PS_CUST_HOME* directory. In addition, this procedure assumes that you have set the environment variables as described in the previous section.

This section is only required for those who need to compile the COBOL sources, not for those who only need to run the compiled COBOL.

To compile the COBOL source files:

1. Change the directory to *PS_HOME/*setup; for example:

   ```
   cd $PS_HOME/setup
   ```

2. Depending on the character encoding type that your installation uses, set the environment variable PS_ENCODING, as specified in this table:

Database Encoding	Command
ANSI	`export PS_ENCODING=ansi`
Unicode	`export PS_ENCODING=unicode`

   Make sure that you are giving the correct value of this environment variable. You will receive errors if the wrong value of this environment variable is specified.

   - If your setup includes the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is Unicode, but you set the value of PS_ENCODING to ansi with the commands above, you will get the following error

     ```
     pscblibm.mak : ERROR : <PS_HOME>/unicode.cfg EXISTs, but INCOMPATIBLE⇒
      encoding of $PS_ENCODING was specified, EXITING!!!
     ```

   - If your setup does not have the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is non-Unicode, but you set the value of PS_ENCODING to unicode, you will get the following error

     ```
     pscblibm.mak : ERROR : <PS_HOME>/setup/unicode.cfg does not EXIST,⇒
      but INCOMPATIBLE encoding of $PS_ENCODING was specified, EXITING!!!
     ```

3. Use this command to compile:

   ```
   ./pscblibm.mak apps
   ```

   The optional parameter *apps* determines the location of the work area where the compilation takes place. The allowed values and compilation location for PeopleSoft product lines are listed in this table:

Product Line	Apps Parameter	Location
PeopleSoft PeopleTools	pt (default)	*PS_HOME*/sdk/cobol/pscblpt/src
Human Capital Management	hcm	*PS_HOME*/sdk/cobol/pscblhrms/src
Financials/Supply Chain Management	fscm	*PS_HOME*/sdk/cobol/pscblfscm/src

The compiled COBOL programs will be placed under <*PS_HOME*>/CBLBIN_IBM<*X*>.

<X> is A for ANSI or U for Unicode.

Note. If you see the following output during the compilation, you can ignore it:

```
Preprocessing COBOL files ls: 0653-341 The file *.cfg does not exist.
Preprocessing the file PSPBASCH.cbl Can't open input file
```

Task 11B-5-2: Compiling COBOL on AIX with a PS_APP_HOME Setup

This section assumes that you have installed the PeopleSoft Application software in a directory *(PS_APP_HOME)* which is different than the PeopleSoft PeopleTools software installation directory *(PS_HOME)* and that you do not have customized COBOL source files in a *PS_CUST_HOME* directory. In addition, this procedure assumes that you have set the environment variables as described earlier.

This section is only required for those who need to compile the COBOL sources, not for those who only need to run the compiled COBOL.

To compile the COBOL source files:

1. Ensure that the directory sdk/cobol/pscbl*apps* is present under *PS_APP_HOME* directory for the application you are trying to compile.

   For example if the installed PeopleSoft Application is Human Capital Management *(apps* = hcm), then the following directory structure should be present and the user must have write access to it:

   sdk/cobol/pscblhcm

2. Set the environment variable for *PS_HOME*, the directory where you installed the PeopleSoft software; for example:

   ```
   PS_HOME = ~/PTcompile; export PS_HOME
   ```

3. Set the environment variable for *PS_APP_HOME*, the directory where you installed the PeopleSoft Application software; for example:

   ```
   PS_APP_HOME = ~/HRcompile; export PS_APP_HOME
   ```

4. Change the directory to *PS_HOME/*setup; for example:

   ```
   cd $PS_HOME/setup
   ```

5. Depending on the character encoding type that your installation uses, set the environment variable PS_ENCODING, as specified in this table:

Database Encoding	Command
ANSI	`export PS_ENCODING=ansi`
Unicode	`export PS_ENCODING=unicode`

Make sure that you are giving the correct value of this environment variable. You will receive errors if the wrong value of this environment variable is specified, as follows:

- If your setup includes the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is Unicode, but you set the value of PS_ENCODING to ansi with the commands above, you will get the following error:

```
pscblibm.mak : ERROR : <PS_HOME>/unicode.cfg EXISTs, but INCOMPATIBLE⇒
 encoding of $PS_ENCODING was specified, EXITING!!!
```

- If your setup does not have the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is non-Unicode, but you set the value of PS_ENCODING to unicode, you will get the following error:

```
pscblibm.mak : ERROR : <PS_HOME>/setup/unicode.cfg does not EXIST,⇒
 but INCOMPATIBLE encoding of $PS_ENCODING was specified, EXITING!!!
```

6. Use this command to compile:

```
./pscblibm.mak apps
```

The optional parameter *apps* determines the location of the work area where the compilation takes place. The allowed values and compilation locations are listed in this table:

Product Line	Apps Parameter	Location
PeopleSoft PeopleTools	pt (default)	*PS_HOME*/sdk/cobol/pscblpt/src
Human Capital Management	hcm	*PS_APP_HOME*/ sdk/cobol/pscblhrms/src
Financials/Supply Chain Management	fscm	*PS_APP_HOME*/ sdk/cobol/pscblfscm/src

The PeopleSoft PeopleTools compiled COBOL programs will be placed under <*PS_HOME*>/CBLBIN_IBM <*X*> and the PeopleSoft Application compiled COBOL programs will be placed under <*PS_APP_HOME*>/ CBLBIN_IBM<*X*>.

<X> is A for ANSI or U for Unicode.

Task 11B-5-3: Compiling COBOL on AIX with a PS_CUST_HOME Setup

This section assumes that you have set up a PS_CUST_HOME environment variable for customized COBOL source files. Furthermore, it assumes that you have set the environment variables as described earlier.

This section is only required for those who need to compile the COBOL sources, not for those who only need to run the compiled COBOL.

1. Ensure that the directory sdk/cobol/pscblapps is present under the *PS_APP_HOME* directory for the application you are trying to compile.

   For example if the installed PeopleSoft Application is Human Capital Management *(apps* = hcm), then the following directory structure should be present and the user must have write access to it:

   sdk/cobol/pscblhcm

2. Set the environment variable for *PS_HOME*, the directory where you installed the PeopleSoft PeopleTools software; for example:

   ```
   PS_HOME = ~/PTcompile; export PS_HOME
   ```

3. If *PS_APP_HOME* is different from *PS_HOME*, set the environment variable for *PS_APP_HOME*, the directory where you installed the PeopleSoft Application software; for example:

   ```
   PS_APP_HOME = ~/HRcompile; export PS_APP_HOME
   ```

4. Set the environment variable for *PS_CUST_HOME*, the directory where you installed the PeopleSoft Application software; for example:

   ```
   PS_CUST_HOME = ~/CUSTcompile; export PS_CUST_HOME
   ```

5. Change the directory to *PS_HOME/*setup; for example:

   ```
   cd $PS_HOME/setup
   ```

6. Depending on the character encoding type that your installation uses, set the environment variable PS_ENCODING, as specified in this table:

Database Encoding	Command
ANSI	`export PS_ENCODING=ansi`
Unicode	`export PS_ENCODING=unicode`

   Make sure that you are giving the correct value of this environment variable. You will receive errors if the wrong value of this environment variable is specified, as follows:

   - If your setup includes the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is Unicode, but you set the value of PS_ENCODING to ansi with the commands above, you will get the following error:

     ```
     pscblibm.mak : ERROR : <PS_HOME>/unicode.cfg EXISTs, but INCOMPATIBLE⇒
      encoding of $PS_ENCODING was specified, EXITING!!!
     ```

   - If your setup does not have the file $PS_HOME/setup/unicode.cfg, indicating that the character encoding for your installation is non-Unicode, but you set the value of PS_ENCODING to unicode, you will get the following error:

     ```
     pscblibm.mak : ERROR : <PS_HOME>/setup/unicode.cfg does not EXIST,⇒
      but INCOMPATIBLE encoding of $PS_ENCODING was specified, EXITING!!!
     ```

   - Use this command to compile:

     ```
     ./pscblibm.mak cust
     ```

The customized PeopleSoft PeopleTools and PeopleSoft Application COBOL programs will be placed under <*PS_CUST_HOME*>/CBLBIN_IBM<*X*>.

<X> is A for ANSI or U for Unicode.

Task 11B-5-4: Troubleshooting the IBM COBOL Compiler

This section discusses:

- Understanding Troubleshooting for the IBM COBOL Compiler
- Reviewing Screen Output from pscblibm.mak
- Reviewing erroribm.lst
- Reviewing the LISTOUT.LST file
- Reviewing COBOL_PROGRAM.LST files
- Reviewing temporary space errors

Understanding Troubleshooting for the IBM COBOL Compiler

You can find the error and list files discussed in this section in the following locations, depending upon your installation setup:

- If *PS_APP_HOME* and *PS_CUST_HOME* are the same as *PS_HOME* or both *PS_APP_HOME* and *PS_CUST_HOME* are undefined, all error and list files mentioned here are placed in directories under *PS_HOME*.
- If *PS_APP_HOME* is different from *PS_HOME*, and you compile PeopleSoft PeopleTools COBOL source files, the error and list files mentioned here are placed in directories under *PS_HOME*.
- If *PS_APP_HOME* is different from *PS_HOME*, and you compile PeopleSoft Application COBOL source files, the error and list files mentioned here are placed in directories under *PS_APP_HOME*.
- If *PS_CUST_HOME* is different from *PS_HOME*, and you compile PeopleSoft Application COBOL source files, the error and list files mentioned here are placed in directories under *PS_CUST_HOME*.

When compiling COBOL programs on AIX using the IBM COBOL compiler, compiler and linker informational messages are reported in the following locations:

- screen output from pscblibm.mak
- erroribm.lst

  PS_HOME/setup/erroribm.lst
- LISTOUT.lst file

  <*PS_HOME*>/sdk/cobol/pscbl<*APPS*>/src/LISTOUT.lst

  <*APPS*> is the PeopleSoft product family, such as hcm.

  See Compiling COBOL on AIX with a PS_HOME Setup
- COBOL_PROGRAM.lst

  <*PS_HOME*>/sdk/cobol/pscbl<*APPS*>/lst/<*COBOL_PROGRAM*>.lst

Initially, either review the screen output or the erroribm.lst file in *PS_HOME/*setup. The erroribm.lst file will contain the names of the programs that failed to compile. You can examine the file LISTOUT.lst to find the COBOL program names listed in erroribm.lst to review the cause of the failures. Then review the *COBOL_PROGRAM*.lst file to analyze the COBOL error in context of the COBOL source code. After you have corrected the compile or linker errors, you can simply start a complete re-compile.

Depending on the relevancy of the failing compiled modules to your project mission, you can decide to resolve all compile and linker errors or continue without the failed modules.

The programs PTPPSRUN and PTPPSRMT must be compiled correctly. If these programs do not compile correctly, none of the COBOL programs will run. These programs are located at *PS_HOME*/src/cbl/ibm/unix.

If these programs fail to compile, you will get the following errors:

```
./pscblibm.mak : Error : Critical program PTPPSRUN did not compile
./pscblibm.mak : Error : This error must be fixed prior to running any⇒
 cobol programs...

./pscblibm.mak : Error : Critical program PTPPSRMT did not compile
./pscblibm.mak : Error : This error must be fixed prior to running any⇒
 cobol programs via RemoteCall
```

Be sure to resolve the errors for these programs before proceeding.

Reviewing Screen Output from pscblibm.mak

The screen output is the first place you should look to determine if there is a compilation or linking error. Errors including the phrase "fail to compile/link" will be displayed at the end of the screen output. For example:

```
./pscblibm.mak: Error : The list of file(s) failed to compile/link.
CEPCROLL fail to compile/link
ENPBTRNS fail to compile/link
ENPMMAIN fail to compile/link
GLPJEDT2 fail to compile/link
SFPCRELS fail to compile/link
SFPREVAL fail to compile/link
./pscblibm.mak : The list of file(s) that failed to compile/link can be⇒
 found at /data1/home/easa/pt854/setup/erroribm.lst
./pscblibm.mak : The compilation log is generated at /data1/home/easa⇒
/pt854/sdk/cobol/pscblpt/src/LISTOUT.lst
./pscblibm.mak : The compile listing of the COBOL programs can be seen at ⇒
/data1/home/easa/pt854/sdk/cobol/pscblpt/lst
```

Reviewing erroribm.lst

The erroribm.lst file is located in the *PS_HOME*/setup directory, and contains a list of the programs that failed to compile. For example:

```
CEPCROLL fail to compile/link
ENPBTRNS fail to compile/link
ENPMMAIN fail to compile/link
GLPJEDT2 fail to compile/link
SFPCRELS fail to compile/link
SFPREVAL fail to compile/link
```

Reviewing the LISTOUT.LST file

The LISTOUT.lst file is located in the <*PS_HOME*>/sdk/cobol/pscbl<*APPS*>/src directory and contains compiler and linker informational, warning and error messages.

For example, the following error is related to program PTPDBTST:

```
exec: /usr/bin/ld -b64 -bpT:0x100000000 -bpD:0x110000000 -bhalt:5 /lib⇒
/crt0_64.o -lg -bexport:/usr/lib/libg.exp -o PTPCURND PTPCURND.o -brtl -bE:⇒
symlist.
exp -lpthreads -ldl -lnsl -L/home/sphilli2/852-803-I1-AIX-ORAU-DEBUG/bin -⇒
lpscompat_ansi -lpssqlapi_ansi -lpsuser_ansi -lpspetssl -lpsora_ansi -⇒
lpscobnet_ansi -L/usr/lpp/cobol/lib -L/usr/lpp/SdU/vsam/lib -L/usr/lpp/Sd⇒
U/sfs/lib -lcob2s -lsmrtlite -lC128 -lC -lc
unlink: PTPCURND.o
exec: /usr/lpp/cobol/bin/IGYCCOB2 -qtest -qdynam -qaddr(64),flag(w),trunc⇒
(bin),arith(extend) -qADDR(64) PTPDBTST.cbl
PP 5724-V62 IBM COBOL for AIX  3.1.0 in progress ...
LineID  Message code  Library phase message text
        IGYLI0090-W   4 sequence errors were found in this program.
Messages    Total    Informational    Warning    Error    Severe   ⇒
 Terminating
Printed:       1                          1
LineID  Message code  Message text
        IGYSC0205-W   Warning message(s) were issued during library phase⇒
 processing.  Refer to the beginning of the listing.
   588  IGYPA3007-S   "ZZ000-SQL-ERROR-ROUTINE" was not defined as a
                      procedure-name.  The statement was discarded.
Messages    Total    Informational    Warning    Error    Severe   ⇒
 Terminating
Printed:       2                          1                  1
Suppressed:    6           6
End of compilation 1,  program PTPDBTST,  highest severity: Severe.
Return code 12
PTPDBTST fail to compile/link
```

Reviewing COBOL_PROGRAM.LST files

The COBOL_PROGRAM.lst files are located in <*PS_HOME*>/sdk/cobol/pscbl<*APPS*>/lst directory and contain the compiler output for a specific program.

For example, a portion of the PTPDBTST.lst file contains this compilation error found for program PTPDBTST, where the ZZ000-SQL-ERROR-ROUTINE was not defined:

```
       588  IGYPA3007-S   "ZZ000-SQL-ERROR-ROUTINE" was not defined as a⇒
 procedure-name.  The statement was discarded.
-Messages    Total    Informational    Warning    Error    Severe   ⇒
 Terminating
0Printed:       2                          1                  1
0Suppressed:    6           6
-* Statistics for COBOL program PTPDBTST:
 *    Source records = 805
 *    Data Division statements = 213
 *    Procedure Division statements = 52
```

Reviewing temporary space errors

IBM COBOL compiler uses the system temporary space to do some steps of the compilation. Like other UNIX processes, the compiler may give errors when the system temporary space is full.

To avoid or correct this problem, clean up the system temporary space on your machine.

Here is a sample of errors seen during compilation, when the system temporary space (/tmp) was full in a development AIX machine:

```
pscblibm.mak : Compiling EGPPRCTL.cbl ...
IGYDS5247-U   An error occurred while attempting to write a compiler work⇒
 file, "SYSUT7".
Compiler aborted with code 1247
IGYSI5258-U   Error removing WCode file.: A file or directory in the path⇒
 name does not exist.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path⇒
 name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer⇒
 to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path⇒
 name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer⇒
 to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path⇒
 name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer⇒
 to an open file.
IGYSI5258-U   Error removing WCode file.: A file or directory in the path⇒
 name does not exist.
IGYSI5259-U   Error closing WCode file.: A file descriptor does not refer⇒
 to an open file.
```

Task 11B-5-5: Setting Up the IBM COBOL Runtime

This section discusses:

- Installing the IBM COBOL for AIX Runtime Files
- Setting Environment Variables for a PS_APP_HOME or PS_CUST_HOME Setup
- Configuring the Application Server Domain
- Configuring the Process Scheduler Domain

Installing the IBM COBOL for AIX Runtime Files

For those machines that only need to run the compiled COBOL files, you must install the runtime filesets for IBM COBOL for AIX. You do not need to install the compiler. You must also configure the PeopleSoft Application Server and Process Scheduler domains.

This procedure assumes that you have downloaded the runtime filesets to *CBL_INSTALL,* and have set the environment variables as described earlier.

See Setting Environment Variables for IBM COBOL.

The runtime filesets will be installed into the locations as specified in this table:

Fileset Name	Fileset Description	Installation Locations	Fileset Level Required
cobol.rte	IBM COBOL for AIX runtime libraries	/usr/lpp/cobol/ /usr/lpp/cobol/lib/ /usr/lib/ /etc/	4.1.1.0
cobol.msg.*LANG*	IBM COBOL for AIX runtime messages *LANG* = [en_US, ja_JP, Ja_JP]	/usr/lib/nls/msg/*LANG*	4.1.1.0

To install the runtime filesets:

1. Use the AIX command `installp` to install these filesets. For example:

   ```
   installp -aYg -d CBL_INSTALL/usr/sys/inst.images cobol.rte cobol.msg.en_⇒
   US
   ```

2. Download the required maintenance packs for IBM COBOL 4.1.1.1 from the IBM support web site.

   http://www-933.ibm.com/support/fixcentral/

3. Install the filesets included in the maintenance packs using the `installp` command as described above.

Setting Environment Variables for a PS_APP_HOME or PS_CUST_HOME Setup

This section applies to those installations in which:

- You have several Application Server or Process Scheduler domains.
- Each of those domains is going to be associated with a particular *PS_APP_HOME* or *PS_CUST_HOME* directory.

In this case it is a good idea to define *PS_APP_HOME* or *PS_CUST_HOME* in *PS_HOME/*psconfig.sh. For example, edit psconfig.sh to add one of these lines:

```
PS_APP_HOME="/home/psft/HRcompile"; export PS_APP_HOME
PS_CUST_HOME="/home/psft/CUSTcompile"; export PS_CUST_HOME
```

After making this change, you must source the *PS_HOME/*psconfig.sh file again.

This way you would not need to add the PS_APP_HOME or PS_CUST_HOME environment variable through the "Edit environment variable" Application Server and Process Scheduler administration menus in PSADMIN each time you create a new domain.

Configuring the Application Server Domain

This section assumes that you have created an Application Server domain, as described in the chapter "Configuring the Application Server on UNIX." The configuration and log files for application server domains reside in a directory referred to as *PS_CFG_HOME.*

See the information on working with *PS_CFG_HOME* in the *PeopleTools: System and Server Administration* product documentation.

Note. You must create a new domain to configure the environment for running IBM COBOLs. You will not be able to reuse an existing domain for the same.

To create and configure the Application Server domain:

1. Go to the *PS_HOME/*appserv directory and run psadmin.
2. When the menu appears, specify *1* for Application Server and press ENTER.
3. Enter *2* for Create a Domain, and press ENTER.
4. Specify the domain name. For example:

   ```
   Please enter name of domain to create : HCM92
   ```

   Note. If you have already set the environment variables PS_APP_HOME and/or PS_CUST_HOME, as explained in the section Setting Environment Variables for a PS_APP_HOME or PS_CUST_HOME Setup, you can skip the steps 5 through 10.

   ---

5. On the Quick-configure menu, select *16*, Edit environment settings.
6. If *PS_APP_HOME* is different from *PS_HOME,* carry out steps a and b below.

   Note. If *PS_APP_HOME* is the same as *PS_HOME,* skip these two steps and continue with step 7.

   ---

   a. On the PeopleSoft Domain Environment Settings, select *2* to add environment variable.
   b. Enter PS_APP_HOME as the name of the environment variable, and installation directory where you installed your PeopleSoft Application software as the value of the environment variable. For example:

      ```
      Enter name of environment variable: PS_APP_HOME
      Enter value: /home/psft/HRcompile
      ```

You will see an asterisk (*) in front of the modified environment variables, because these variables have not been saved.

7. If your *PS_CUST_HOME* is defined and is different from *PS_HOME*, carry out the following two steps:

   Note. If *PS_CUST_HOME* is the same as *PS_HOME,* skip these two steps and continue with step 8.

   ---

   a. On the PeopleSoft Domain Environment Settings, select *2* to add environment variable.
   b. Enter PS_CUST_HOME as the name of the environment variable, and the installation directory where you installed the customized COBOL files as the value of the environment variable.

      For example:

      ```
      Enter name of environment variable: PS_CUST_HOME
      Enter value: /home/psft/CUSTcompile
      ```

      You will see an asterisk in front of the PS_APP_HOME and PS_CUST_HOME environment variables, indicating that these variables have not been saved.
8. Specify *6* to save the environment variables.
9. Press ENTER to continue at the following message:

   ```
   Your changes have been saved.
   Please be aware these changes will not take effect until you complete⇒
   ```

```
 the domain configuration process.
Press Enter to continue...
```

10. Enter *q* for return to the previous menu.
11. On the Quick-configure menu, enter *15*, for Custom configuration.
12. Answer *n* (no) when asked if you want to change the values, until you see the section Remote Call.

    ```
    Values for config section - RemoteCall
    COBOL Platform=
    RCCBL Redirect=0
    RCCBL PRDBIN=%PS_HOME%\cblbin%PS_COBOLTYPE%
    Do you want to change any values (y/n/q)? [n]: y
    ```

    Enter *y* (yes) to make a change, as shown in this example.
13. Enter *IBM* as the COBOL platform and ignore the remaining options.

    ```
    COBOL Platform [] : IBM
    ```

14. Answer n (no) when asked if you want to change any of the remaining sections.
15. Enter *1* to boot the domain.
16. Enter *1* for Boot (Serial Boot), or *2* for Parallel Boot.

Configuring the Process Scheduler Domain

To create and configure the Process Scheduler domain:

Note. You must create a new domain to configure the environment for running IBM COBOLs. You will not be able to reuse an existing domain for the same.

1. Go to the *PS_HOME/*appserv directory and run psadmin.
2. When the menu appears, specify *2* for Process Scheduler and press ENTER.
3. Enter *2* for Create a Domain.
4. Specify the domain name. For example:

   ```
   Please enter name of domain to create : HCM92
   ```

   Note. Domain names are case-sensitive and must be eight characters or less.

   Note. If you have already set the environment variables PS_APP_HOME and/or PS_CUST_HOME, as explained in the section Setting Environment Variables for a PS_APP_HOME or PS_CUST_HOME Setup, you can skip the steps 5 through 10.

5. On the Quick-configure menu, select *7*, Edit environment settings.
6. If *PS_APP_HOME* is different from *PS_HOME*, carry out steps a and b below.

   Note. If *PS_APP_HOME* is the same as *PS_HOME,* skip these two steps and continue with step 7.

   a. On the PeopleSoft Domain Environment Settings, select *2* to add environment variable.
   b. Enter PS_APP_HOME as the name of the environment variable, and the installation directory where you installed your PeopleSoft Application software as the value of the environment variable.

For example:

```
Enter name of environment variable: PS_APP_HOME
Enter value: /home/psft/HRcompile
```

7. If your *PS_CUST_HOME* is different from *PS_HOME*, carry out the following two steps.

Note. If *PS_CUST_HOME* is the same as *PS_HOME,* skip these two steps and continue with step 8.

   a. On the PeopleSoft Domain Environment Settings, select *2* to add an environment variable.
   b. Enter PS_CUST_HOME as the name of the environment variable, and the installation directory where you installed your PeopleSoft Application software as the value of the environment variable.

      For example:

```
Enter name of environment variable: PS_CUST_HOME
Enter value: /home/psft/CUSTcompile
```

8. Enter *6* to save the environment variables.
9. Press ENTER to continue at the following message:

```
Your changes have been saved.
Please be aware these changes will not take effect until you complete⇒
 the domain configuration process.
Press Enter to continue...
```

10. Enter *q* to return to the previous menu.
11. On the Quick-configure menu, enter *6*, for Custom configuration.
12. Answer n (no) when asked if you want to change the values, until you see the section Remote Call.

```
Values for config section - RemoteCall
COBOL Platform=
RCCBL Redirect=0
RCCBL PRDBIN=%PS_HOME%\cblbin%PS_COBOLTYPE%
Do you want to change any values (y/n/q)? [n]: y
```

    Enter *y* (yes) to make a change, as shown in this example.

13. Enter *IBM* as the COBOL Platform and ignore the remaining options.

```
COBOL Platform []:IBM
```

14. Answer *n* (no) when asked if you want to change any of the remaining sections.
15. Enter *1* to boot the domain.

Task 11B-5-6: Removing the IBM COBOL Installation

Keep the following information in mind before removing the IBM COBOL compiler on IBM AIX:

- You must have root user access to uninstall this product.
- Some filesets may not be uninstalled if they are required by other installed products.
- As uninstalling dependent packages automatically may introduce problems, it is recommended that you preview uninstallation to ensure that all dependent filesets are no longer required.

  See the IBM COBOL compiler documentation for more information.

To remove the IBM COBOL compiler:

1. Run the following command:

```
installp -u cobol*
```

Here are typical responses:

```
$ installp -u cobol*
+-----------------------------------------------------------------------⇒
------+
                    Pre-deinstall Verification...
+-----------------------------------------------------------------------⇒
------+
Verifying selections...done
Verifying requisites...done
Results...
WARNINGS
--------
  Problems described in this section are not likely to be the source of⇒
 any
  immediate or serious failures, but further actions may be necessary or
  desired.
  Not Installed
  -------------
  No software could be found on the system that could be deinstalled⇒
 for the
  following requests:
    cobol.msg.Ja_JP
    cobol.msg.ja_JP
  (The fileset may not be currently installed, or you may have made a
   typographical error.)
  << End of Warning Section >>
SUCCESSES
---------
  Filesets listed in this section passed pre-deinstall verification
  and will be removed.
  Selected Filesets
  -----------------
  cobol.cmp 4.1.1.0                          # IBM COBOL for AIX⇒
 Compiler
  cobol.dbg 4.1.1.0                          # IBM COBOL for AIX⇒
 Debugger
  cobol.lic 4.1.1.0                          # COBOL for AIX Licence⇒
 Files
  cobol.license 4.1.1.0                      # COBOL for AIX License⇒
 Agreem...
  cobol.man 4.1.1.0                          # IBM COBOL Set for AIX⇒
 Man Pages
  cobol.msg.en_US 4.1.1.0                    # IBM COBOL for AIX⇒
 Runtime Me...
  cobol.rte 4.1.1.0                          # IBM COBOL for AIX⇒
 Runtime
  << End of Success Section >>
```

```
FILESET STATISTICS
------------------
    9  Selected to be deinstalled, of which:
        7  Passed pre-deinstall verification
        2  FAILED pre-deinstall verification
  ----
    7  Total to be deinstalled
+-----------------------------------------------------------------------⇒
------+
                           Deinstalling Software...
+-----------------------------------------------------------------------⇒
------+
installp:  DEINSTALLING software for:
        cobol.lic 4.1.1.0
Filesets processed:  1 of 7  (Total time:  0 secs).
installp:  DEINSTALLING software for:
        cobol.license 4.1.1.0
Filesets processed:  2 of 7  (Total time:  0 secs).
installp:  DEINSTALLING software for:
        cobol.dbg 4.1.1.0
Filesets processed:  3 of 7  (Total time:  1 secs).
installp:  DEINSTALLING software for:
        cobol.man 4.1.1.0
Filesets processed:
  4 of 7  (Total time:  1 secs).
installp:  DEINSTALLING software for:
        cobol.msg.en_US 4.1.1.0
Filesets processed:  5 of 7  (Total time:  2 secs).
installp:  DEINSTALLING software for:
        cobol.cmp 4.1.1.0
Filesets processed:  6 of 7  (Total time:  3 secs).
installp:  DEINSTALLING software for:
        cobol.rte 4.1.1.0
Finished processing all filesets.  (Total time:  5 secs).
+-----------------------------------------------------------------------⇒
------+
                                Summaries:
+-----------------------------------------------------------------------⇒
------+
Pre-installation Failure/Warning Summary
----------------------------------------
Name                      Level           Pre-installation Failure⇒
/Warning
-----------------------------------------------------------------------⇒
-------
cobol.msg.Ja_JP                           Nothing by this name to⇒
 deinstall
cobol.msg.ja_JP                           Nothing by this name to⇒
 deinstall
Installation Summary
--------------------
```

```
Name                        Level           Part        Event      ⇒
 Result
---------------------------------------------------------------------⇒
-------
cobol.lic                   4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.license               4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.dbg                   4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.man                   4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.msg.en_US             4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.cmp                   4.1.1.0         ROOT        DEINSTALL  ⇒
 SUCCESS
cobol.cmp                   4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
cobol.rte                   4.1.1.0         USR         DEINSTALL  ⇒
 SUCCESS
```

2. To remove any currently unused modules in kernel and library memory, enter the following on the command line:

```
slibclean
```

Chapter 12

Installing Additional Components

This chapter discusses:

- Reviewing Additional Components
- Installing Oracle Tuxedo

Reviewing Additional Components

Depending upon your PeopleSoft installation environment, you may need to install and configure software components that are not included with the PeopleSoft PeopleTools installation files, or which you acquire from vendors other than Oracle. Some of the components that are discussed in this installation guide include:

- Oracle Tuxedo

  The installation of Oracle Tuxedo is required for a basic PeopleSoft PeopleTools installation, and is covered in this chapter.

- COBOL

  COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check My Oracle Support for details about whether your application requires COBOL.

  See "PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers," My Oracle Support, Doc ID 747059.1.

  See "PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and the IBM COBOL Compiler," My Oracle Support, Doc ID 1211907.1.

  The installation and configuration of Micro Focus and IBM COBOL compilers are covered in later chapters.

  See "Installing and Configuring COBOL on UNIX."

  See "Installing and Configuring COBOL on Windows."

- Elasticsearch

  Elasticsearch is the search engine for the PeopleSoft Search Framework for the current release. Oracle provides Elasticsearch as deployment packages (DPKs) for Microsoft Windows and Linux that deliver the required Elasticsearch software version, Java-based plug-ins needed for integration with PeopleSoft environments, and customized code where required. Be sure to obtain and use the Elasticsearch DPKs provided for use with the PeopleSoft installation.

  See Elasticsearch Home Page, My Oracle Support, Doc ID 2205540.2.

  Note. Oracle Secure Enterprise Search (SES) and Verity are not supported for the current release.

Note. Use the My Oracle Support Certifications area to determine the latest certified versions of additional components that are supported for the PeopleSoft PeopleTools release you are installing.

Task 12-1: Installing Oracle Tuxedo

This section discusses:

- Understanding Oracle Tuxedo
- Prerequisites
- Debugging the Oracle Tuxedo Installer
- Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud
- Obtaining the Oracle Tuxedo Patches from My Oracle Support
- Removing Existing Oracle Tuxedo Installations from Microsoft Windows (Optional)
- Designating the Application Server Administrator on Microsoft Windows
- Installing Oracle Tuxedo on Microsoft Windows in GUI Mode
- Installing the Oracle Tuxedo Patch on Microsoft Windows
- Installing Oracle Tuxedo on Microsoft Windows in Silent Mode
- Uninstalling the Oracle Tuxedo Patch on Microsoft Windows
- Uninstalling Oracle Tuxedo in GUI Mode
- Checking the Windows Service Account
- Restricting Domain Process Privileges
- Setting Up the Windows Services for Oracle Tuxedo
- Verifying the Server Installation on Microsoft Windows
- Removing Existing Oracle Tuxedo Installations from UNIX (Optional)
- Completing the Preinstallation Checklist on UNIX
- Designating the Oracle Tuxedo Owner on UNIX
- Installing Oracle Tuxedo in Silent Mode on UNIX
- Installing the Oracle Tuxedo Patch on UNIX
- Uninstalling the Oracle Tuxedo Patch from UNIX
- Uninstalling Oracle Tuxedo from UNIX Using Silent Mode
- Verifying the Server Installation on UNIX
- Ensuring that Oracle Tuxedo Coexists with Earlier Versions

Understanding Oracle Tuxedo

The PeopleSoft application server uses the Oracle® Fusion Middleware product, Oracle Tuxedo, to perform transaction management, messaging, and administration. This task guides you through the installation of Oracle Tuxedo on your server. It is essential that you install Oracle Tuxedo 64-bit, version 12c Release 2 (12.2.2.0), which is available on Oracle Software Delivery Cloud. You need to install Oracle Tuxedo before you go any further in setting up your application server and your PeopleSoft Pure Internet Architecture. After you perform the installation described here, you will configure the application server environment to incorporate Oracle Tuxedo with the PeopleSoft components.

Oracle supports Oracle Tuxedo 12c Release 2 (64-bit) for UNIX operating systems, and Oracle Tuxedo 12c Release 2 (64-bit) with MS Visual Studios 2015 for Microsoft Windows, with PeopleSoft PeopleTools 8.56.

The minimum patch level certified for running Oracle Tuxedo 12c Release 2 with PeopleSoft PeopleTools 8.56 is Rolling Patch 16 (RP016). These installation instructions include the installation of the base Oracle Tuxedo 12c Release 2, followed by the patch installation.

Note. Oracle Tuxedo 12c Release 2 for Linux operating systems supports Exalogic optimizations.

For PeopleSoft customers running on Oracle Exalogic Elastic Cloud, we strongly recommend the use of the Exalogic OVM Template for PeopleSoft.

See Oracle's PeopleSoft Virtualization Products, My Oracle Support, Doc ID 1538142.1.

Note. For the sake of brevity and convenience, this documentation shortens "Oracle Tuxedo 12c Release 2 (64-bit)" to "Oracle Tuxedo 12cR2" and "Oracle Tuxedo 12c Release 2 (64-bit) with MS Visual Studios 2015" to "Oracle Tuxedo 12cR2_VS2015."

If you have a previous version of Oracle Tuxedo installed, you need to install the new version of Oracle Tuxedo, and re-create your application server domains. (You must create your domains using PSADMIN; you cannot migrate existing domains.) You can also use the PSADMIN domain import utility.

You can install Oracle Tuxedo once for each release on a machine, regardless of the number of PeopleSoft applications or databases the server supports. For example, if you installed Oracle Tuxedo 10gR3 for an earlier release of your PeopleSoft application, you may install Oracle Tuxedo 12cR2 on the same machine in a separate directory. For example:

On Microsoft Windows, you may install into C:\oracle\tuxedo10gR3_VS2008 and C:\oracle\tuxedo12.2.2.0.0_VS2015.

On UNIX, you may install into /home/oracle/tuxedo10gR3 and /home/oracle/tuxedo12cR2.

If more than one PeopleSoft application uses the same Oracle Tuxedo version (that is, the same patch level), then it is recommended that you have a single installation of Oracle Tuxedo to serve all the supported PeopleSoft applications. A single Oracle Tuxedo installation simplifies future maintenance (such as applying patches). However, if you choose to have more than one Oracle Tuxedo installation (this scenario is possible only on UNIX systems, as Oracle Tuxedo does not allow multiple installations of the same version of Oracle Tuxedo on Microsoft Windows), you must install and maintain the same Oracle Tuxedo version more than once in different directories.

See Also

Oracle Tuxedo Documentation on Oracle Technology Network, http://www.oracle.com/technetwork/middleware/tuxedo/documentation/index.html

PeopleTools: Portal Technology

PeopleTools: System and Server Administration

Operating System, RDBMS, and Additional Component Patches Required for Installation PeopleTools, My Oracle Support (search for article name and select the release)

Clustering and High Availability for PeopleTools, My Oracle Support (search for title)

Using OVM Templates for PeopleSoft on Exalogic, My Oracle Support (search for title)

Prerequisites

Before you begin to install Oracle Tuxedo, make sure that you have the following resources in place:

- Before beginning the Oracle Tuxedo installation you must install 64-bit Java 8 JDK.

The specific JDK required depends upon the operating system and vendor. Follow the instructions given earlier to install Java 8 JDK for your operating system.

See Installing JDK for Oracle WebLogic.

- TCP/IP connectivity (required for PeopleSoft PeopleTools 8.50 or higher) between the client machine and the application server
- For UNIX, you must have root access.
- Enough free disk space on the application server to install the product.

  The disk space requirements vary by operating system. For free disk space requirements, see the Oracle Tuxedo documentation.

The Oracle Tuxedo installer uses the default system temporary space. If there is not enough space for installation, it will stop with an error. To specify a different temporary directory on Microsoft Windows, use the following command before starting the installer:

```
set IATEMPDIR=Complete_Path_Temp_Dir
```

Replace *Complete_Path_Temp_Dir* with the full path to the temporary directory that you want to use for the installation.

If you are sure you have enough space, but the installer still gives an error about low disk space (this usually happens on Linux), run the following command before starting the installer:

```
unset BLOCKSIZE
```

Debugging the Oracle Tuxedo Installer

If the Oracle Tuxedo installation fails with no error message, open a command prompt and enter the following command:

```
set LAX_DEBUG=1
```

After entering this command, start the installer again. If you are using GUI mode on Microsoft Windows, you must start the installer using the same command prompt.

Task 12-1-1: Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud

You can obtain the files needed to install Oracle Tuxedo 12cR2 or 12cR2_VS2012 from the Oracle Software Delivery Cloud portal. At this point you should have already downloaded the necessary files. If you have not yet downloaded the files, this section includes additional information on finding and using the files for Oracle Tuxedo if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

See Oracle Software Delivery Cloud, https://edelivery.oracle.com.

1. After logging in to Oracle Software Delivery Cloud, read the export restrictions, and then click Accept.
2. Enter Oracle Tuxedo in the Product field, and select Oracle Tuxedo 12.2.2.0.0 from the drop-down list.
3. Click Select Platform, select the operating system you are running on, and then click Select.
4. Click Continue.
5. Read the license agreement and select the check box to acknowledge that you accept the agreement.
6. Click Continue.

7. Click the filenames to download.

   Save the zip file to a temporary directory on your local system, referred to in this documentation as *TUX_INSTALL*.

8. After you download the installation files from Oracle Software Delivery Cloud, if it is necessary, transfer the files to a UNIX computer using FTP. Unzip the file and change the permissions of the unzipped file to make it an executable, for example using the chmod +x command.

9. Extract the files into *TUX_INSTALL*.

   After you extract, you see a Disk1 folder with two subfolders, install and stage.

   Note. For the PeopleTools Client, install Oracle Tuxedo 12cR2_VS2015 for Microsoft Windows (64-bit) to run with PeopleSoft PeopleTools 8.56.

Task 12-1-2: Obtaining the Oracle Tuxedo Patches from My Oracle Support

You can download the latest patch for Oracle Tuxedo 12cR2_VS2015 for Microsoft Windows or Oracle Tuxedo 12cR2 for UNIX operating systems from My Oracle Support.

Note. To obtain older Oracle Tuxedo patches, raise a service request through My Oracle Support.

To obtain the latest Oracle Tuxedo patch:

1. Sign in to My Oracle Support with your account name and password:

   https://support.oracle.com

2. Select the Patches & Updates tab.
3. Under Patch Search, select Product or Family (Advanced Search).
4. Select *Oracle Tuxedo* from the product drop-down list.
5. Select *Oracle Tuxedo 12.2.2.0.0* from the release drop-down list.
6. Select your platform.

   Note. For detailed supported platform information, see the certifications area on My Oracle Support.

   The supported platforms are:

   - AIX
   - HP-UX Itanium
   - Linux
   - Microsoft Windows
   - Oracle Solaris on SPARC

7. Click Search.

   Download the necessary files from the list of results. For installation on Microsoft Windows operating systems, make sure your rolling patch (RP) description has "VS2015" or "Visual Studio 2015" in the description.

   Note. To begin a new search, select Edit Search in the top right of the results page.

8. Download the patch file for your operating system platform to a convenient directory, referred to here as *TUX_INSTALL*.

9. After you install a patch, use these steps to verify the installation:
   a. In a command prompt, change directory to *TUXDIR*\bin (where *TUXDIR* is the Oracle Tuxedo installation location).
   b. Execute the following command:

      ```
      tmadmin -v
      ```

      The command displays the patch level. For example:

      ```
      INFO: Oracle Tuxedo, Version 12.2.2.0.0_VS2015, 64-bit, Patch Level⇒
       016
      ```

Task 12-1-3: Removing Existing Oracle Tuxedo Installations from Microsoft Windows (Optional)

You may already have prior versions of Oracle Tuxedo installed on your system from an earlier version of PeopleSoft PeopleTools. If you are completely upgrading to PeopleSoft PeopleTools 8.56 from an earlier version of PeopleSoft PeopleTools, then you may uninstall the existing version and patches.

Note. It is not mandatory to uninstall the existing version of PeopleSoft PeopleTools, as Oracle Tuxedo 12cR2_VS2015 can coexist with prior versions on the same machine.

If you wish to use two versions of PeopleSoft PeopleTools that depend on different versions of Oracle Tuxedo, you should read the section "Ensuring that Oracle Tuxedo Coexists with Earlier Versions" before continuing.

You may have to uninstall Oracle Tuxedo for these reasons:

- You are having problems starting Oracle Tuxedo and decide to reinstall.
- You no longer need Oracle Tuxedo on a machine.

To uninstall Oracle Tuxedo from Microsoft Windows:

1. Using PSADMIN, shut down any application server, Process Scheduler, and Search server domains that may be running on the machine.
2. Stop the processes for the Tuxedo Monitor and the Tuxedo Administrative Web Server (wlisten and tuxwsvr), if applicable.
   a. Right-click on the task bar and select Task Manager.
   b. Highlight wlisten, and click the End Task button.
   c. Highlight tuxwsvr and click the End Task button.
   d. Exit Task Manager.
3. Stop and set the TListen *VERSION* service to manual, if applicable.

   Replace *VERSION* with the version number for the existing service. For example, this would be TListen 9.1 or TListen 10gR3.
   a. Select Start, Settings, Control Panel. Double-click Administrative Tools, and double-click the Services icon.
   b. Select TListen *VERSION* and click the Stop button.
   c. Choose the Startup Type and set to Manual.
4. Stop and set the ORACLE ProcMGR *VERSION* (or BEA ProcMGR *VERSION* for earlier releases) service to manual.
   a. Select Start, Settings, Control Panel. Double-click Administrative Tools, and double-click the Services

icon.

b. Select ORACLE ProcMGR *VERSION* and click the Stop button.

c. Choose the Startup Type and set to Manual.

5. Reboot your machine.
6. Uninstall Oracle Tuxedo in one of the following ways:
   - Using the Oracle Tuxedo *VERSION* installation CD provided by Oracle for PeopleSoft installations, open a Command Window, navigate to the root of the CD, and enter `pstuxinstall rmall`. This will remove Oracle Tuxedo *VERSION* plus any delivered Oracle Tuxedo patches from your system.
   - Using the Add/Remove Programs dialog, in sequence remove: Oracle Tuxedo*VERSION* RP and then Oracle Tuxedo *VERSION*.
7. Go to the Control Panel, double-click on the System icon, and then perform the following actions:

   a. Make sure *TUXDIR*\bin is deleted from the PATH environment variable definition.

   TUXDIR refers to the Oracle Tuxedo installation directory.

   b. Delete the environment variable TUXDIR.

   c. Make sure you click on Apply and OK to save your changes.
8. Using Explorer, delete the Tuxedo home directory, such as C:\bea\tuxedo8.1.

   If you are unable to delete any files, reboot your machine and retry.

Task 12-1-4: Designating the Application Server Administrator on Microsoft Windows

Before beginning the installation, you need to designate an existing user—or create a new user such as TUXADM or some other account—to be the Application Server Administrator. The Application Server Administrator, not the Windows Administrator, will install Oracle Tuxedo.

The designated user must be a local Microsoft Windows administrator and must have full system privileges. The Oracle Tuxedo installation program creates a new service for Microsoft Windows—called ORACLE ProcMGR V12.2.2.0.0_VS2015—for which you need administrator privileges. This service was developed to port Oracle Tuxedo from UNIX to Microsoft Windows. Administrator rights are required since system registry settings are updated. Once this new service is created, you must reboot to start it.

When you configure your application server domain in a read-only *PS_HOME* environment, the user ID designated to be the Application Server Administrator must have read-only access to *PS_HOME,* read and write access to *PS_CFG_HOME,* and read-only access to the Oracle Tuxedo installation directory, *TUXDIR,* (for example, C:\oracle\tuxedo12.2.2.0.0_VS2015). Otherwise, in a scenario where *<PS_CFG_HOME> = <PS_HOME>,* the Application Server Administrator must have read and write access to *PS_HOME* and read-only access to *TUXDIR.*

See "Configuring the Application Server on Windows."

See "Preparing for Installation," Defining Installation Locations.

To designate the Application Server Administrator:

1. Add the user ID by selecting Start, Administrative Tools, Computer Management, Local Users and Groups.

   Keep in mind that you can also use an existing account if you do not care to create a new one. You can set this to the system account or an account that is a domain administrator (if there is a need to access files on the domain).
2. Expand Local Users and Groups.

3. If the user ID does not yet exist, highlight the Users folder, and select Action, New User.
4. On the New User dialog box, specify the information for the new account.
   Make sure to deselect the User must change password at next logon check box.
5. Expand the Groups folder.
6. Right-click the Administrators group, and select All Tasks, Add to Group, Add.
7. Click Locations to select the local machine or the network domain in which you created the new user.
8. Enter the new user name you created in the object names box.
9. Click OK, and click Apply and OK again to accept the changes.

Task 12-1-5: Installing Oracle Tuxedo on Microsoft Windows in GUI Mode

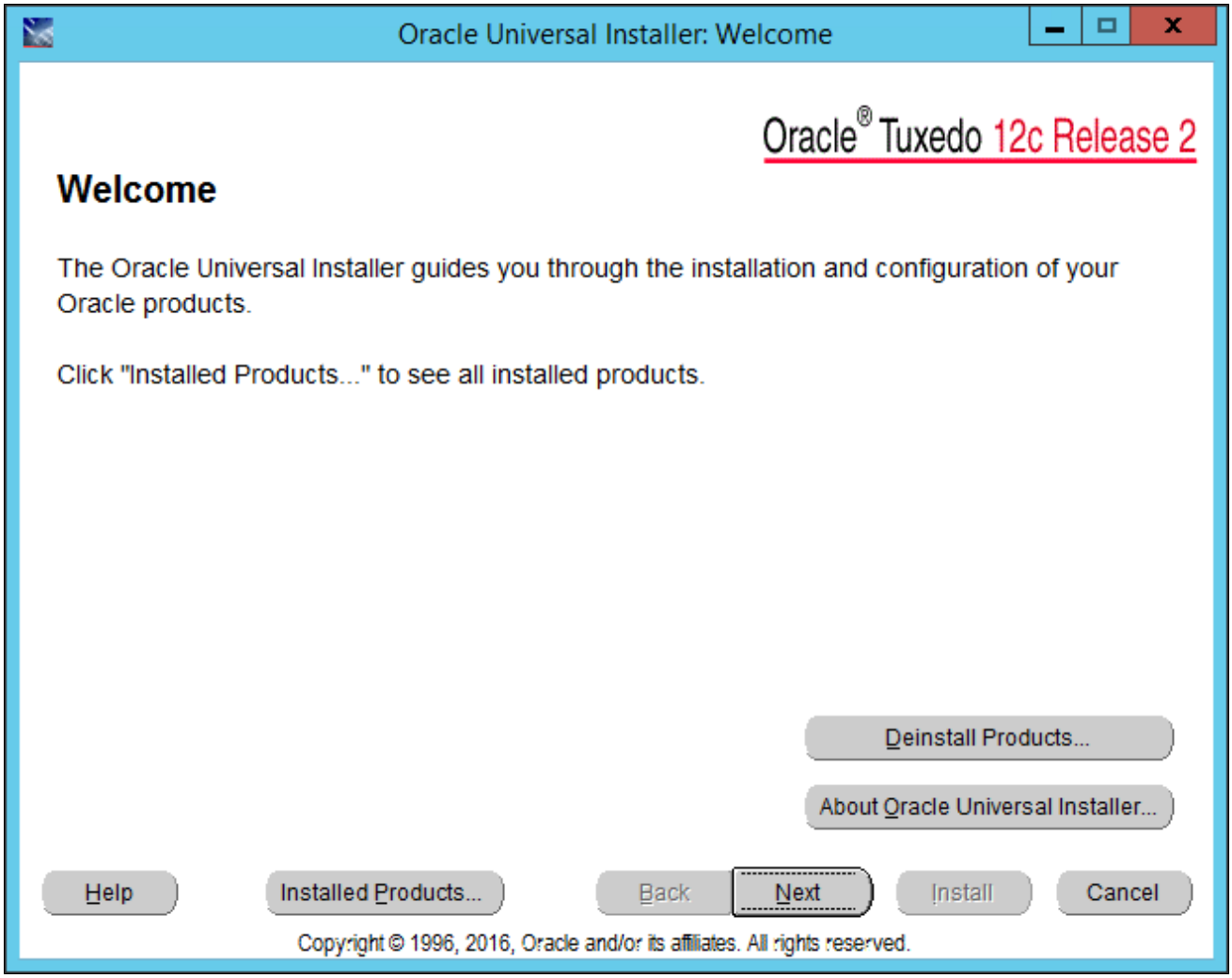
The following procedure assumes that you saved and extracted the installation files from Oracle Software Delivery Cloud in the directory *TUX_INSTALL.* Installation in GUI mode is normally used for Microsoft Windows operating systems.

Note. Oracle Tuxedo 12cR2_VS2015 can coexist on a machine with other versions of Oracle Tuxedo.

To install Oracle Tuxedo on Microsoft Windows:

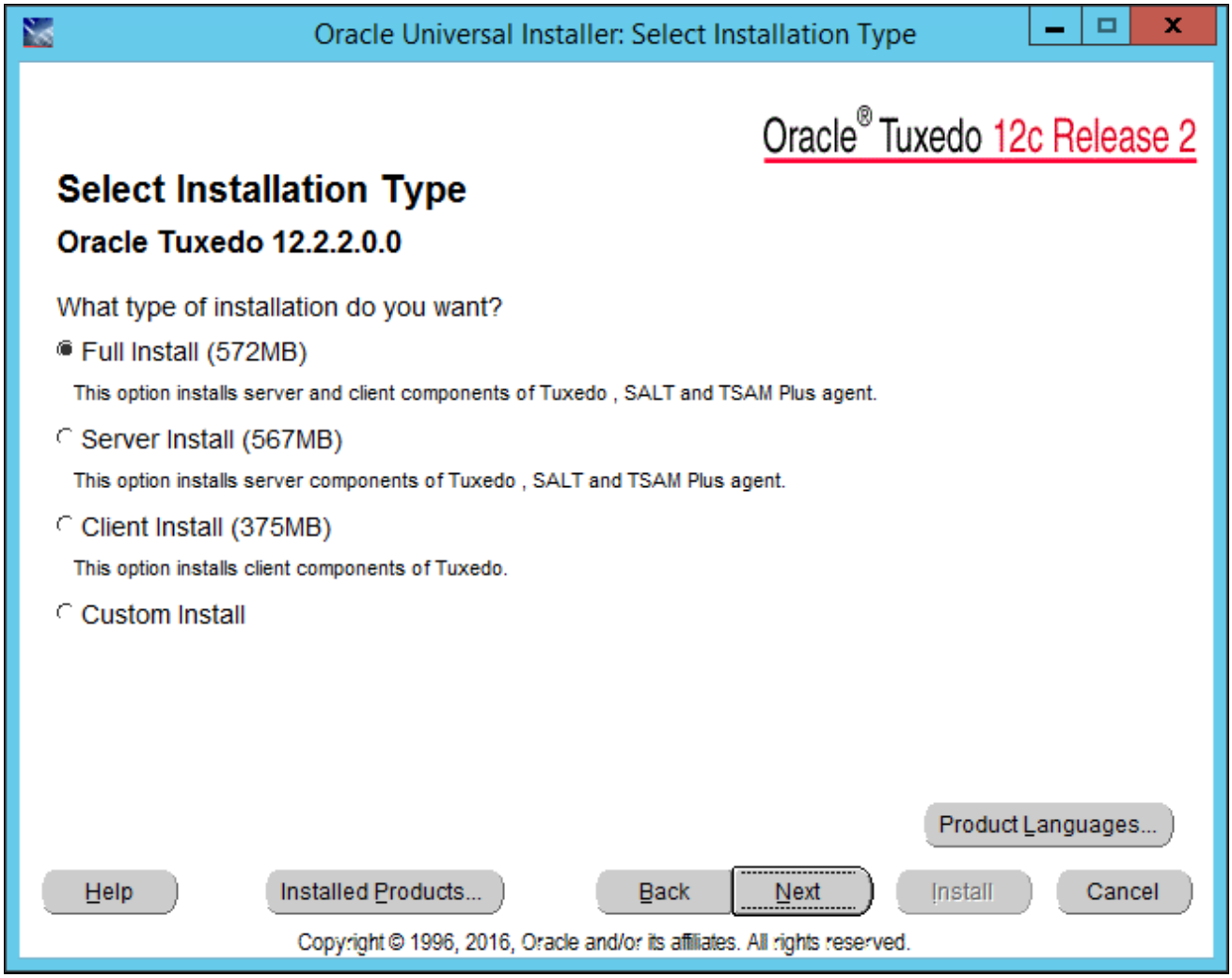
1. Double-click *TUX_INSTALL*\Disk1\install\setup.bat to begin the installation process.

   Click OK on the Welcome window, shown in this example:



Oracle Universal Installer: Welcome window for Oracle Tuxedo 12c Release 2

2. Accept the default option, Full Install, on the Select Installation Type window, as shown in this example, and click Next.



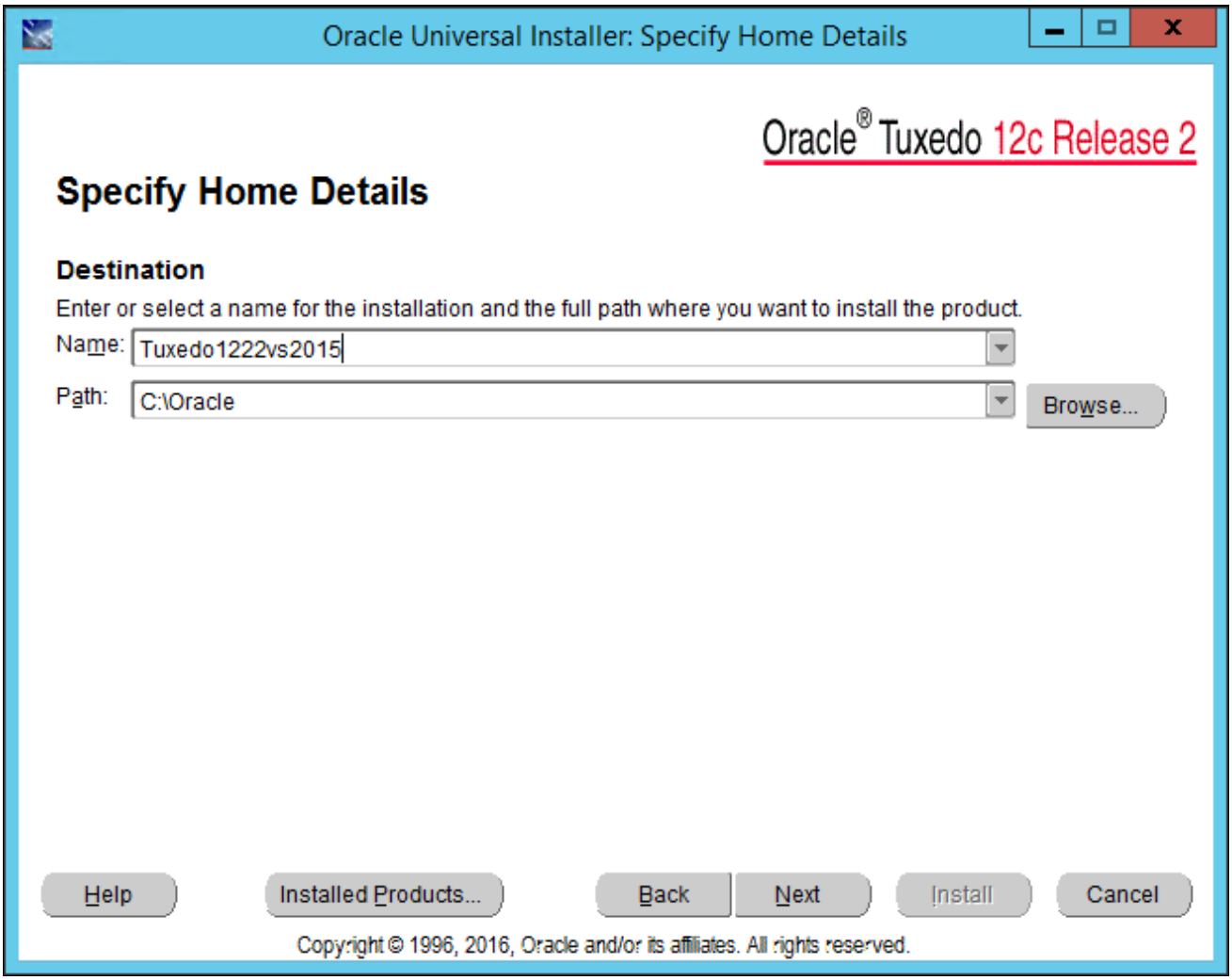
Oracle Universal Installer: Select Installation Type window

3. Specify a name and the home directory path for the installation.

   You can enter a new name, or choose an existing name from the drop-down list. The name that you supply will be used to identify this Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list. In this example, the name is tuxedo1222vs2015.

   Specify the full path for the home directory. You can choose an existing path from the drop-down list. The Path refers to the location where the Oracle Tuxedo will be installed. The default is *ORACLE_HOME*\tuxedo12.2.2.0.0_VS2015. In this example, the path is C:\oracle, which is the recommended location, so the software will be installed to C:\oracle\tuxedo12.2.2.0.0_VS2015. The installation directory is referred to in this documentation as *TUXDIR*.

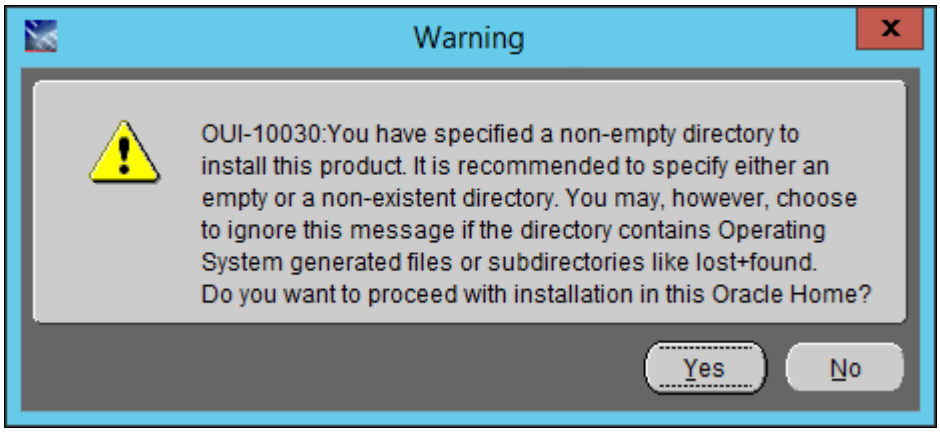
Note. In previous Oracle Tuxedo and PeopleSoft PeopleTools releases, the installation directory was referred to as *BEA_HOME,* and the default was C:\bea. You may see installation directories from previous releases displayed here, and if so, you can select one.



Oracle Universal Installer: Specify Home Details window

4. If you select an existing directory that is not empty, you may see a warning message.

   The message recommends that you install to an empty directory unless the directory contains Operating System generated files or subdirectories like lost+found. Click Yes to close the message and continue.



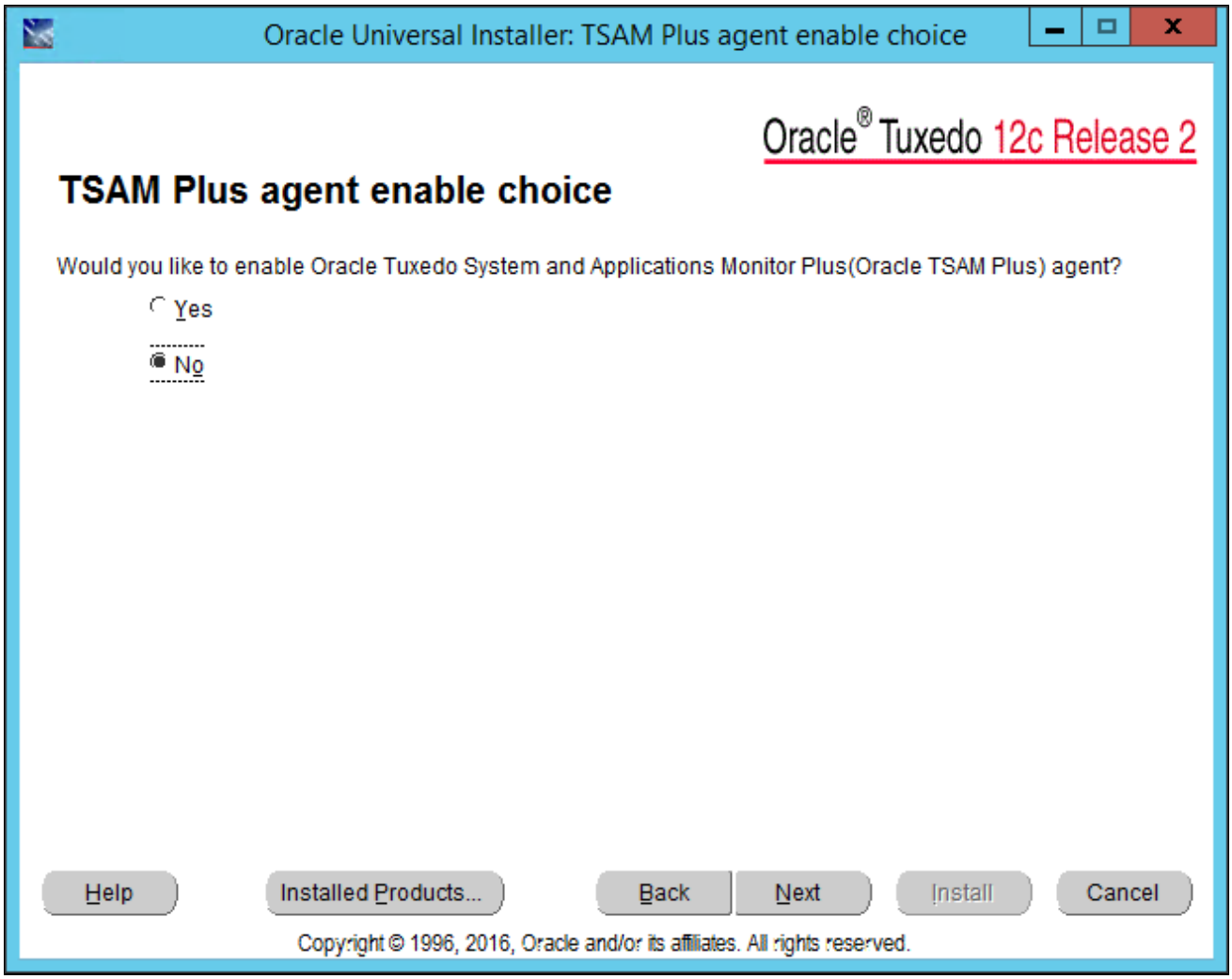
Warning message for a non-empty directory

5. If you have other versions of Oracle Tuxedo on your system, you may get a warning that earlier versions were detected, and with a recommendation that you exit and remove the earlier versions.

   You can either quit and remove the earlier version, or install to a different directory if you want to maintain more than one version of the software. The message directs you to the earlier Installation Guide for instructions for using more than one version of the software. Click Next to continue.

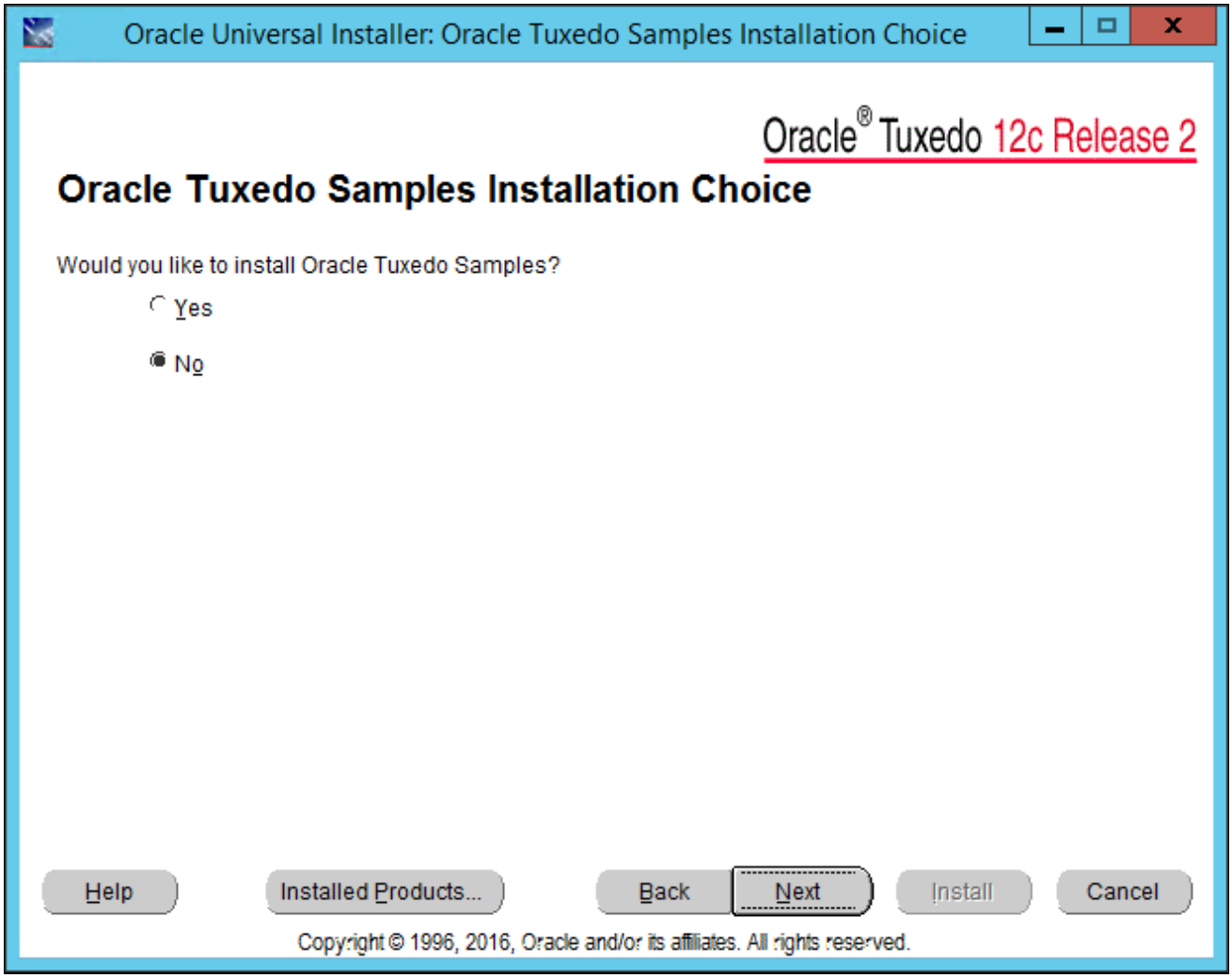
6. Select No on the TSAM Plus agent enable choice window, as shown in this example, and then click Next.

   This indicates that you do not want to enable Oracle Tuxedo System and Applications Monitor Plus (Oracle TSAM Plus) agent.



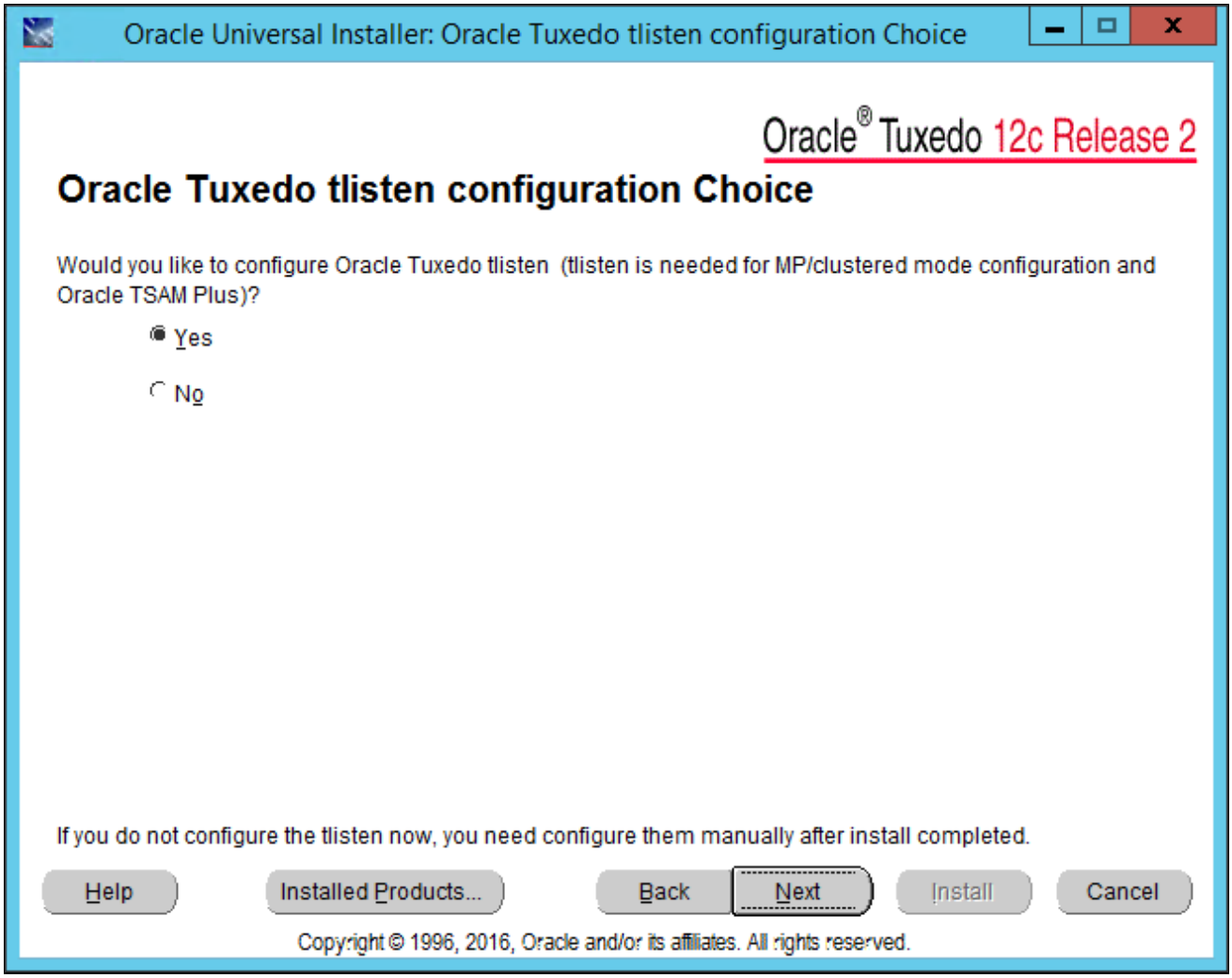
Oracle Universal Installer: TSAM Plus agent enable choice window

7. Select No to indicate that you do not want to install Oracle Tuxedo Samples, as shown in this example, and then click Next.



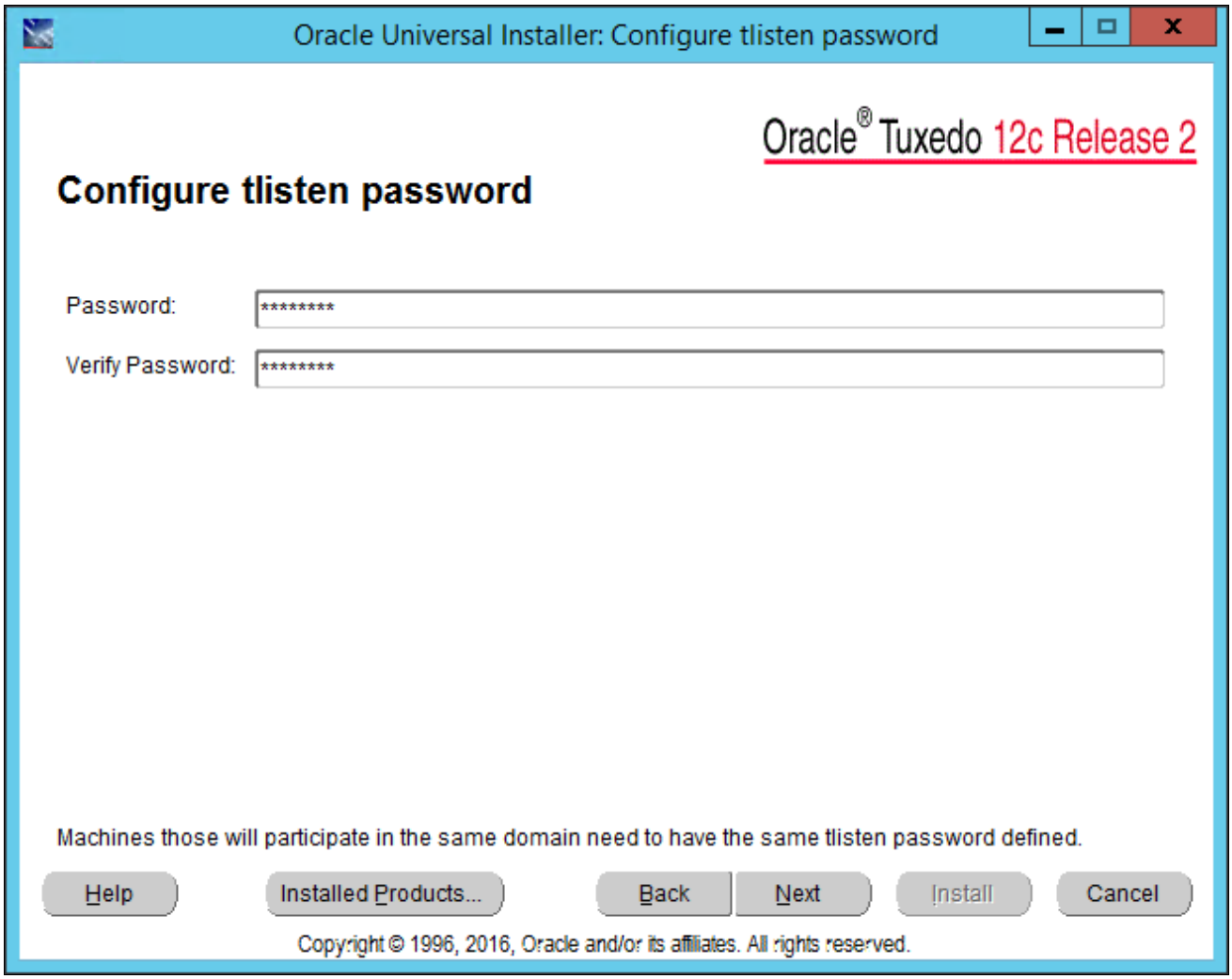
Oracle Universal Installer: Oracle Tuxedo Samples Installation Choice window

8. Select Yes to indicate that you want to configure Oracle Tuxedo tlisten, as shown in this example, and then click Next.



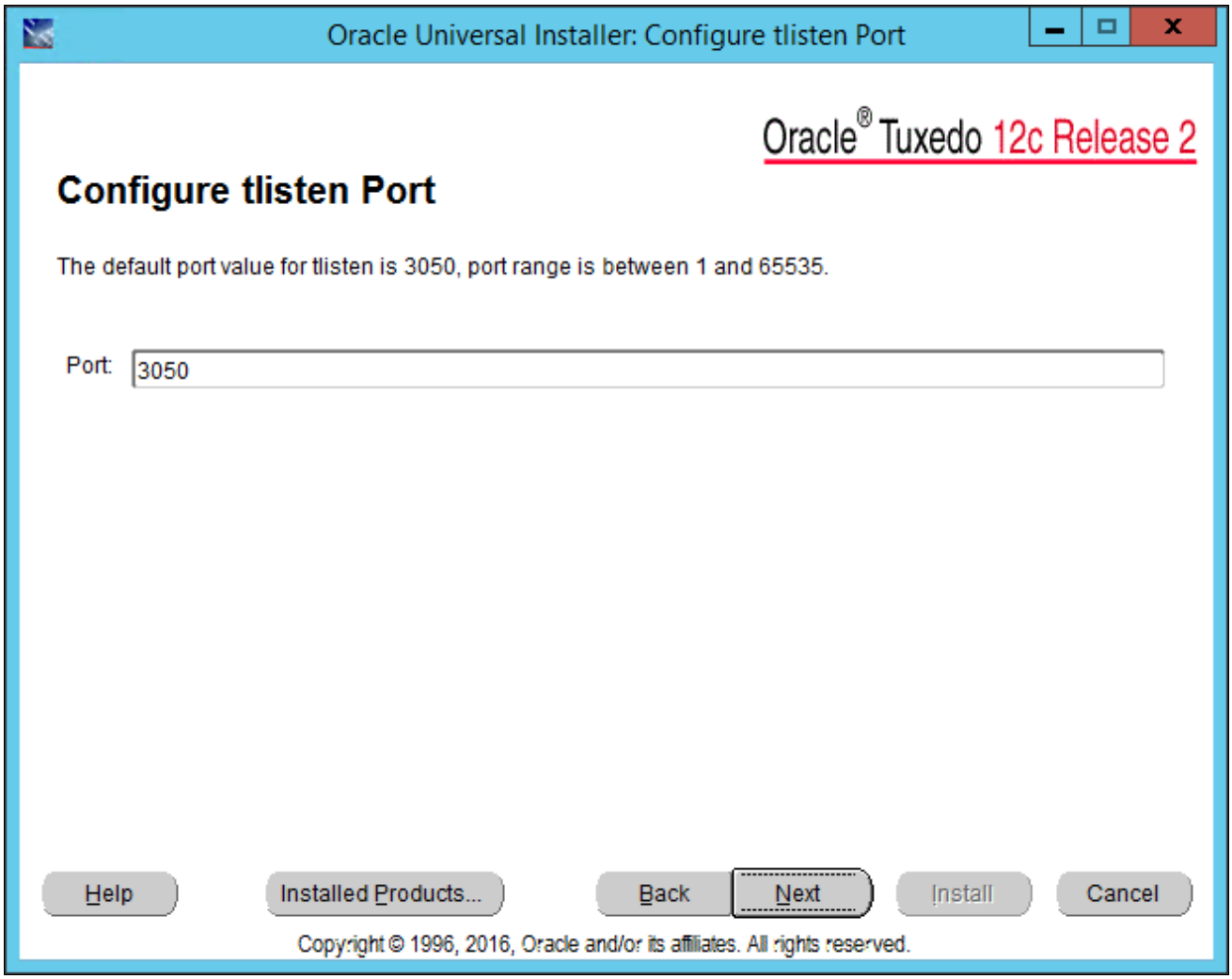
Oracle Universal Installer: Oracle Tuxedo tlisten configuration Choice window

9. Enter a password for Oracle Tuxedo tlisten.



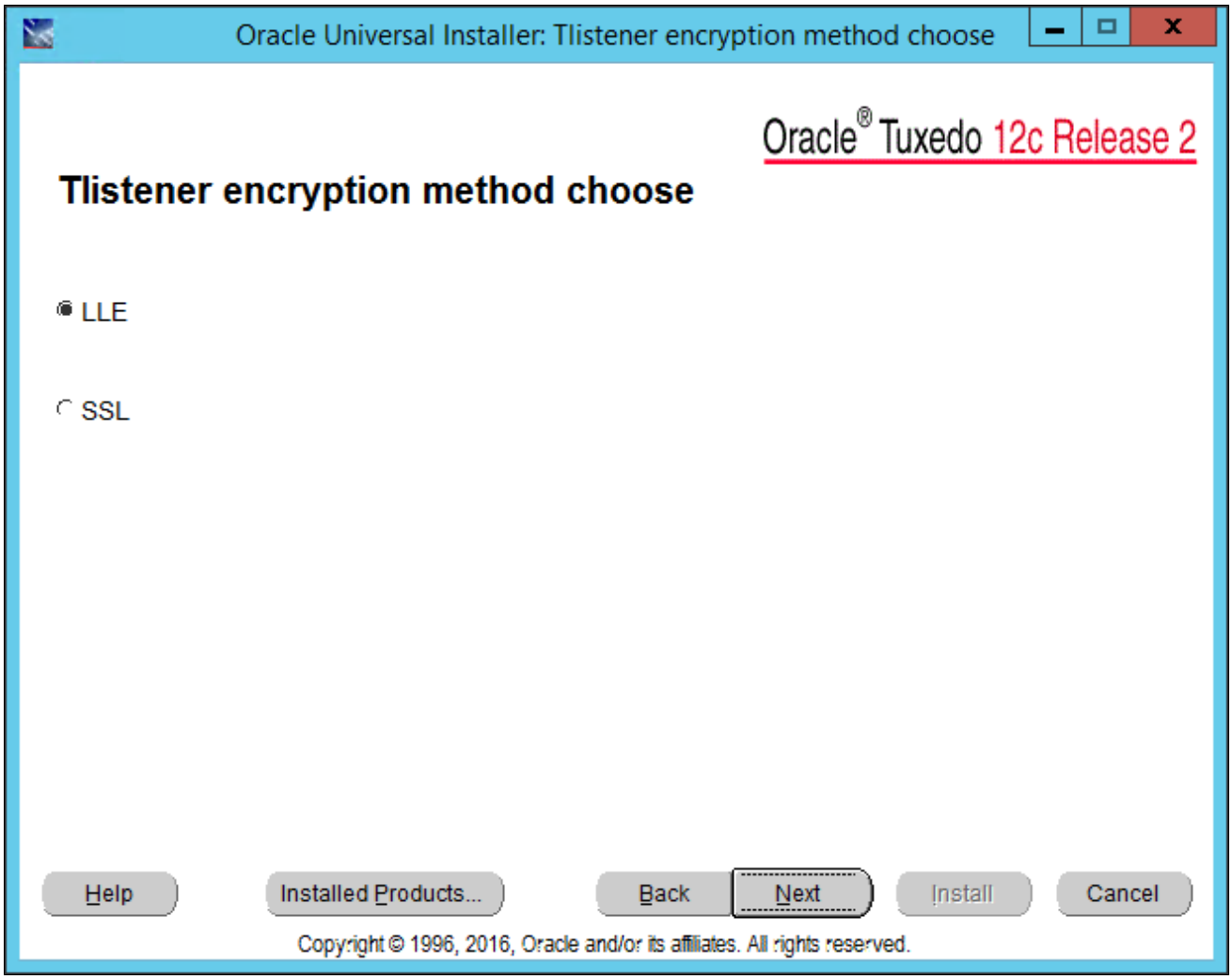
Oracle Universal Installer: Configure tlisten password window

10. Accept the default tlisten port, 3050, or enter another port number.



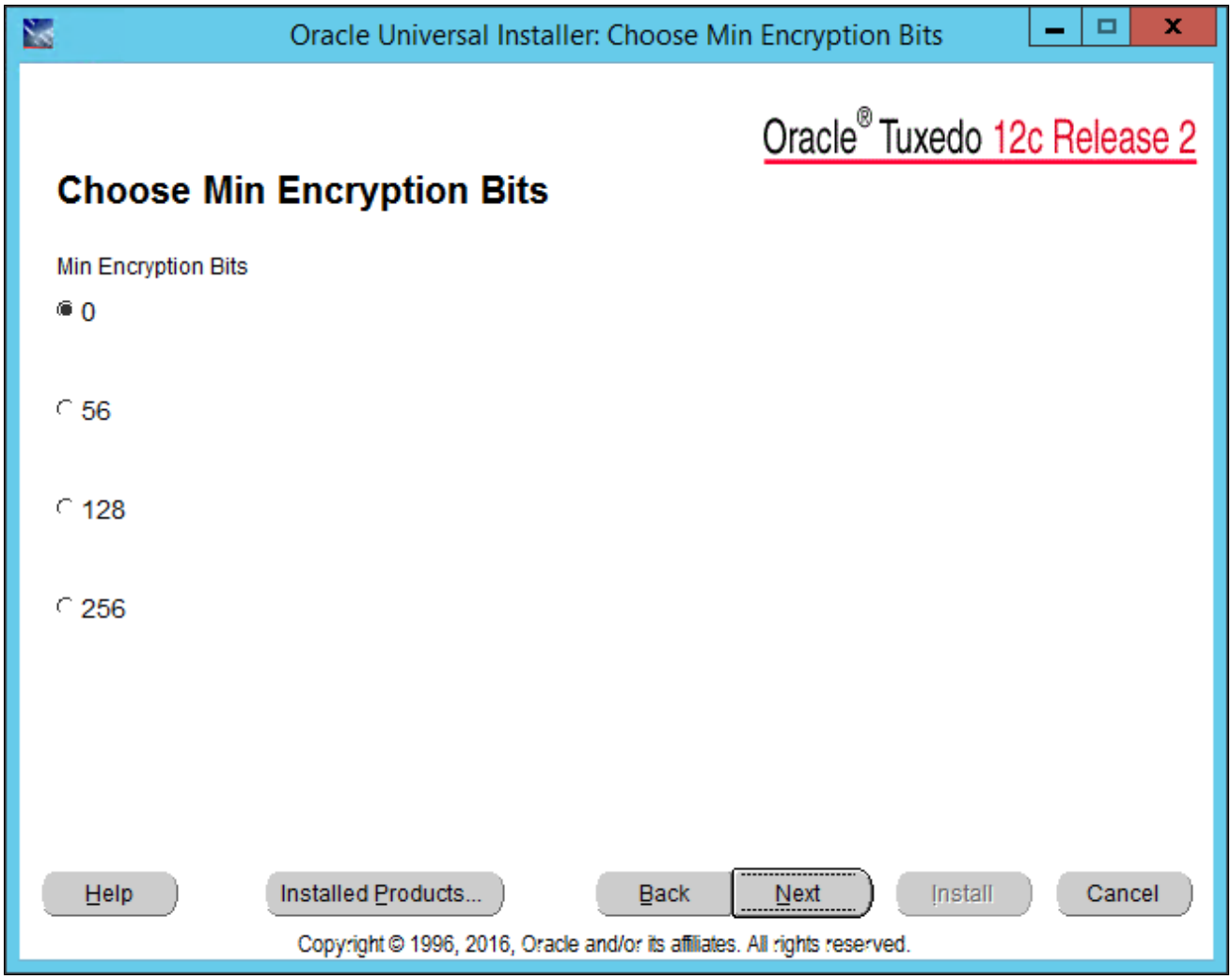
Oracle Universal Installer: Configure tlisten Port window

11. Select LLE as the Tlistener encryption method.



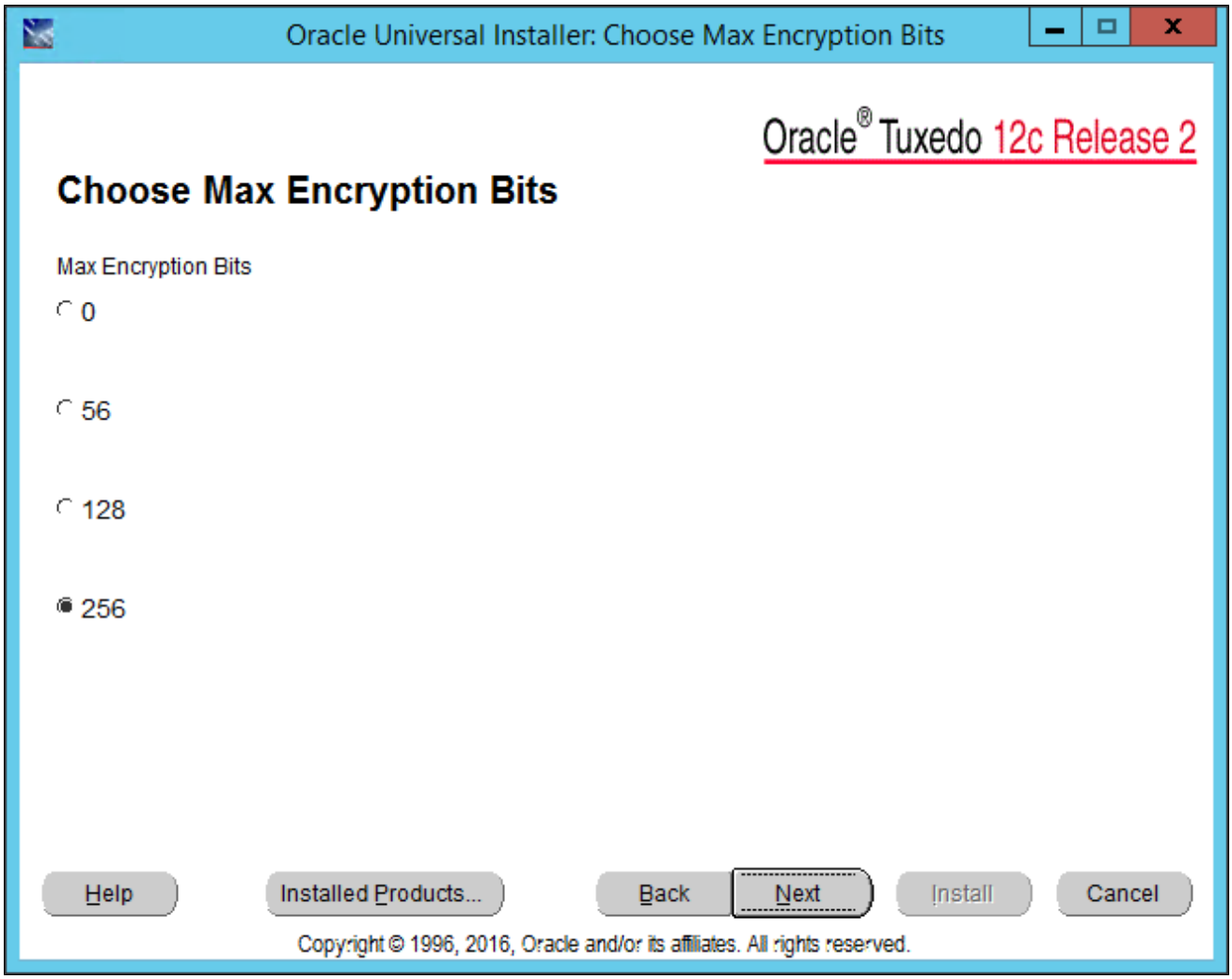
Oracle Universal Installer: Tlistener encryption method choose window

12. Accept the default value of 0 (zero) for the minimum encryption bits.



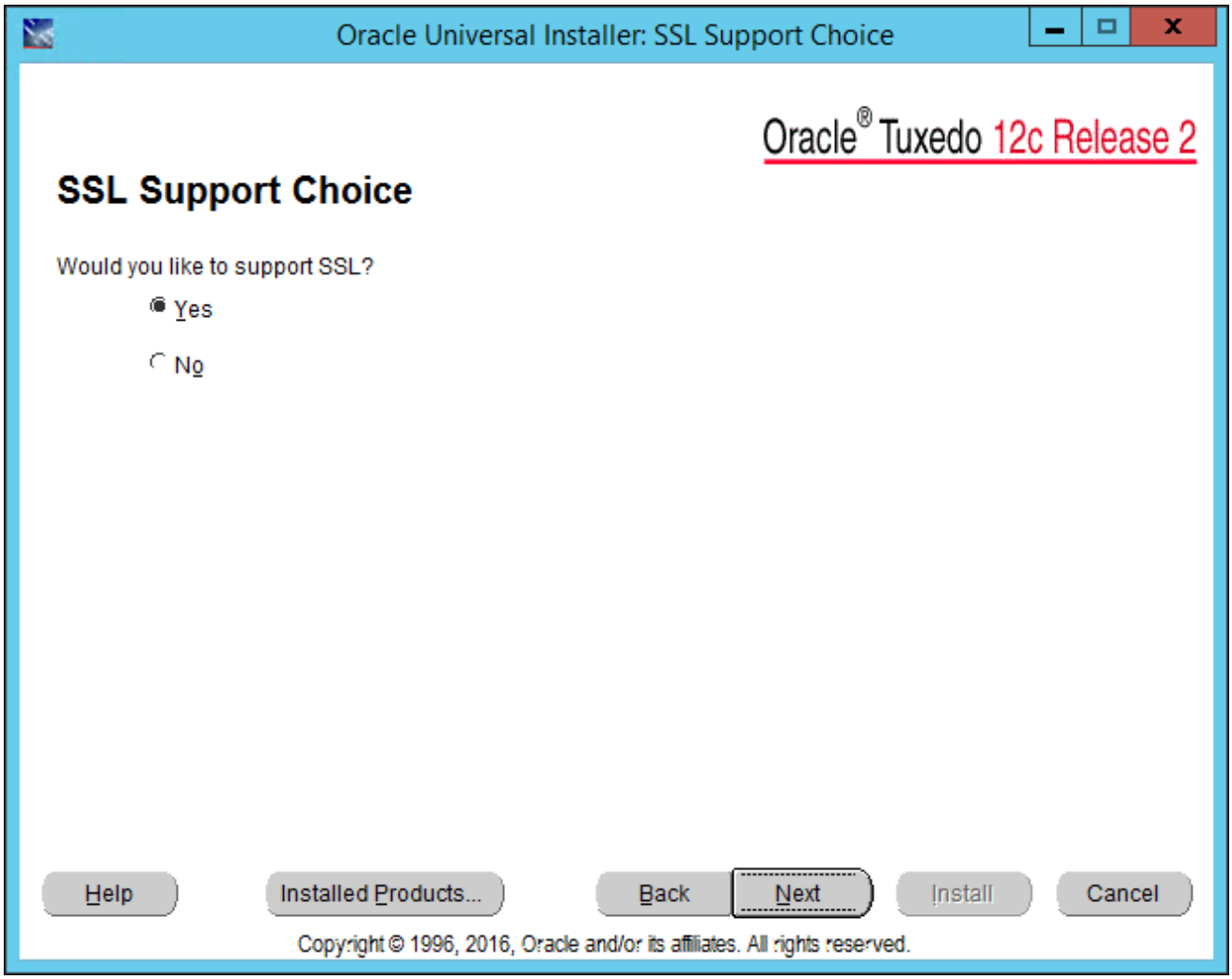
Oracle Universal Installer: Choose Min Encryption Bits window

13. Accept the default value of 256 as the default value of maximum encryption bits.



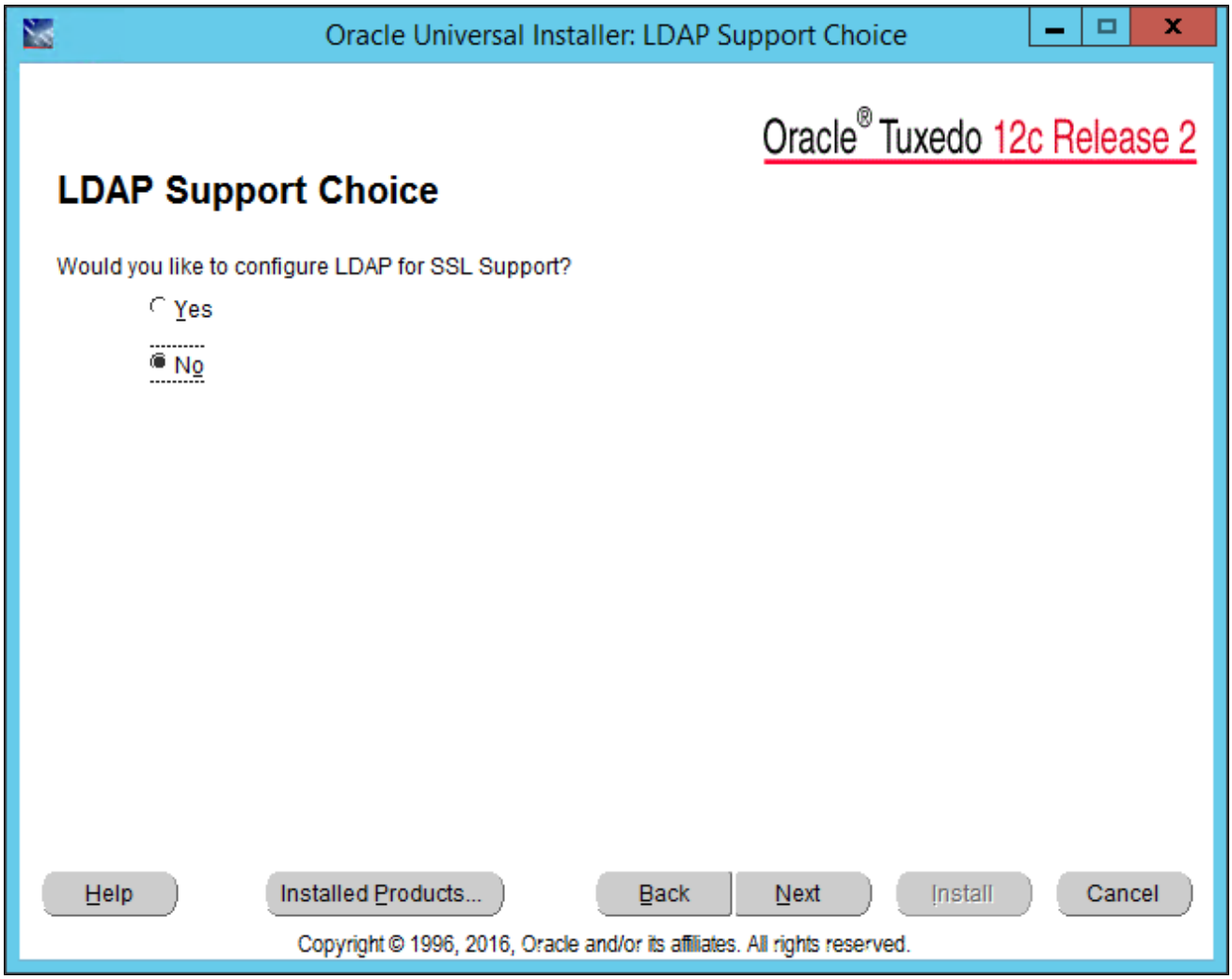
Oracle Universal Installer: Choose Max Encryption Bits window

14. Select Yes on the SSL Support Choice window, as shown in this example, and then click Next.



Oracle Universal Installer: SSL Support Choice window

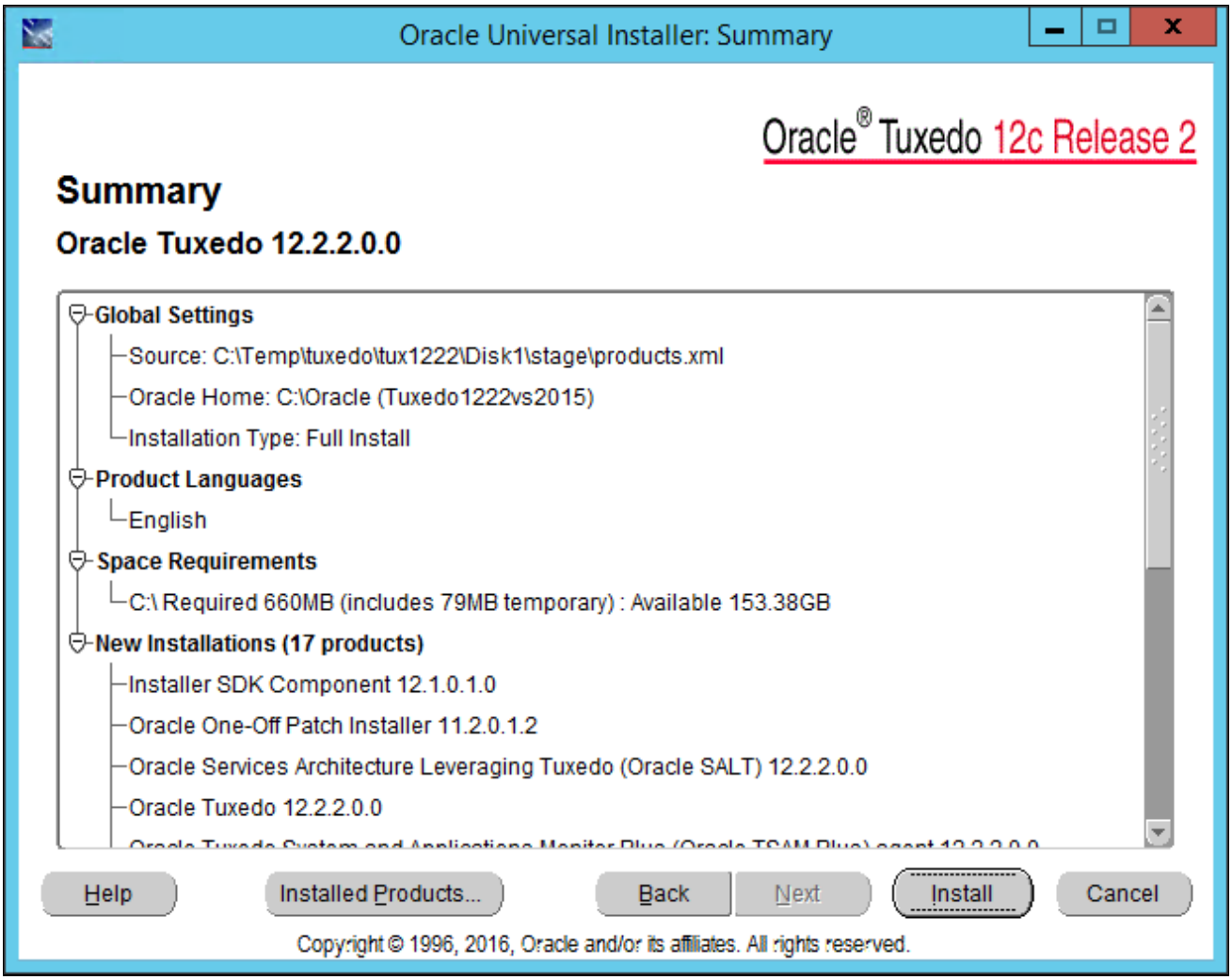
15. Select No for the option Would you like to configure LDAP for SSL Support? and then click Next.



Oracle Universal Installer: LDAP Support Choice window

16. Review the summary information, and click Install to continue.

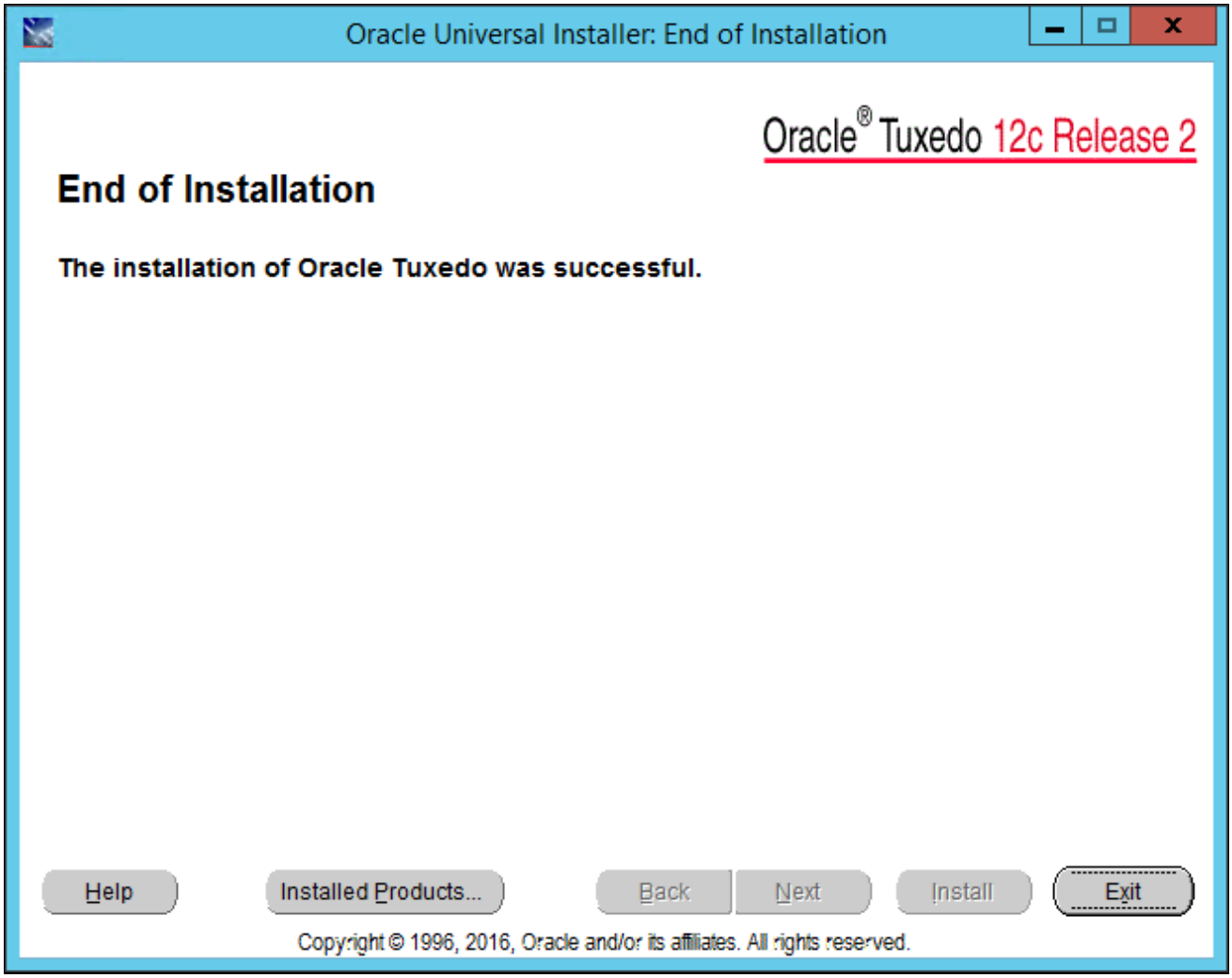
    The summary information, shown in this example, includes the product name, install folder, installation type, and disk space information. If you want to change any of your choices, click Back.



Oracle Universal Installer: Summary window

A progress indicator appears during the installation.

17. Click Exit when you see the window indicating the installation completed successfully, as shown in this example.



Oracle Universal Installer: End of Installation window

Task 12-1-6: Installing the Oracle Tuxedo Patch on Microsoft Windows

These instructions assume that you have installed the base Oracle Tuxedo 12cR2_VS2015, and have downloaded the platform-specific version of the rolling patch to a directory referred to here as *TUX_INSTALL*. Carry out these steps as a user with administrative privileges.

To install the patch:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.
2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as C:\oracle\tuxedo12.2.2.0.0_VS2015.

   Note. The TUXDIR directory should include subdirectories bin and udataobj.

3. Verify that the environment variable ORACLE_HOME is set to the *ORACLE_HOME* location you specified when you installed Oracle Tuxedo, such as C:\oracle.

Note. This is the parent directory for the Oracle Tuxedo installation. It should include subdirectories OPatch and oui.

4. Verify that the environment variable JAVA_HOME is set to the 64-bit JDK 1.8 directory, as mentioned in the prerequisites section.
5. Run the following command to verify the opatch version:

   ```
   %ORACLE_HOME%\OPatch\opatch.bat version
   ```

   The version should be 12.1.0.1.1 or later. If the version is lower, you must first update opatch by installing patch 19166960.
6. Launch the Services window; for example, select Start, Administrative Tools, Services.
7. Select each of the following services, right-click, and select Stop:
   - ORACLE ProcMGR V12.2.2.0.0_VS2015
   - TListen 12.2.2.0.0_VS2015 (Port: 3050)

     Note. The port number is variable.
8. Uninstall any existing patches.
9. Go to the directory where you downloaded the patch zip file from My Oracle Support, *TUX_INSTALL*, and unzip the file.

   This creates a directory that includes a zip file named 25391869.zip with the patch.
10. Set the environment variable for the platform ID; for example:

    ```
    set OPATCH_PLATFORM_ID=233
    ```

    You can find the value for OPATCH_PLATFORM_ID in the file *ORACLE_HOME/*inventory/ContentsXML/oraclehomeproperties.xml.
11. Open a command prompt and go to the *TUX_INSTALL/*25391869 directory.
12. Run the following command:

    ```
    %ORACLE_HOME%\OPatch\opatch.bat apply 25391869.zip
    ```

    Note. The patch installer backs up all files being patched. The backup copy is located in the directory *ORACLE_HOME*\.patch_storage\. Do not delete these backup files. They will be used if you need to remove the patch installation.

    You see a message similar to the following:

    ```
    Oracle Home       : C:\oracle
    Central Inventory  : C:\Program Files\Oracle\Inventory
       from            : n/a
    OPatch version     : 12.2.0.1.0
    OUI version        : 12.2.0.1.0
    Log file location  : C:\oracle\cfgtoollogs\opatch\opatch<datetime>.log
    ```
13. If OPatch cannot locate the Oracle inventory, you may see a messages such as the following:

    ```
    Applying interim patch 25391869 to OH 'C:\Oracle'
    Verifying environment and performing prerequisite checks.
    OPatch system modification phase did not start
    ```

In this case, specify the full path to the Oracle inventory file oraInst.loc, with the `invPtrLoc` option:

```
%ORACLE_HOME%\OPatch\opatch.bat apply 25391869.zip -invPtrLoc <full_⇒
path_to_inventory_file>
```

Task 12-1-7: Installing Oracle Tuxedo on Microsoft Windows in Silent Mode

This section discusses:

- Understanding Silent Installation on Microsoft Windows
- Running the Silent Mode Installation on Microsoft Windows

Understanding Silent Installation on Microsoft Windows

You can carry out a silent installation of Oracle Tuxedo 12cR2_VS20125 by providing all the required settings in a response file. With silent installation there is little or no user interaction.

See Oracle Tuxedo documentation.

Use a text editor to create the response file and specify the values according to your installation requirements. Here is a sample response file:

```
#
# .......... Silent Installation Properties file .........
#

RESPONSEFILE_VERSION=2.2.1.0.0

ORACLE_HOME="C:\oracle"

ORACLE_HOME_NAME="tuxedo1222_VS2015"

INSTALL_TYPE="Full Install"

ENABLE_TSAM_AGENT=false

LDAP_SUPPORT_SSL=false

INSTALL_SAMPLES=false

ENCRYPT_CHOICE=0

CONFIG_TLISTEN=false
```

Most of the entries are similar to those seen in the GUI installation. Note the following definitions:

- ORACLE_HOME: The high level installation directory, for example C:\oracle.

  The installer creates the Oracle Tuxedo installation directory, *TUXDIR*, as ORACLE_HOME\tuxedo12.2.2.0.0_VS2015.
- ORACLE_HOME_NAME: The name of the current Oracle installation, for example tuxedo1222_VS2015.

  This identifies the Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list.

Running the Silent Mode Installation on Microsoft Windows

The following procedure assumes that you saved and extracted the installation file from Oracle Software Delivery Cloud in the directory *TUX_INSTALL.*

See Obtaining the Oracle Tuxedo Installation Files from Oracle Software Delivery Cloud.

To run the installer:

1. Create a response file as described in the previous section and copy it to *TUX_INSTALL*.
2. Open a command prompt and change directory to *TUX_INSTALL*\Disk1\install.
3. Run the installer.
   - If you specify an empty directory for ORACLE_HOME, use this command:

     ```
     setup.exe -silent -responseFile response_file
     ```

     Specify the full path to the response file. For example, if the response file name is response.rsp, and *TUX_INSTALL* is D:\Temp, use this command:

     ```
     setup.exe -silent -responseFile D:\Temp\response.rsp
     ```

   - If you specify an existing directory that is not empty for ORACLE_HOME, you must include the `–force` option.

     When you use the `–force` option with a non-empty ORACLE_HOME, you may see a warning message recommending that you install to an empty directory or one that includes Operating System generated files. You may close the message to continue the installation.

     ```
     setup.exe -silent -responseFile D:\Temp\response.rsp -force
     ```

     Note. If you do not include the `–force` option with an ORACLE_HOME directory that is not empty, the installer will abort.

4. After you enter the commands in the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

   When the installation is complete, you should see a completion message such as "The installation of Oracle Tuxedo was successful."

Task 12-1-8: Uninstalling the Oracle Tuxedo Patch on Microsoft Windows

To remove an Oracle Tuxedo installation, you must first remove the rolling patch, as follows:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.
2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as C:\oracle\tuxedo12.2.2.0.0_VS2015.
3. Verify that the environment variable ORACLE_HOME is set to the *ORACLE_HOME* location you specified when you installed Oracle Tuxedo, such as C:\oracle.
4. Open a command prompt and run the following command:

   ```
   %ORACLE_HOME%\OPatch\opatch.bat rollback -id 25391869
   ```

Task 12-1-9: Uninstalling Oracle Tuxedo in GUI Mode

To remove the Oracle Tuxedo 12cR2_VS2015 or 12cR2 installation, use Oracle Universal Installer (OUI).

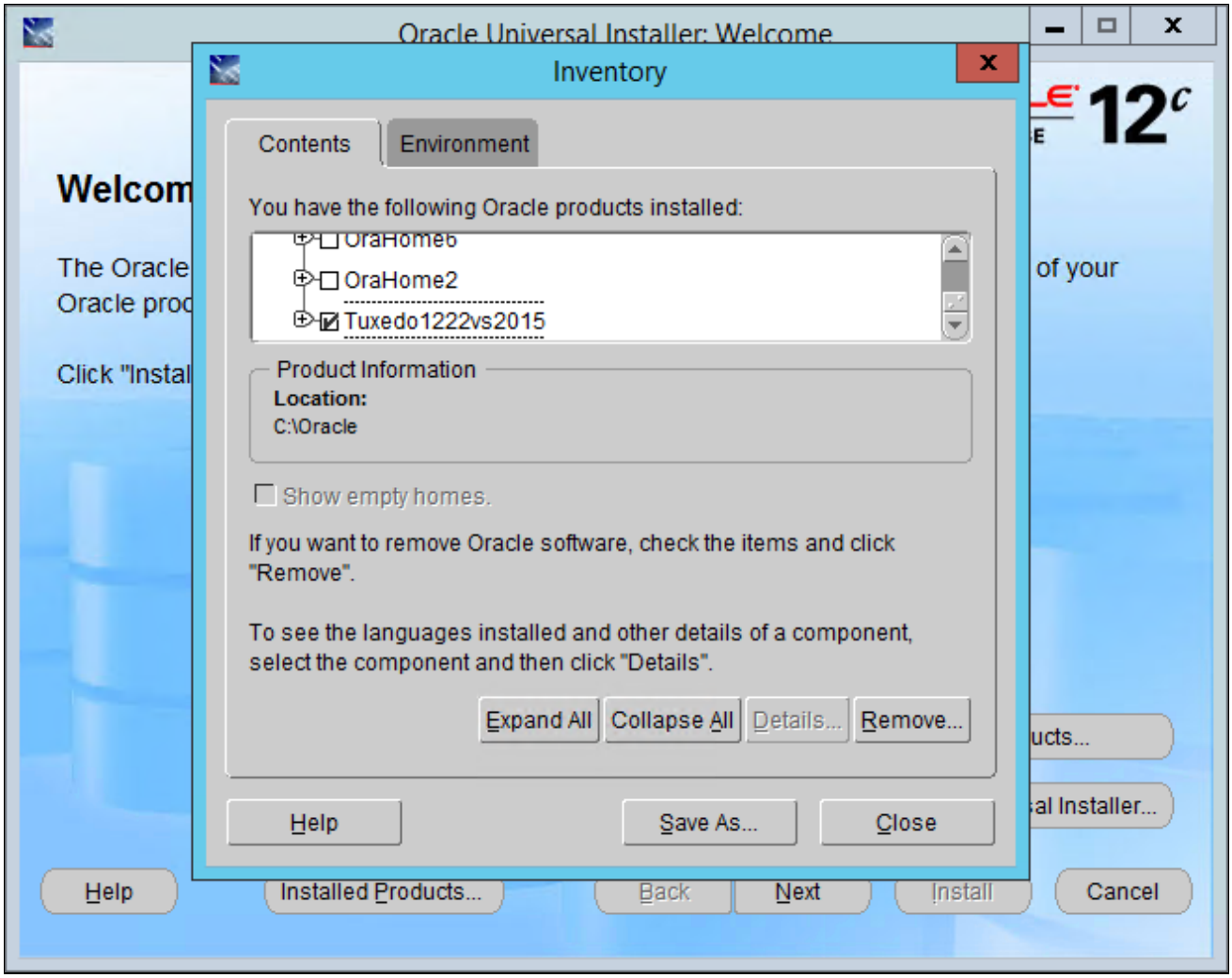
1. Start Oracle Universal Installer (OUI).

   The way that you access OUI may vary depending upon your environment. Use one of the following methods, for example:

   - On Microsoft Windows 2012 R2, access the Apps screen, and select Oracle 12c, Oracle Installation Products, Universal Installer.
   - Double-click *TUX_INSTALL*\Disk1\install\setup.exe.
2. Click Deinstall Products, as shown in this example:

Oracle Universal Installer: Welcome window

3. On the Contents page, select the name for the Oracle Tuxedo installation, which is tuxedo1222vs2015 in this example, and then click Remove.



Inventory window: Contents page

4. Open the Microsoft Windows registry, for example by selecting Start, Run, regedit.

   Verify that the following key has been removed from the registry:

   HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\TUXEDO\12.2.2.0.0_VS2015

Task 12-1-10: Checking the Windows Service Account

Use the information in this section to ensure that the Microsoft Windows services are properly configured. Oracle recommends installing the application server binaries locally on your C drive, for best performance. The procedure to set up the ORACLE ProcMGR V12.2.2.0.0_VS2015 service in the next section includes options for the account type. Use the following guidelines to choose between the Local System account option and the This Account option. (For the option This Account, you must specify a user ID and password.)

Note. For the sake of brevity and convenience, this documentation sometimes shortens "ORACLE ProcMGR V12.2.2.0.0_VS2015" to "Oracle ProcMGR."

- If you plan to install the PeopleSoft application server binaries (as in, psappsrv.exe and so on) on a remote file

server, you must select the This Account option.

- If the PeopleSoft application server binaries are *local*, that is, they exist on your local hard drive, you can use either the Local System account or This Account option.
- If you intend to use this Microsoft Windows service to start Process Scheduler, you must *always* select the This Account option. Enter the name of your Domain/Windows user name—not the machine name—and your password.
- If you are running on Microsoft Windows and are configuring a search index that resides on a mapped network drive, you must ensure that the user ID of the Oracle ProcMGR service has access to network drives accessed by the search engine. The search engine stores the search indexes at *PS_HOME/*data/search. However, this path can be changed in the application or the Process Scheduler's configuration. If this path is changed in these configurations and it points to a network drive, you must ensure that the user ID that starts the Oracle ProcMGR service has access to these network drives. The application server and the Process Scheduler are started by the Oracle ProcMGR service and therefore inherit the same permissions as the Oracle ProcMGR service.

See Also

"Setting Up Process Scheduler on Windows," Setting Up Process Scheduler Security

Task 12-1-11: Restricting Domain Process Privileges

This section discusses:

- Understanding Domain Process Privileges
- Setting TM_CPAU Environment Variable

Understanding Domain Process Privileges

For PeopleSoft systems, the Oracle ProcMGR service (tuxipc.exe) is responsible for starting Oracle Tuxedo domain processes on Microsoft Windows. By default, domain processes run as the same user ID that the service is running as. In a default installation, the service is configured to log on to Microsoft Windows as the Local System user. Microsoft does not support assigning network privileges to the Local System user for security reasons, but the Local System user otherwise has full administrative access to the local system.

In this configuration, PeopleSoft PeopleTools domain processes also run as the Local System user, which presents several potential issues, including:

- PeopleSoft PeopleTools domain processes are unable to access network resources.
- PeopleSoft PeopleTools domain processes run with more privileges than are necessary. A compromised PeopleSoft PeopleTools process will have full access to the local system and could potentially be used to gain unauthorized access to the local system.
- All PeopleSoft PeopleTools domain processes on the system run as the same user ID.

These problems are not present on UNIX systems where domain processes are always started as the user that runs tmadmin (by way of PSADMIN for PeopleSoft installations) to boot the domain. UNIX systems therefore support multiple domains, each running under different user IDs, with only the desired local privileges, and with no undesirable restrictions to network resources.

For Microsoft Windows platforms, you can use the Oracle Tuxedo TM_CPAU environment variable to achieve behavior similar to UNIX systems. If TM_CPAU is set to *YES* before tuxipc is started, tuxipc creates an Oracle Tuxedo process that belongs to the user who initiated tmboot. If the Oracle ProcMGR service (tuxipc.exe) is started with the TM_CPAU=YES environment variable set, then domain processes will run as the user ID used to run tmadmin (PSADMIN) to boot the domain.

Using the TM_CPAU environment variable enables a variety of configuration options, including:

- The Oracle ProcMGR service can be run as the Local System user, but domain processes can be run using a minimally privileged user. This reduces the chance of a compromised PeopleSoft PeopleTools process being used to gain unauthorized access to the system. Note that the option "Allow services to interact with Desktop" should *not* be selected.
- The Oracle ProcMGR service can be configured to log on to Microsoft Windows using a minimally privileged user ID and PeopleSoft PeopleTools processes can run as a user with more privileges than the Oracle Tuxedo user ID. For example, the Oracle Tuxedo user ID could have read-only access to *PS_CFG_HOME*, but the PeopleSoft PeopleTools user could have read-write access. The Oracle Tuxedo user ID does not actually require read access to *PS_HOME*. When CreateProcessAsUser runs, access to the executable to start is evaluated using the user ID that the process will run as.
- A single Microsoft Windows system can be used to host multiple PeopleSoft PeopleTools installations that are each administered by a different user. A non-administrative user ID used to boot one domain will have no privileges to processes started with a different user ID.
- Domain processes can be identified and managed in Windows Task Manager by a non-administrative user.

See File Formats, Data Descriptions, MIBs, and System Processes Reference, Oracle Tuxedo Reference Topics, http://docs.oracle.com/cd/E35855_01/tuxedo/docs12c/rf5/rf5.html.

Setting TM_CPAU Environment Variable

This is a recommended step. Perform this step only if Local System account is used in the task Setting Up the Windows Services for Oracle Tuxedo.

To set the TM_CPAU environment variable:

1. Access the Control Panel, and then select System and Security, System, on Microsoft Windows 8 or 2012 R2.
2. Select Advanced system settings.
3. Select the Advanced tab.
4. Click Environment Variables.
5. In the System variables area, click New to add a new environment variable.
6. Enter TM_CPAU as the variable name, YES as the value, and click OK three times to close the dialog boxes.
7. Restart your machine.

Task 12-1-12: Setting Up the Windows Services for Oracle Tuxedo

To set up the Microsoft Windows services for Oracle Tuxedo:

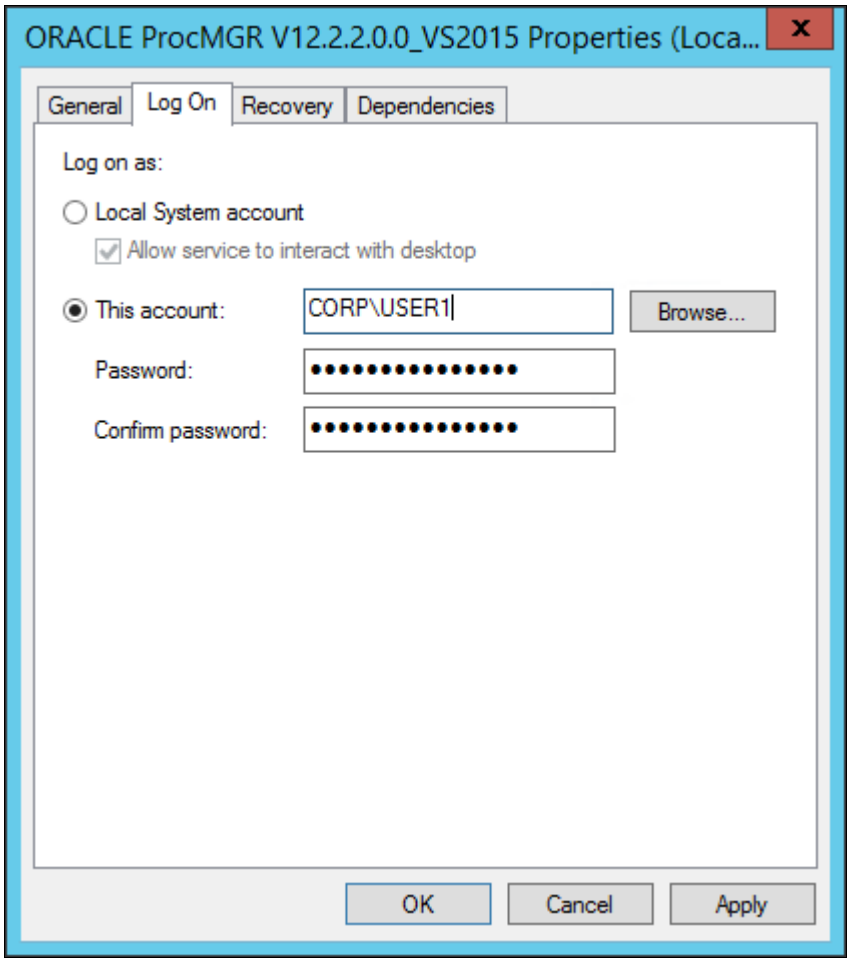
1. Log on again as the Application Server Administrator, TUXADM, or a designated user ID.
2. Open the Control Panel and double-click Administrative Tools.
3. Select Computer Management and expand Services and Applications.
4. Select Services and locate the service labeled *ORACLE ProcMGR V12.2.2.0.0_VS2015*.

   Double-click ORACLE ProcMGR V12.2.2.0.0_VS2015 to open the properties dialog box.

5. On the General tab, if the Stop button is enabled, click it to stop the current ORACLE ProcMGR V12.2.2.0.0_VS2015 process.
6. Select Log On.
7. Choose either Local System account or This account.

   If you select This account, as shown in this example, be sure to specify a user with the appropriate permissions, and then enter and confirm the password.

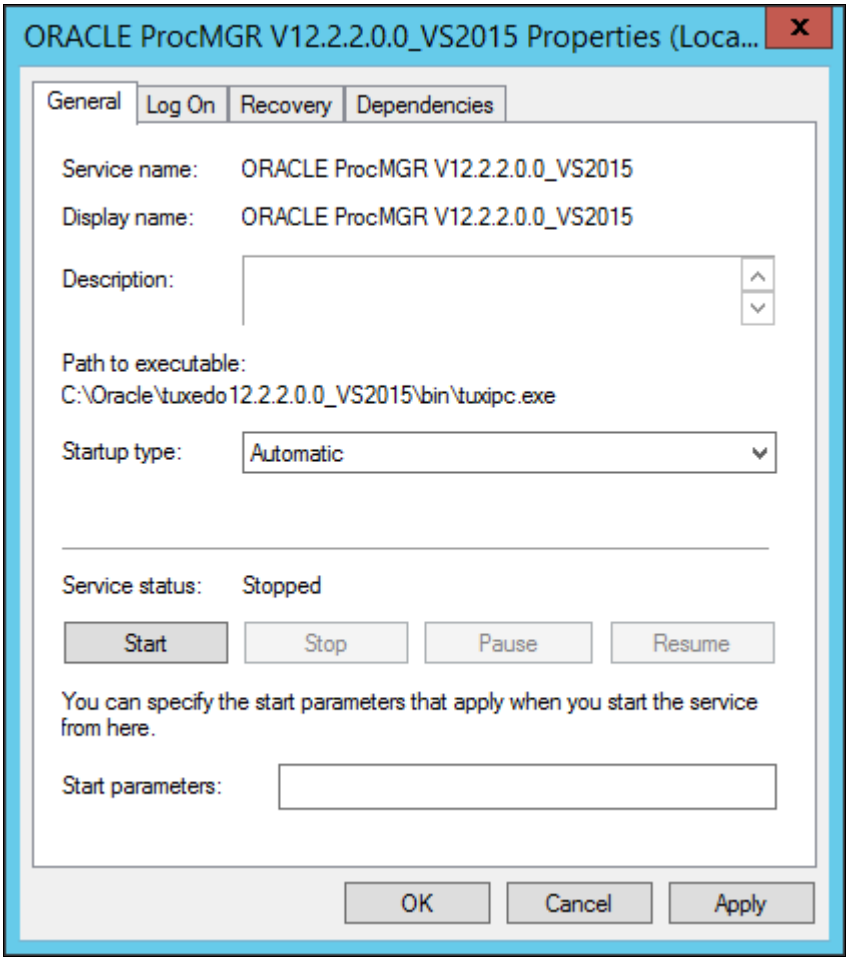
   See Checking the Windows Service Account.



ORACLE ProcMGR V12.2.2.0.0_VS2015 Properties dialog box: Log On tab

8. Select General.

   Make sure that Startup Type is set to *Automatic*, as shown in this example.



ORACLE ProcMGR V12.2.2.0.0_VS2015 Properties dialog box: General tab

9. Click Start.

   The status Started appears both on the General tab of the Oracle ProcMGR V12.2.2.0.0_VS2015 Properties dialog box and in the Services dialog box. Click OK to close the dialog box.

10. As mentioned, unless you intend to use the Tuxedo Web Monitor, you should disable the TListen 12.2.2.0.0_VS2015 (Port: *PORT*) service, where *PORT* is the port number you entered during the installation. The default is 3050.

Task 12-1-13: Verifying the Server Installation on Microsoft Windows

At this point, you should verify that the server installation was successful.

To verify the installation:

1. Open a command prompt.
2. Set the TUXDIR environment variable; for example:

   ```
   set TUXDIR=C:\oracle\tuxedo12.2.2.0.0_VS2015
   ```

3. Go to the directory where you installed Oracle Tuxedo, *TUXDIR*, and then to the bin sub-directory. For

example:

```
C:\oracle\tuxedo12.2.2.0.0_VS2015\bin
```

4. Issue this command:

   ```
   tmadmin -v
   ```

   The command will return the Oracle Tuxedo version that is installed. For example:

   ```
   INFO: Oracle Tuxedo, Version 12.2.2.0.0_VS2015, 64-bit, Patch Level 016
   ```

   If you do not see the desired output, review your steps and reinstall Oracle Tuxedo 12cR2_VS2015.
5. Open the Microsoft Windows registry, for example by selecting Start, Run, regedit.

   Verify that the following key is created in the Windows registry:

   HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\TUXEDO\12.2.2.0.0_VS2015

Task 12-1-14: Removing Existing Oracle Tuxedo Installations from UNIX (Optional)

You may have older versions of Oracle Tuxedo installed on your system from an earlier version of PeopleSoft PeopleTools. If you are completely upgrading to PeopleSoft PeopleTools 8.56 from an earlier version of PeopleSoft PeopleTools and you do not require the older Oracle Tuxedo anymore, then, you may uninstall it.

Note. It is not mandatory to uninstall older Oracle Tuxedo versions from the machine where you are installing Oracle Tuxedo 12cR2, as older Oracle Tuxedo versions and Oracle Tuxedo 12cR2 can exist on the same machine.

You may have to remove your Oracle Tuxedo installation on UNIX for the following reasons:

- You are having problems starting Oracle Tuxedo and decide to reinstall.
- You no longer need Oracle Tuxedo on a machine.

To remove Oracle Tuxedo from UNIX:

1. Using PSADMIN, shut down any application server, Process Scheduler, and Search server domains that may be running on the machine.
2. Use the UNIX `rm` command to directly remove the Oracle Tuxedo installation.

   Be sure to remove the directory containing Oracle Tuxedo, referred to here as *TUXDIR*.
3. Remove the TUXDIR environment variable and any entries containing your platform-specific LIBRARY PATH and PATH environment variables.

Task 12-1-15: Completing the Preinstallation Checklist on UNIX

We recommend that you complete the following preinstallation checklist before you begin the Oracle Tuxedo installation. The checklist includes various parameters with descriptions and example values. Specify your values in the Real Value column. Completing this information first should save you time during your installation.

Item	Description	Example Value	Real Value
ORACLE_HOME	The high level installation directory. You specify this value in the silent installation file.	/oracle	<enter value>

Item	Description	Example Value	Real Value
ORACLE_HOME_NAME	The name of the current Oracle installation. This identifies the Oracle Tuxedo installation in the Oracle Universal Installer, when reviewing the Installed Products list.	tuxedo1222	<enter value>
TUXDIR	The full path to the Oracle Tuxedo installation. The installer creates this as ORACLE_HOME/tuxedo12.2.2.0.0	/oracle/tuxedo12.2.2.0.0	<enter value>
Username	The UNIX user name of the Application Server Administrator (Oracle Tuxedo owner). See the next section for instructions.	tuxedo	<enter value>
UNIX_GROUP_NAME	The UNIX group name of the Oracle Tuxedo owner. See the next section for instructions.	tuxedo	<enter value>
FROM_LOCATION	The full path to the directory containing the products to be installed.	/home/temp/Disk1/stage/products.xml	<enter value>

Note. You can select any user name and group name you want; however, you might want to use the "tuxedo" convention for simplicity.

Task 12-1-16: Designating the Oracle Tuxedo Owner on UNIX

A new or existing user must be designated as the Oracle Tuxedo owner.

Note. For Oracle Tuxedo 11gR1 and later releases, the application server can be booted only by the Oracle Tuxedo owner or the group that the owner is in. The predefined UNIX "other" group does not have read or execute permission. If it is required that members of the "other" group be able to boot and shut down an application server domain, you must manually give read and execute permissions to all files and folders under the *TUXDIR/*locale and *TUXDIR/*udataobj directories.

To designate the Oracle Tuxedo owner:

1. Log in as root.
2. Create the UNIX group and the user name of the individual who will be the owner of Oracle Tuxedo.

   Using the values from the preinstallation checklist, create the group and specify the group name. Then create the user who will be the Oracle Tuxedo owner, specifying the user name, group name, and home directory, denoted by TUXDIR from the checklist.

Note. The utility that you use to create the user and group varies, depending on your operating system. For example, HP-UX Itanium uses the "sam" utility, IBM AIX uses the "smit" utility, and so on. For the exact utility, refer to your operating system documentation.

Task 12-1-17: Installing Oracle Tuxedo in Silent Mode on UNIX

This section discusses:

- Understanding the Silent Mode Installation on UNIX
- Running the Silent Mode Installation on UNIX

Understanding the Silent Mode Installation on UNIX

You can carry out a silent installation of Oracle Tuxedo 12cR2 by providing all the required settings in a response file. With silent installation there is little or no user interaction.

Note. Console mode installation is not supported for Oracle Tuxedo 12cR2.

Use a text editor to modify the values in the response file according to your installation requirements. Here is a sample response file:

```
#
# .......... Silent Installation Properties file .........
#

RESPONSEFILE_VERSION=2.2.1.0.0
#Unix group to be set for the inventory directory. Valid only in Unix⇒
 platforms.
UNIX_GROUP_NAME="dba"

#Complete path of the Oracle Home.
ORACLE_HOME="/home/psftuser/oracle"

#Oracle Home Name. Used in creating folders and services.
ORACLE_HOME_NAME="tuxedo1222"
DEINSTALL_LIST={"Tuxedo","12.2.2.0.0"}
SELECTED_LANGUAGES={"en"}
COMPONENT_LANGUAGES={"en"}
INSTALL_TYPE="Full Install"
ENABLE_TSAM_AGENT=false
LDAP_SUPPORT_SSL=false
TLISTEN_PORT="3050"
MIN_CRYPT_BITS_CHOOSE=0
MAX_CRYPT_BITS_CHOOSE=256
INSTALL_SAMPLES=true
ENCRYPT_CHOICE=0
CONFIG_TLISTEN=true
TLISTEN_PASSWORD=password
```

Running the Silent Mode Installation on UNIX

The following procedure assumes that:

- You saved and extracted the installation files from Oracle Software Delivery Cloud in the directory *TUX_INSTALL*.
- You installed the supported version of Java 8.

  The command requires the full path for the JRE file, such as /home/java/jre1.8.0_65.

To install Oracle Tuxedo on UNIX operating systems:

1. If it does not exist, use a text editor, such as "vi", to create the central inventory location file, named oraInst.loc, in a convenient directory.

   If you have previously installed Oracle software on the system, the oraInst.loc file may already exist. The oraInst.loc file contains only the following two lines:

   ```
   inventory_loc=/home/psftuser/oraInventory
   inst_group=ccpt
   ```

   The oraInst.loc file contains the following information:

   - inventory_loc — Specify the full path to the directory where you want the installer to create the inventory directory. The location in the example is /home/psftuser/oraInventory.
   - oui_install_group — Specify the name of the group whose members have write permissions to this directory. The group name in the example is ccpt.
2. Create a response file as described in the previous section and copy it to *TUX_INSTALL*.
3. Open a command prompt and change directory to *TUX_INSTALL*/Disk1/install.
4. If this is the first time you are installing on your system (that is, there is no pre-existing Oracle inventory location, and you had to create the oraInst.loc file in the first step), use the following command to perform a silent installation:

   ```
   ./runInstaller -responseFile <complete_filename> -silent -invPtrLoc ⇒
   <complete_inventory_filename> -jreLoc <JRE file location>
   ```

   Specify the full path and name for the response file, the oraInst.loc file, and the JRE file. For example:

   ```
   ./runInstaller -responseFile /home/temp/response.rsp -silent -invPtrLoc⇒
    /home/psftuser/oraInventory/oraInst.loc -jreLoc /home/java/jre1.8.0_65
   ```

5. If you have previously installed an Oracle product on your system and do not need to specify an Oracle inventory location, use the following command to perform a silent installation:

   ```
   ./runInstaller -responseFile <complete_filename> -silent -jreLoc <JRE⇒
    file location>
   ```

   Specify the full path and name for the response file and the JRE file. For example:

   ```
   ./runInstaller -responseFile /home/temp/response.rsp -silent -jreLoc ⇒
   /home/java/jre1.8.0_102
   ```

6. After you enter the commands in the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

   The progress indicator includes the name and location of the installation log file. When the installation is complete, you should see a successful completion message.

Task 12-1-18: Installing the Oracle Tuxedo Patch on UNIX

These instructions assume that you have installed the base Oracle Tuxedo 12cR2, and have downloaded the platform-specific version of the rolling patch to a directory referred to here as *TUX_INSTALL*.

To install the patch:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.

   Shut down any tlisten processes.

2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as /home/psftuser/oracle/tuxedo12.2.2.0.0.

   Note. The TUXDIR directory should include subdirectories bin and udataobj.

3. Verify that the environment variable ORACLE_HOME is set to the *ORACLE_HOME* location you specified when you installed Oracle Tuxedo, such as /home/psftuser/oracle.

   Note. This is the parent directory for the Oracle Tuxedo installation. It should include subdirectories OPatch and oui.

4. Verify that the environment variable JAVA_HOME is set to the 64-bit JDK 1.8 directory, as mentioned in the prerequisites section.
5. Go to the directory where you downloaded the patch zip file from My Oracle Support, *TUX_INSTALL*, and extract the file.

   This creates a directory 25391869, which includes a zip file with the patch.

6. Open a command prompt and go to the *TUX_INSTALL/*25391869 directory.
7. Run the following command:

   ```
   $ORACLE_HOME/OPatch/opatch apply 25391869.zip
   ```

   Note. The patch installer backs up all files being patched. The backup copy is located in the directory *ORACLE_HOME*\.patch_storage\. Do not delete these backup files. They will be used if you need to remove the patch installation.

8. If OPatch cannot locate the Oracle inventory, you may see a messages such as the following:

   ```
   Applying interim patch 25391869 to OH '/oracle'
   Verifying environment and performing prerequisite checks.
   OPatch system modification phase did not start
   ```

   In this case, specify the full path to the Oracle inventory file oraInst.loc, with the `invPtrLoc` option:

   ```
   %ORACLE_HOME%/OPatch/opatch.bat apply 25391869.zip -invPtrLoc <full_⇒
   path_to_inventory_file>
   ```

Task 12-1-19: Uninstalling the Oracle Tuxedo Patch from UNIX

To remove an Oracle Tuxedo installation, you must first remove the rolling patch, as follows:

1. Stop all PeopleSoft PeopleTools domains that are running and using your Oracle Tuxedo installation.
2. Verify that the environment variable TUXDIR is set to the Oracle Tuxedo installation location, such as /home/psftuser/oracle/tuxedo12.2.2.0.0.

3. Verify that the environment variable ORACLE_HOME is set to the *ORACLE_HOME* location you specified when you installed Oracle Tuxedo, such as /home/psftuser/oracle.
4. Open a command prompt and run the following command:

```
$ORACLE_HOME/OPatch/opatch rollback -id 25391869
```

Task 12-1-20: Uninstalling Oracle Tuxedo from UNIX Using Silent Mode

To remove the Oracle Tuxedo 12cR2 installation from UNIX:

1. Open a command prompt and change directory to *TUX_INSTALL/*Disk1/install.
2. Run the following command, where ORACLE_HOME refers to the high-level installation director, and REMOVE_HOMES refers to the directory to be removed:

```
./runInstaller -deinstall -silent ORACLE_HOME=<LOCATION_OF_ORACLE_HOME>⇒
 "REMOVE_HOMES={<LOCATION_OF_ORACLE_HOME_TO_BE_REMOVED>}"
```

   For example:

```
./runInstaller -deinstall -silent ORACLE_HOME="/home/psftuser/oracle"⇒
 "REMOVE_HOMES={/home/psftuser/oracle}"
```

See Oracle Tuxedo documentation.

Task 12-1-21: Verifying the Server Installation on UNIX

To verify that the server installation was successful:

1. Open a shell.
2. Change directory to *TUXDIR/*bin. For example:

```
/home/psftuser/oracle/tuxedo1222/bin
```

3. Issue the following command:

```
tmadmin -v
```

The command will return the Oracle Tuxedo version that is installed. For example:

```
INFO: Oracle Tuxedo, Version 12.2.2.0.0, 64-bit, Patch Level 016
```

If you do not see the desired output, review your steps and reinstall Oracle Tuxedo 12cR2.

Task 12-1-22: Ensuring that Oracle Tuxedo Coexists with Earlier Versions

This section discusses:

- Understanding the Use of Multiple Oracle Tuxedo Versions
- Checking Your Environment Variables
- Changing the TListen Port

Understanding the Use of Multiple Oracle Tuxedo Versions

Earlier versions of PeopleSoft PeopleTools rely on earlier versions of Oracle Tuxedo—for example, PeopleSoft PeopleTools 8.49 uses Oracle Tuxedo 9.1, and releases 8.44 to 8.48 use Oracle Tuxedo 8.1. If you are installing only PeopleSoft PeopleTools 8.56, you can safely skip this section. If you need to run application servers on PeopleSoft PeopleTools 8.56 and earlier PeopleSoft PeopleTools versions on the same machine, read this section to learn about coexistence issues. Although Oracle Tuxedo 12cR2 coexists with earlier Oracle Tuxedo versions on the same machine, you may need to take a number of manual steps to ensure that these products share the same environment gracefully.

Checking Your Environment Variables

Installing Oracle Tuxedo changes your TUXDIR and PATH environment variables. Although you do not need to change these environment variables to successfully run PeopleSoft PeopleTools 8.56 with Oracle Tuxedo 12cR2, earlier versions of PeopleSoft PeopleTools rely on these environment variables being set.

To change your environment variables manually:

1. Set your TUXDIR environment variable to reflect the installation directory of your earlier Oracle Tuxedo release.

   For example, Oracle Tuxedo 8.1 may be installed to C:\tux8.1. This means that TUXDIR=C:\tux8.1 is the correct setting.

2. Your PATH environment variable must contain *TUXDIR*\bin for the earlier Oracle Tuxedo version before any entries for *TUXDIR*\bin for Oracle Tuxedo 12cR2.

   For example the setting PATH=C:\winnt;C:\oracle\tuxedo12.1.3.0.0_VS2012\bin;C:\tux8.1\bin will cause your pre-8.49 domains to no longer work. You would need to change this to PATH=C:\winnt;C:\tux8.1\bin;C:\oracle\tuxedo12.1.3.0.0_VS2012\bin to work with pre-PeopleSoft PeopleTools 8.49 domains.

   Note. PeopleSoft PeopleTools 8.44 and later do not use environment variables to discover the installation location of Oracle Tuxedo 8.1 and later. The PSADMIN tool retrieves these values from the Microsoft Windows registry.

   ---

3. Your library path on UNIX (whichever of the environment variables LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH is appropriate for your platform) must contain *TUXDIR/*lib for the earlier Oracle Tuxedo version before any entries for Oracle Tuxedo 12cR2.

   For example the setting LD_LIBRARY_PATH=/lib:/usr/lib:/home/user/Oracle/tuxedo12cR2/lib:/prod/tuxedo/8.1/lib, will cause your pre-8.49 domains to no longer work. You would need to change this to LD_LIBRARY_PATH=/lib:/usr/lib:/prod/tuxedo/8.1/lib:/home/user/Oracle/tuxedo12cR2/lib for your pre-8.49 domains to work.

Alternatively, you can set the environment variables for a desired release using these steps:

1. Go to the *TUXDIR* directory for the release that you want to run and run the command `./tux.env`.

   This command sets the environment variables needed to run Oracle Tuxedo.

2. Verify the correct Oracle Tuxedo version by running this command:

   ```
   tmadmin -v
   ```

   See Verifying the Server Installation on UNIX.

Changing the TListen Port

Installing Oracle Tuxedo 12cR2 and earlier creates a new service known as TListen. In most cases, you can disable this service as it is not required to run PeopleSoft PeopleTools application server domains. However, if you intend to use the Tuxedo Web Monitor you may wish to ensure that there is no port clash with earlier versions. This port is determined at installation and should be changed to a port other than the default 3050 if you intend on using the TListen service for Oracle Tuxedo 12cR2 and earlier Oracle Tuxedo versions concurrently.

Chapter 13

Installing Web Server Products

This chapter discusses:

- Installing Oracle WebLogic Server
- Installing IBM WebSphere Application Server

Task 13-1: Installing Oracle WebLogic Server

This section discusses:

- Understanding the Oracle WebLogic Installation
- Reviewing Troubleshooting Tips
- Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud
- Installing JDK
- Installing Oracle WebLogic on Microsoft Windows
- Installing Oracle WebLogic on UNIX in Silent Mode
- Configuring JDK for Daylight Savings Time Change
- Removing the Oracle WebLogic Installation on Microsoft Windows
- Removing the Oracle WebLogic Installation on UNIX

Understanding the Oracle WebLogic Installation

PeopleSoft PeopleTools 8.56 supports Java 8 enabled 64-bit Oracle WebLogic Server 12.2.1. You must install an operating-system specific Java Developers Kit (JDK) before beginning the Oracle WebLogic installation.

See Installing JDK for Oracle WebLogic.

This section describes a traditional installation of Oracle WebLogic. If you use the PeopleSoft DPKs, for either a full-tier installation using the PeopleSoft Application Images or for a mid-tier installation using the PeopleTools DPKs, Oracle WebLogic is installed as part of the installation, and you do not need to carry out the separate installation in this section. If you choose to install Oracle WebLogic independently of the DPK installation, you can obtain installation files for Oracle WebLogic on the Oracle Software Delivery Cloud portal and use the steps in this section.

See Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud.

To familiarize yourself with the most current support information and information about any required Oracle WebLogic service packs based on operating system platform or PeopleSoft PeopleTools versions, consult the Certifications area of My Oracle Support.

See Also

Oracle Software Delivery Cloud, http://edelivery.oracle.com

My Oracle Support, Certifications

Clustering and High Availability for PeopleTools, My Oracle Support, (search for the article title)

Operating System, RDBMS, and Additional Component Patches Required for Installation PeopleTools, My Oracle Support, (search for the article title and release number)

Oracle WebLogic Server 12.2.1 documentation, http://docs.oracle.com/middleware/1221/wls/index.html

Reviewing Troubleshooting Tips

If you have trouble with the installation, review these tips:

- It can require up to 800 MB space to install Oracle WebLogic. If there is not enough space, the installer displays an error with information about the space limitation. You will need to exit the installation and create some space under your home directory before starting over.
- The Oracle WebLogic installer makes use of the default system temporary space. It will stop and display an error message if the temporary space is not sufficient. Clean up the default system temp space and try again. If you do not have the privilege to clean up that directory and need to proceed, the workaround is to set aside a directory under your Home directory and use it as the temporary space. This can be achieved by setting `-Djava.io.tmpdir` in the command for launching the installer.

  The following command is a sample Linux command for silent mode installation, which uses the "temp" directory under your Home directory. *RESPONSE_DIR* refers to the location of the silent mode response file, and *INVENTORY_DIR* refers to the location of the Oracle inventory file.

  See Installing Oracle WebLogic on UNIX in Silent Mode.

  ```
  $JAVA_HOME/bin/java -jar -Djava.io.tmpdir=~/temp ./fmw_12.2.1.0.0_⇒
  wls.jar -silent -responseFile RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_⇒
  DIR/oraInst.loc
  ```

  Note. This workaround may not be applicable on all platforms. If you tried and the installer still errors out due to the amount of temporary space, contact your system administrator to clean up the system temporary space before proceeding.

- If the installation fails, and the Middleware Home directory that you specified for the Oracle WebLogic 12.2.1 installation is one in which other Oracle products have been installed in previous releases, (for example c:\oracle folder in Microsoft Windows), it may indicate corruption in the registry.xml file inside your existing Middleware Home. Pick a different location for the Oracle WebLogic 12.2.1 installation directory and try the installation again.
- If you are installing onto a UNIX environment, in case of installation failure, refer to the log file Wls1221Install.log under the installation logs directory to view the events that occurred.
- If you encounter the following error message while running in console mode on a Microsoft Windows operating system, it means an environment variable *_JAVA_OPTIONS* has been set in your system. It causes the Java process initiated by the Oracle WebLogic installer to fail.

  ```
  ERROR: JVMPI, an experimental interface, is no longer supported.
  Please use the supported interface: the JVM Tool Interface (JVM TI).
  ```

  To resolve the problem, remove the environment variable *_JAVA_OPTIONS* from your system and rerun the

installation.

- If you encounter the following error message while installing on an Oracle Solaris operating system, it means there is a problem with access to the temporary directory:

  ```
  *sys-package-mgr*: can't write cache file
  ```

  This message appears because the Oracle WebLogic installer creates a temporary directory (for example, on Oracle Solaris it is /var/tmp/wlstTemp) that is shared by all users, and it is unable to differentiate between users. As a result, access to the directory is blocked when the user accessing the directory is not the one who originally created the directory. The workaround for this problem is to remove the installation and install it again after manually adjusting the temporary directory permissions. A user with superuser privileges can use the following command to adjust the permissions:

  ```
  chmod -R 777 /var/tmp/wlstTemp
  ```

  For more information, search the Oracle documentation for Oracle WebLogic.

Task 13-1-1: Obtaining Oracle WebLogic Installation Files from Oracle Software Delivery Cloud

At this point you should have already downloaded the necessary files from Oracle Software Delivery Cloud. If not, this section includes additional information on finding and using the files for Oracle WebLogic if necessary.

See "Preparing for Installation," Using Oracle Software Delivery Cloud to Obtain Installation Files.

See Oracle Software Delivery Cloud, https://edelivery.oracle.com.

To obtain the files for Oracle WebLogic installation:

1. After logging in to Oracle Software Delivery Cloud, read the information about export restrictions, and then click Accept.
2. Enter Oracle WebLogic in the Product field, and select Oracle WebLogic Server Enterprise Edition (FMW, WLS, WebLogic Server 12c), from the drop-down list.

   Note. The Enterprise Edition includes Oracle WebLogic Server and Oracle Coherence, as well as other items.

3. Click Select Platform, select the operating system you are running on, and click Select.

   The following operating systems are supported:

   - IBM AIX
   - HP-UX Itanium
   - Linux
   - Microsoft Windows
   - Oracle Solaris on SPARC
4. Click Continue.
5. On the page listing the selected product, click Continue.

   Note. Click the arrow to view the list of products included.

6. Read the license agreements, and select the check box to acknowledge that you accept the agreement, and then click Continue.
7. Click Continue on the Download Queue page.
8. On the File Download window, download the zip files for Oracle WebLogic Server and Oracle Coherence.

Download the files you need by clicking a file name to download an individual file, or click Download All to obtain all of the files listed.

Save the zip files to a temporary directory on your local system. The directory where you save the zip file is referred to in this documentation as *WLS_INSTALL*. You must extract (unzip) the file on the platform for which it is intended. For example, if you download the zip file for Oracle Solaris, you must unzip it on Oracle Solaris to avoid problems. If you unzip the file to a staging directory on a Microsoft Windows computer and copy the staging directory to an Oracle Solaris, the stage area files may be corrupt.

9. Extract the files into *WLS_INSTALL*.

   The Oracle WebLogic installer file is fmw_12.2.1.0.0_wls.jar.

Note. If you need to FTP the downloaded file, make sure to FTP it in Binary mode.

Task 13-1-2: Installing JDK

This section discusses:

- Understanding the JDK Requirement for Oracle WebLogic
- Installing JDK for IBM AIX
- Installing JDK for HP-UX Itanium
- Installing JDK for Linux
- Installing JDK for Microsoft Windows
- Installing JDK for Oracle Solaris on SPARC

Understanding the JDK Requirement for Oracle WebLogic

Before beginning the Oracle WebLogic installation you must install the 64-bit Java 8 JDK. The specific JDK required depends upon the operating system and vendor, as described in this table:

Operating System Platforms	JDK Version Supported	64-bit or Mixed Mode*
IBM AIX	IBM JDK 8.0	64-bit
HP-UX Itanium	Hewlett-Packard JDK 8.0	Mixed mode Use "-d64" to run in 64-bit mode.
Linux	Oracle JDK 1.8.0_65+	64-bit
Microsoft Windows	Oracle JDK 1.8.0_65+	64-bit
Oracle Solaris on SPARC	Oracle JDK 1.8.0_65+	64-bit

* The mixed mode installer runs in 32-bit by default. The parameter *-d64* is required to run them in 64-bit mode.

Installing JDK for IBM AIX

To install 64-bit IBM JDK for IBM AIX:

1. Go to the IBM JDK download and service site:

   http://www.ibm.com/developerworks/java/jdk/aix/service.html

   Note. You need a user name and password for downloading IBM JDK. If you don't have the required credentials, your AIX support personnel should be able to help.

2. Select the link for Java 8 64-bit under Java SE Version 8.
3. Provide the required information to sign in.
4. Install the JDK on the AIX computer where you will install the Oracle WebLogic server.

   The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

   Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for HP-UX Itanium

To install Hewlett-Packard JDK on HP-UX Itanium:

1. Go to the Hewlett-Packard Downloads and Documentation site.

   See JDK/JRE 8.0.x Downloads and Documentation, https://h20392.www2.hpe.com/portal/swdepot/displayProductInfo.do?productNumber=HPUXJDKJRE80.
2. Select the link for Version 8.0.08 or higher.
3. Provide the required information to sign in.
4. Click Next and download JDK.
5. Install the JDK on the computer where you will install the Oracle WebLogic server, following the instructions in the Hewlett-Packard documentation.

   The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

   Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Linux

To install 64-bit JDK on Linux:

1. Go to the Oracle Java download site:

   http://www.oracle.com/technetwork/java/javase/downloads/index.html
2. Download Oracle Java 8 64-bit JDK version 1.8.0_65 or higher for Linux x86-64.

   Refer to the JDK installation instructions at the following link:

   http://docs.oracle.com/javase/8/docs/technotes/guides/install/linux_jdk.html#BJFGGEFG
3. Install the JDK on the computer where you will install the Oracle WebLogic server. The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

   Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Microsoft Windows

To install 64-bit JDK on Microsoft Windows:

1. Go to the Oracle JDK download site:

   http://www.oracle.com/technetwork/java/javase/downloads/index.html
2. Download Oracle Java 8 64-bit JDK version 1.8.0_65 or higher for Microsoft Windows x86-64.

   Refer to the JDK installation instructions at the following link:

   http://docs.oracle.com/javase/8/docs/technotes/guides/install/windows_jdk_install.html#CHDEBCCJ
3. Install the JDK on the computer where you will install the Oracle WebLogic server. The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

   Note. Spaces are not allowed in the *JAVA_HOME* name.

Installing JDK for Oracle Solaris on SPARC

To install JDK on Oracle Solaris on SPARC (64-bit):

1. Go to the Oracle JDK download site:

   http://www.oracle.com/technetwork/java/javase/downloads/index.html
2. Download the Oracle Java 8 64-bit JDK version 1.8.0_65 or higher for Solaris SPARC.

   Refer to the installation instructions at the following link:

   http://docs.oracle.com/javase/8/docs/technotes/guides/install/solaris_jdk.html#CHDBJEFD
3. Install the JDK on the computer where you will install the Oracle WebLogic server.

   The directory where you install the JDK is referred to in this documentation as *JAVA_HOME*.

   Note. Spaces are not allowed in the *JAVA_HOME* name.

Task 13-1-3: Installing Oracle WebLogic on Microsoft Windows

The following procedure assumes that you saved the installation file fmw_12.2.1.0.0_wls.jar from Oracle Software Delivery Cloud in the directory *WLS_INSTALL.* Installation in GUI mode is normally used for Microsoft Windows operating systems. You should have installed the appropriate JDK to *JAVA_HOME* before beginning this installation.

See Installing JDK for Oracle WebLogic.

Note. Previous releases of Oracle WebLogic Server, such as 9.2 MP*X,* and 10.3.*X,* can coexist with 12.2.1 on a single machine. The best practice is to install Oracle WebLogic 12.2.1 into an empty directory, or at least one that does not contain other Oracle WebLogic (previously BEA) products.

If you choose, however, to install this version of Oracle WebLogic in an existing *WLS_HOME* directory (for example, c:\oracle), you must shut down all instances of Oracle WebLogic Server running in that *WLS_HOME* before performing this installation.

To install Oracle WebLogic Server 12.2.1:

1. Open a command prompt and change directory to *WLS_INSTALL*.

Note. If you are running on a Microsoft Windows operating system, you must run the command prompt as administrator.

2. Set the environment variable JAVA_HOME to be the location where you installed the Oracle Java JDK 1.8.

   For example, if you installed JDK to D:\jdk1.8.0_65 use this command:

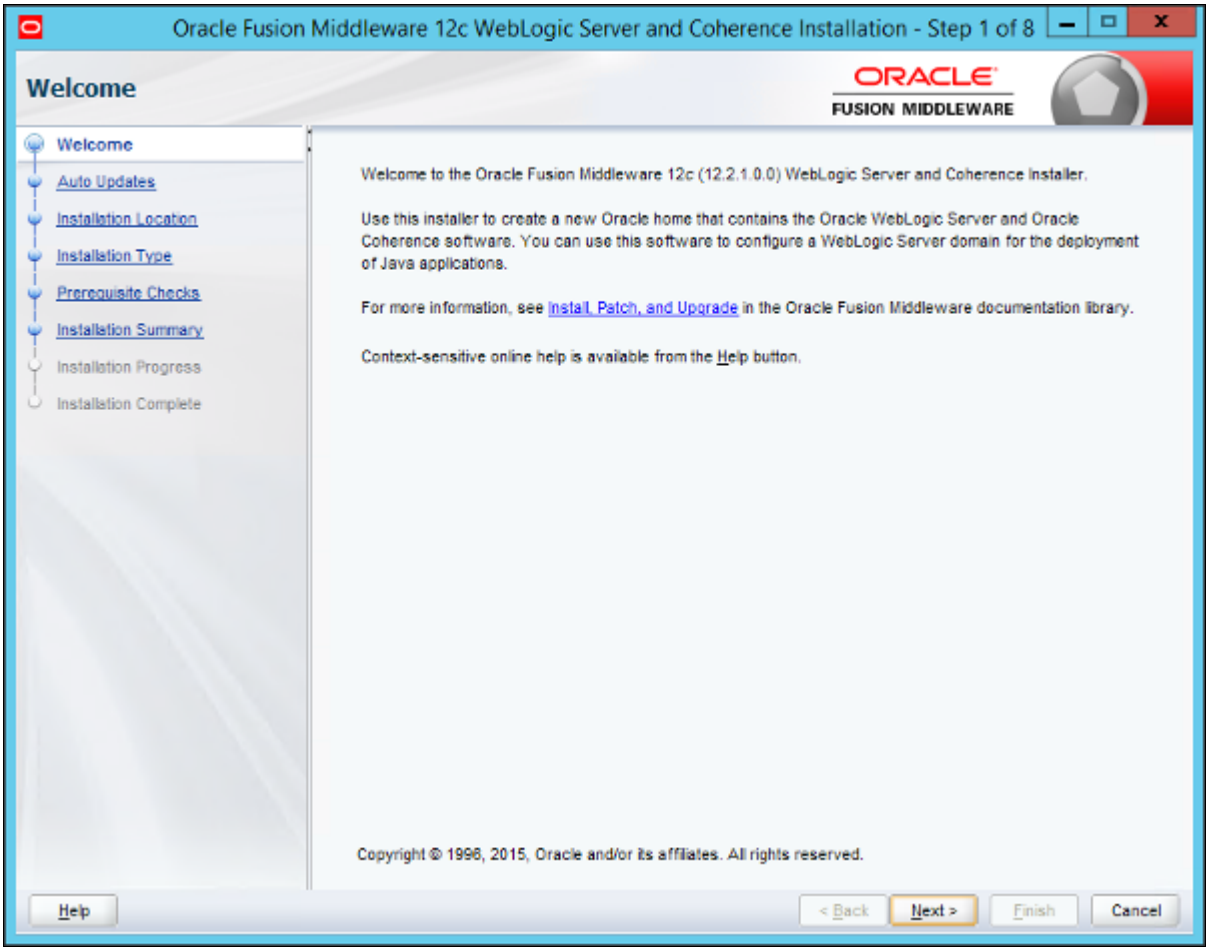
   ```
   set JAVA_HOME=D:\jdk1.8.0_65
   ```

3. Use the following command to launch the installer:

   ```
   %JAVA_HOME%\bin\java -jar fmw_12.2.1.0.0_wls.jar
   ```

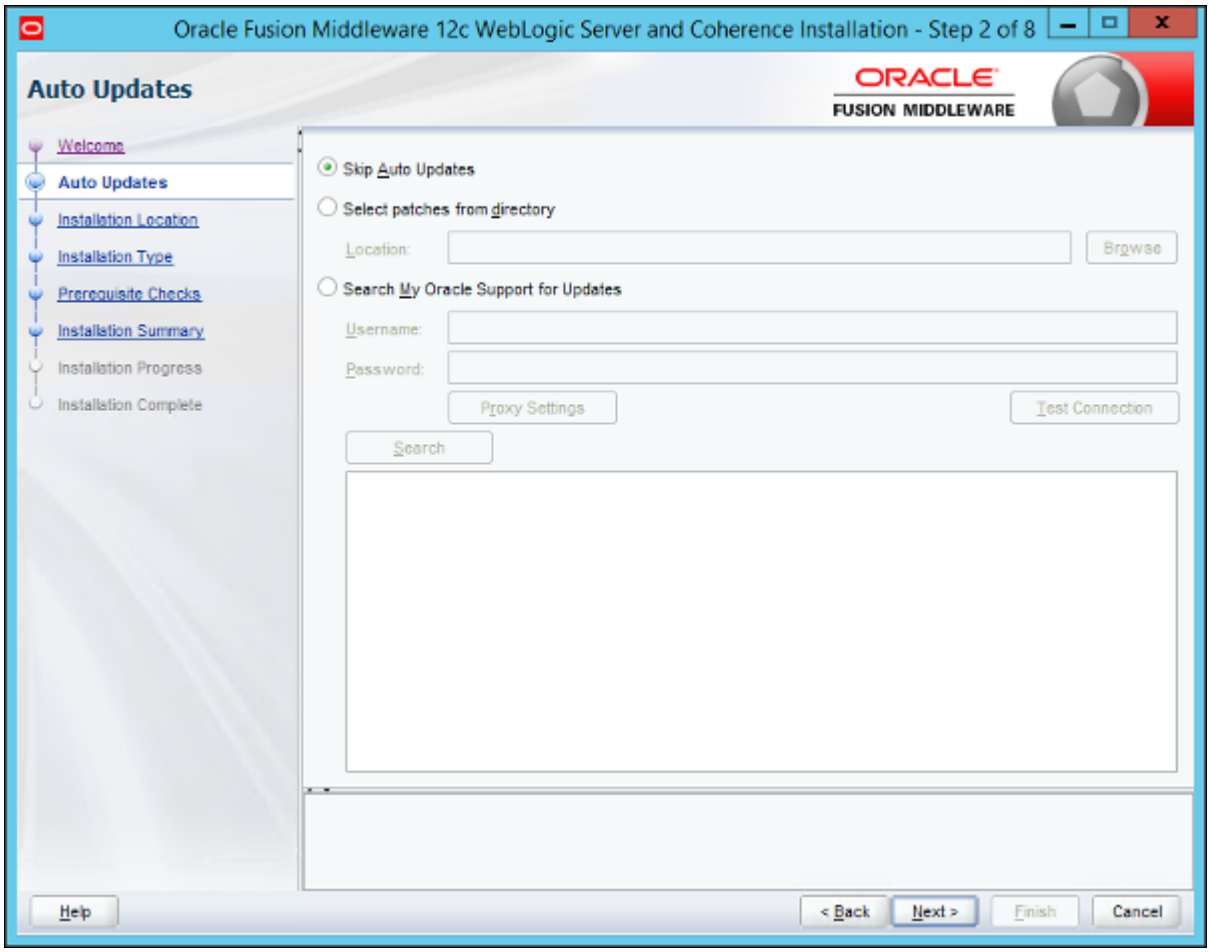
Note. It may take up to five minutes to extract the installer. You see system check messages during the extraction process. The Welcome window appears when the extraction is complete.

4. Click Next on the Welcome window for Oracle Fusion Middleware 12c (12.2.1.0.0) WebLogic Server and Coherence Installer.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 1 of 8

5. Select the Skip Auto Updates radio button.



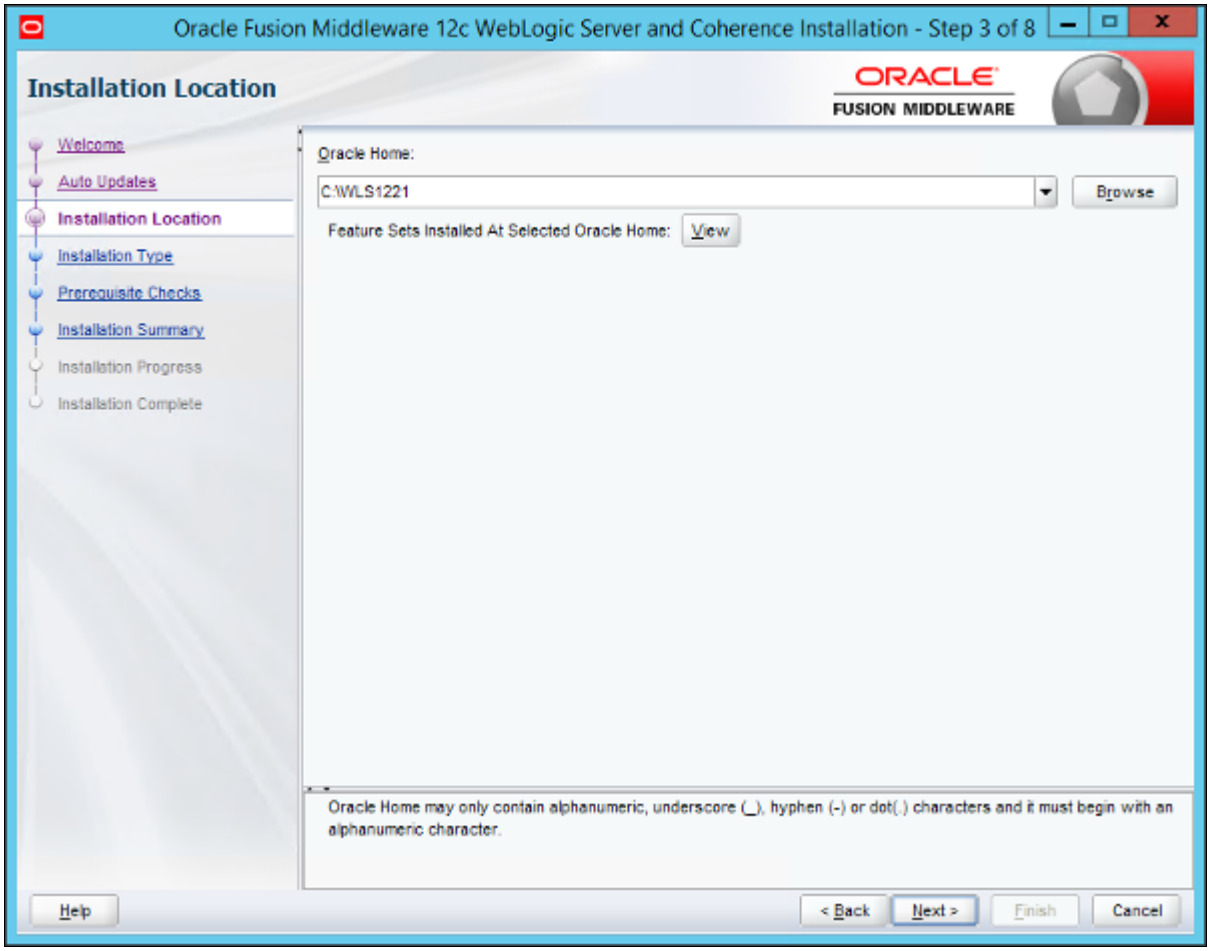
Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 2 of 8

6. On the Installation Location window, enter a location for the Oracle Home, or browse to an existing directory.

   Do not choose a directory that contains an existing installation of Oracle WebLogic.

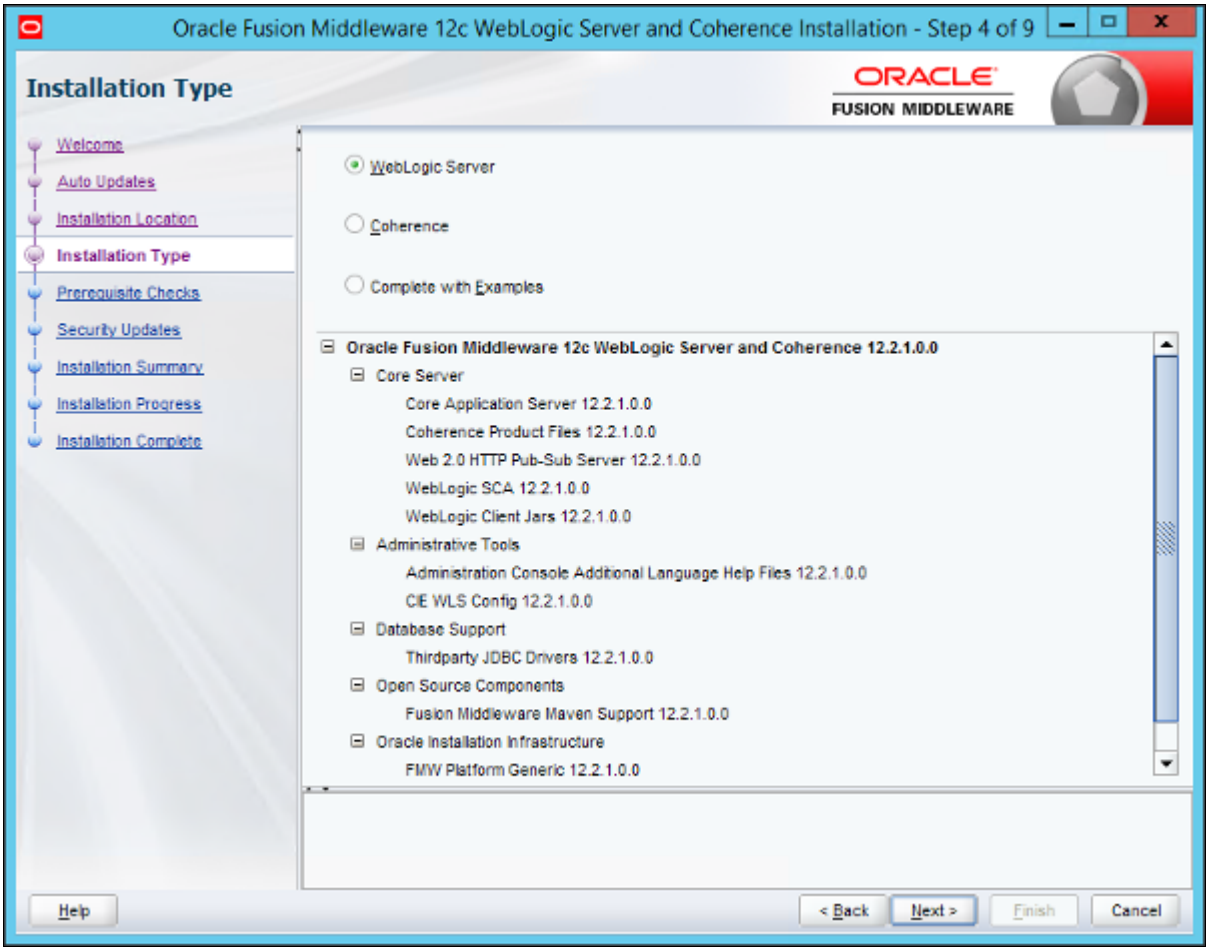
   If the directory does not exist, the Oracle WebLogic installer creates it. The directory where you install Oracle WebLogic is referred to as *WLS_HOME* in this documentation. In this example *WLS_HOME* is C:\WLS1221.

   Click Next to continue.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 3 of 8

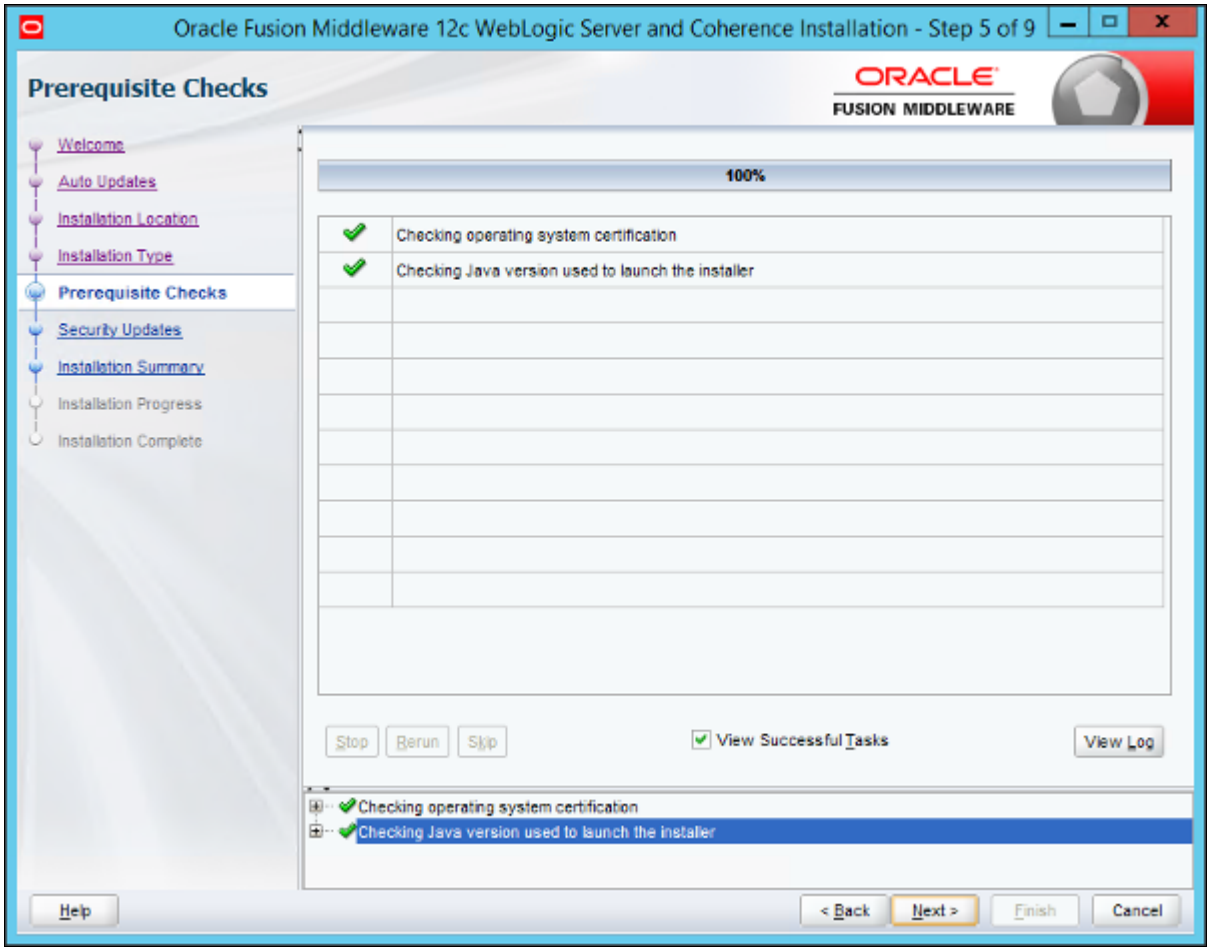
7. Accept the default WebLogic Server installation option on the Installation Type window, for WebLogic Server Installation, and then click Next.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 4 of 9

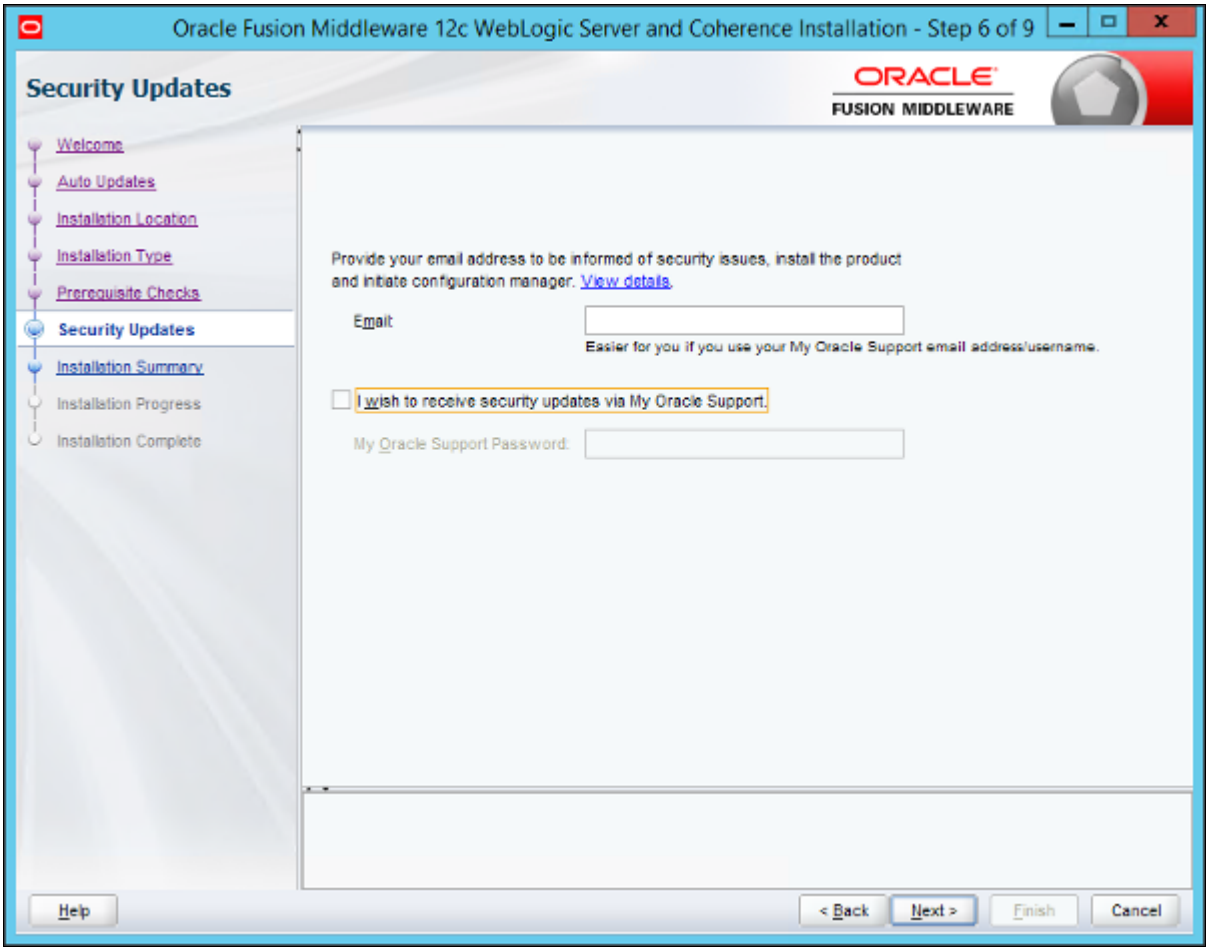
8. Wait while the installer carries out prerequisite checks, and then click Next.

   In this example the system passed the prerequisite checks.



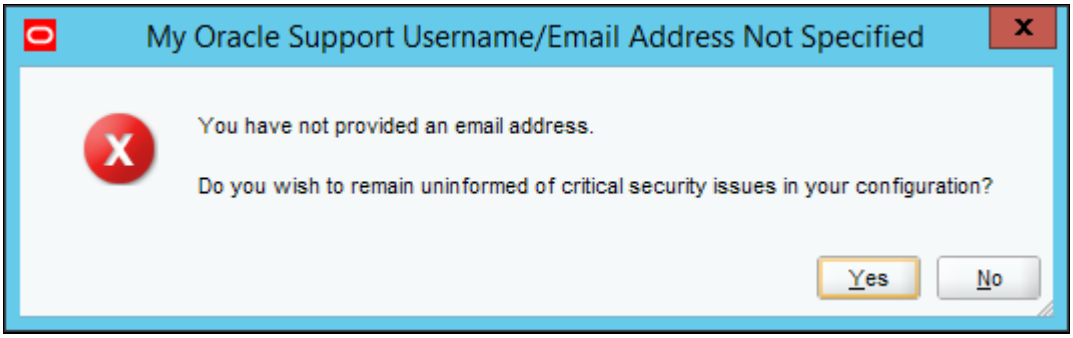
Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 5 of 9

9. Clear the option I wish to receive security updates via My Oracle Support on the Specify Security Updates window, as shown in this example.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 6 of 9

10. A dialog box labelled "My Oracle Support Username/Email Address Not Specified" appears; click Yes to confirm that you wish to remain uninformed of critical security issues in your configuration:

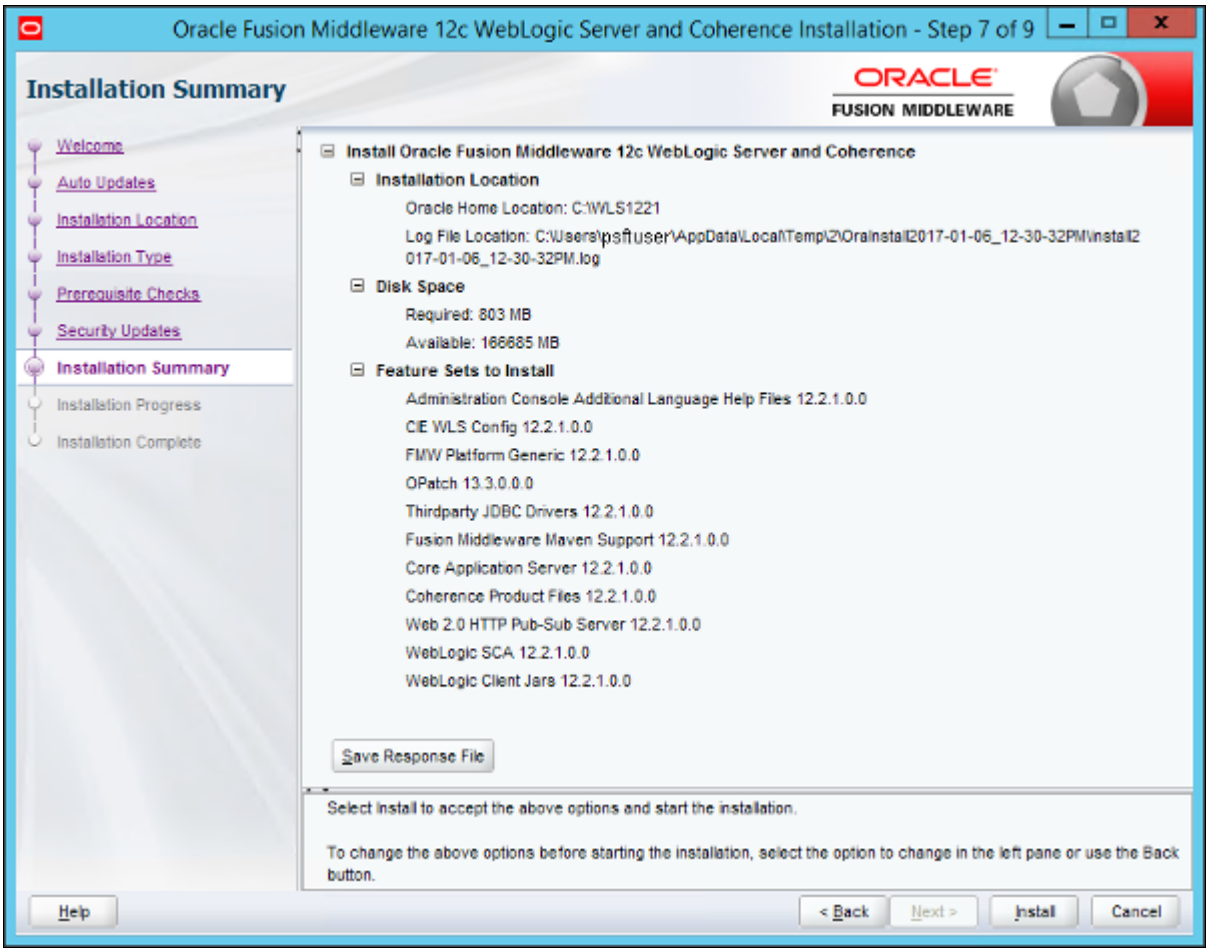


My Oracle Support Username/Email Address Not Specified dialog box

11. Verify your choices in the installation summary, such as the installation location and features to install.

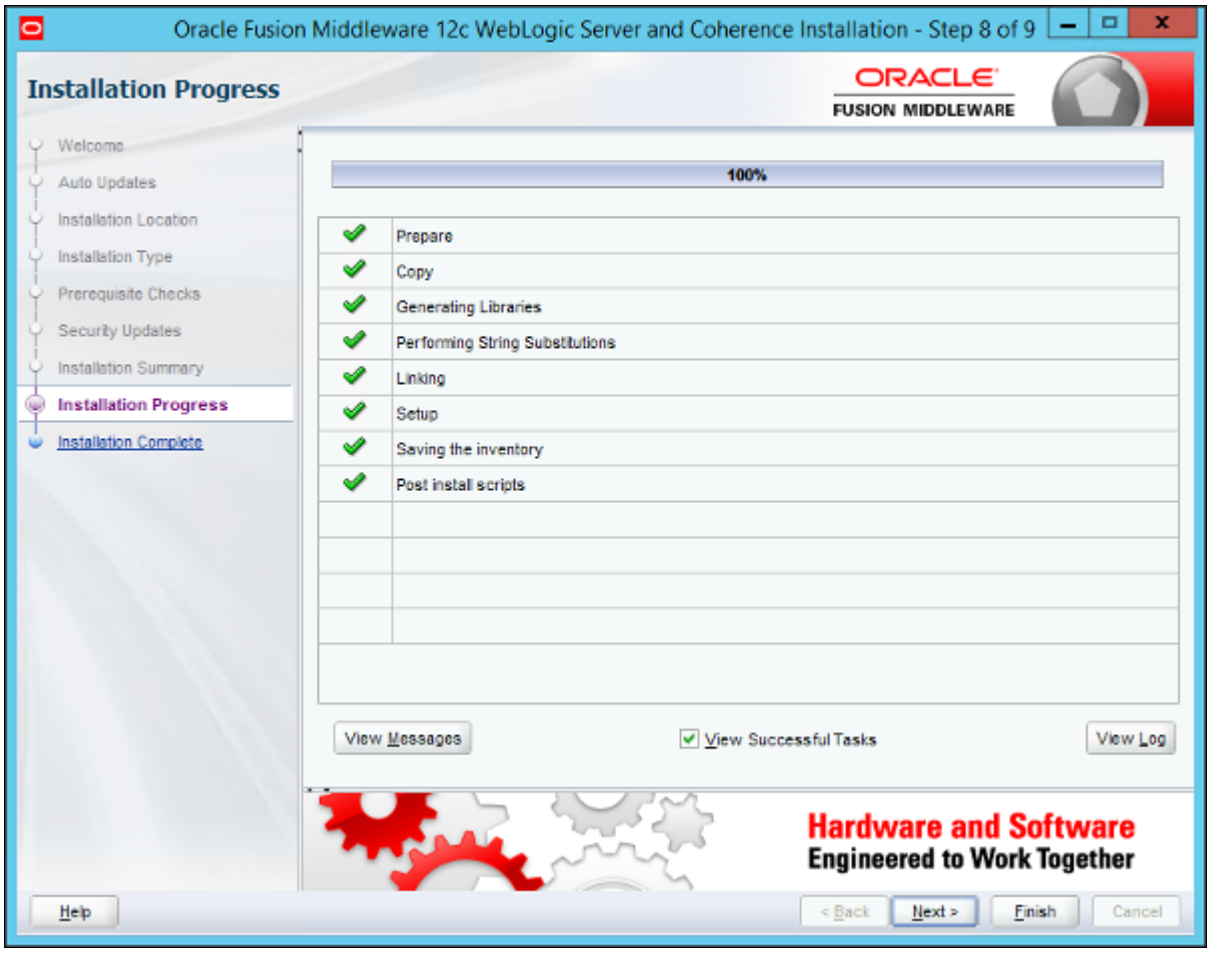
    If you want to save a response file to be used in silent installation, click Save Response File and provide a location.

    Click Install to begin the installation.



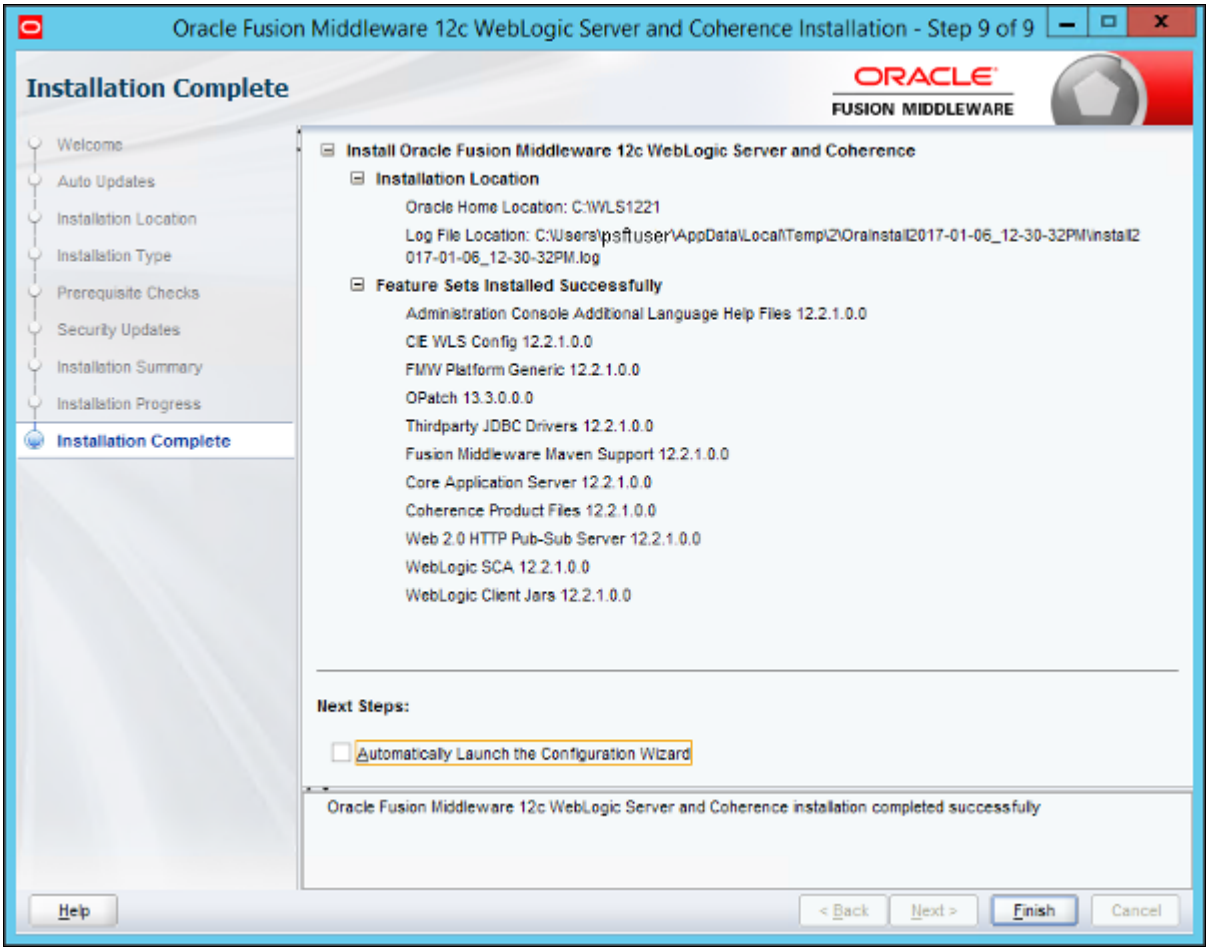
Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 7 of 9

A progress indicator appears. Click Next when the tasks are complete, as shown in this example:



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 8 of 9

12. When the installation has completed successfully, clear the Automatically Launch the Configuration Wizard option, and click Finish.



Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 9 of 9

Task 13-1-4: Installing Oracle WebLogic on UNIX in Silent Mode

Use these instructions for silent mode installation for UNIX operating systems.

Note. Console mode installation is not supported for Oracle WebLogic 12.2.1.

See the information on silent installation for Oracle WebLogic in the Oracle Middleware documentation.

The following procedure assumes that you saved the installation file fmw_12.2.1.0.0_wls.jar from Oracle Software Delivery Cloud in the directory *WLS_INSTALL*. You should have installed the appropriate JDK to *JAVA_HOME* before beginning this installation.

Note. If you downloaded the zip file for the Oracle WebLogic installation from Oracle Software Delivery Cloud to a Microsoft Windows computer, FTP the zip file in binary mode to your Linux or Oracle Solaris computer before unzipping it into *WLS_INSTALL*.

To run the Oracle WebLogic installation in silent mode:

1. Change directory to *WLS_INSTALL* and make the installer file executable using the following command:

```
chmod a+x fmw_12.2.1.0.0_wls.jar
```

2. In a shell window, change directory to *WLS_INSTALL*:

   ```
   cd WLS_INSTALL
   ```

3. Set *JAVA_HOME* to be the location where you installed the JDK.

   For example, if the JDK is installed under "/home/jdklnk8u65", use the following command:

   ```
   export JAVA_HOME=/home/jdklnk8u65
   ```

4. If it does not exist, use a text editor, such as "vi", to create the central inventory location file, named oraInst.loc, in a directory referred to in this documentation as *INVENTORY_DIR*.

   The oraInst.loc file contains only the following two lines:

   ```
   inventory_loc=/home/psftuser/oraInventory
   inst_group=wlsgrp
   ```

   The oraInst.loc file contains the following information:

   - inventory_loc — Specify the full path to the directory where you want the installer to create the inventory directory. The location in the example is /home/psftuser/oraInventory. Use any directory other than the *WLS_INSTALL* directory where you placed the fmw_12.2.1.0.0_wls.jar file.
   - oui_install_group — Specify the name of the group whose members have write permissions to this directory. The group name in the example is wlsgrp.

5. Copy the following content into a text editor and save it as res.rsp.

   This is the silent response file. The directory where you save it is referred to here as *RESPONSE_DIR*.

   ```
   [ENGINE]

   #DO NOT CHANGE THIS.
   Response File Version=1.0.0.0.0

   [GENERIC]

   #Set this to true if you wish to skip software updates
   DECLINE_AUTO_UPDATES=true

   #
   MOS_USERNAME=

   #
   MOS_PASSWORD=<SECURE VALUE>

   #If the Software updates are already downloaded and available on your⇒
    local system, then specify the path to the directory where these⇒
    patches are available and set SPECIFY_DOWNLOAD_LOCATION to true
   AUTO_UPDATES_LOCATION=

   #
   SOFTWARE_UPDATES_PROXY_SERVER=

   #
   SOFTWARE_UPDATES_PROXY_PORT=

   #
   ```

```
SOFTWARE_UPDATES_PROXY_USER=

#
SOFTWARE_UPDATES_PROXY_PASSWORD=<SECURE VALUE>

#The oracle home location. This can be an existing Oracle Home or a new⇒
 Oracle Home
ORACLE_HOME=

#Set this variable value to the Installation Type selected. e.g. Web⇒
Logic Server, Coherence, Complete with Examples.
INSTALL_TYPE=WebLogic Server

#Provide the My Oracle Support Username. If you wish to ignore Oracle⇒
 Configuration Manager configuration provide empty string for user name.
MYORACLESUPPORT_USERNAME=

#Provide the My Oracle Support Password
MYORACLESUPPORT_PASSWORD=<SECURE VALUE>

#Set this to true if you wish to decline the security updates. Setting⇒
 this to true and providing empty string for My Oracle Support username⇒
 will ignore the Oracle Configuration Manager configuration
DECLINE_SECURITY_UPDATES=true

#Set this to true if My Oracle Support Password is specified
SECURITY_UPDATES_VIA_MYORACLESUPPORT=false

#Provide the Proxy Host
PROXY_HOST=

#Provide the Proxy Port
PROXY_PORT=

#Provide the Proxy Username
PROXY_USER=

#Provide the Proxy Password
PROXY_PWD=<SECURE VALUE>

#Type String (URL format) Indicates the OCM Repeater URL which should⇒
 be of the format [scheme[Http/Https]]://[repeater host]:[repeater port]
COLLECTOR_SUPPORTHUB_URL=
```

6. Use a text editor to enter the full path for ORACLE_HOME; for example:

```
#The oracle home location. This can be an existing Oracle Home or a new⇒
 Oracle Home
ORACLE_HOME=/home/wls1221
```

Oracle WebLogic will be installed into the ORACLE_HOME directory entered here. This must be a new directory; do not enter a directory that has been used previously.

7. If this is the first time you are installing on your system (meaning there is no pre-existing Oracle inventory location), use the following commands to perform a silent installation.

   These commands use res.rsp as the name for the response file.

   - For IBM AIX, Linux, or Oracle Solaris on SPARC:

     ```
     $JAVA_HOME/bin/java -jar ./fmw_12.2.1.0.0_wls.jar -silent -response⇒
     File RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_DIR/oraInst.loc
     ```

   - For HP-UX Itanium, the JVM parameter "-d64" is required:

     ```
     $JAVA_HOME/bin/java -d64 -jar ./fmw_12.2.1.0.0_wls.jar -silent -⇒
     responseFile RESPONSE_DIR/res.rsp -invPtrLoc INVENTORY_DIR/ora⇒
     Inst.loc
     ```

8. If you have previously installed an Oracle product on your system and do not need to specify an Oracle inventory location, use the following commands to perform a silent installation:

   - For IBM AIX, Linux, or Oracle Solaris on SPARC:

     ```
     $JAVA_HOME/bin/java -jar ./fmw_12.2.1.0.0_wls.jar -silent -response⇒
     File RESPONSE_DIR/res.rsp
     ```

   - For HP-UX Itanium, the JVM parameter "-d64" is required:

     ```
     $JAVA_HOME/bin/java -d64 -jar ./fmw_12.2.1.0.0_wls.jar -silent -⇒
     responseFile RESPONSE_DIR/res.rsp
     ```

9. After you enter the appropriate command from the previous steps, the installer is launched in silent mode, and a progress indicator tracks the installation.

   When the installation is complete, you should see a completion message such as "The installation of Oracle Fusion Middleware 12c WebLogic Server and Coherence 12.2.1.0.0 completed successfully."

Task 13-1-5: Configuring JDK for Daylight Savings Time Change

The version of JDK mentioned in the previous section Installing JDK for Oracle WebLogic includes the Daylight Saving Time (DST) rules available at the time of packaging. If new rules are implemented after this time, you should use the instructions in this section to update the time zone definition files.

You can skip this section unless a change to the DST rules has happened near or after the general availability date of Oracle WebLogic or PeopleSoft PeopleTools. Consult the information on configuring PeopleSoft time zone definitions in the *PeopleTools: Global Technology* product documentation.

This section provides an example of how the time zone updater utility (TZUPDATER), which is supplied by the JDK vendors, can be used to update the time zone definition files contained in the JDK used by Oracle WebLogic server.

1. Identify and shut down any JVM processes that are using the JDK that you will be updating.
2. For future reference or restoration, back up the location where the targeted JDK is located.

   The JDK being used for different operating systems is different. For Oracle WebLogic 12.2.1.0.0, refer to the commBaseEnv.cmd (for Microsoft Windows), or commBaseEnv.sh (for UNIX) file under *WLS_HOME*\oracle_common\common\bin to determine the setting for JAVA_HOME and the exact name and location for the JDK being used by your Oracle WebLogic server. *WLS_HOME* is the directory where Oracle WebLogic is installed.
3. Download the appropriate updater utility for your operating system from the JDK vendor.

Each tzupdater provided by the vendor comes with instructions (typically in a readme file) describing how to:

- Locate the correct JDK.
- Apply classes using the tzupdater or provided scripts.
- Check tzupdater versions.

Read the instructions carefully as the steps and instructions are vendor-specific. Keep in mind that these instructions and versions may be updated when the vendor finds it necessary.

Note. After successfully running the TZUPDATER to update a JDK location, the changes will take effect only for newly started Java processes from that location. In the event that you did not identify and stop all Java processes running from this location, it will be necessary to stop and restart these for the changes to take effect.

See Also

Timezone Updater Tool, Oracle Technology Network, http://www.oracle.com/technetwork/java/javase/tzupdater-readme-136440.html

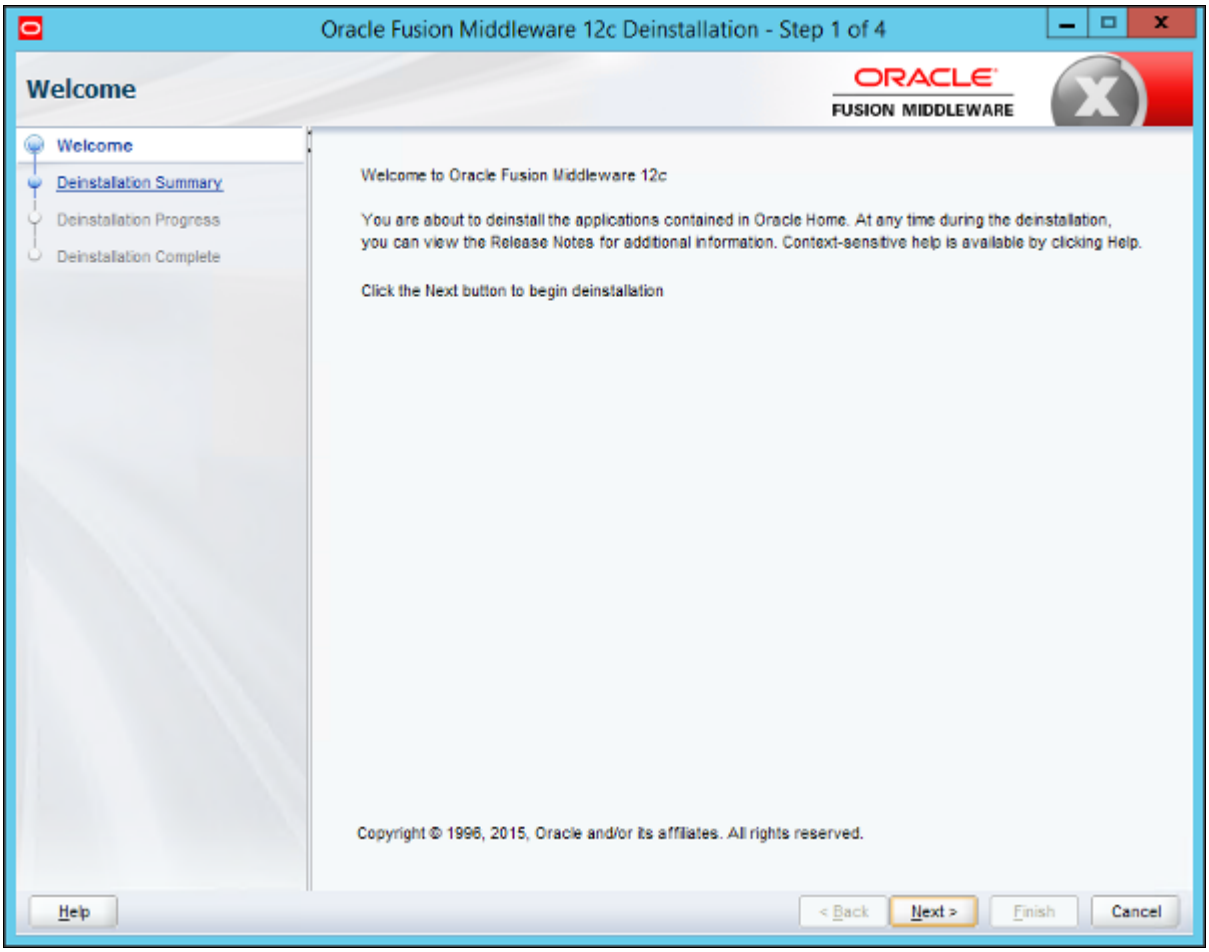
Task 13-1-6: Removing the Oracle WebLogic Installation on Microsoft Windows

To remove the Oracle WebLogic installation on Microsoft Windows (GUI mode):

1. Before running the deinstaller, stop all servers and processes associated with the Oracle home you are going to remove.

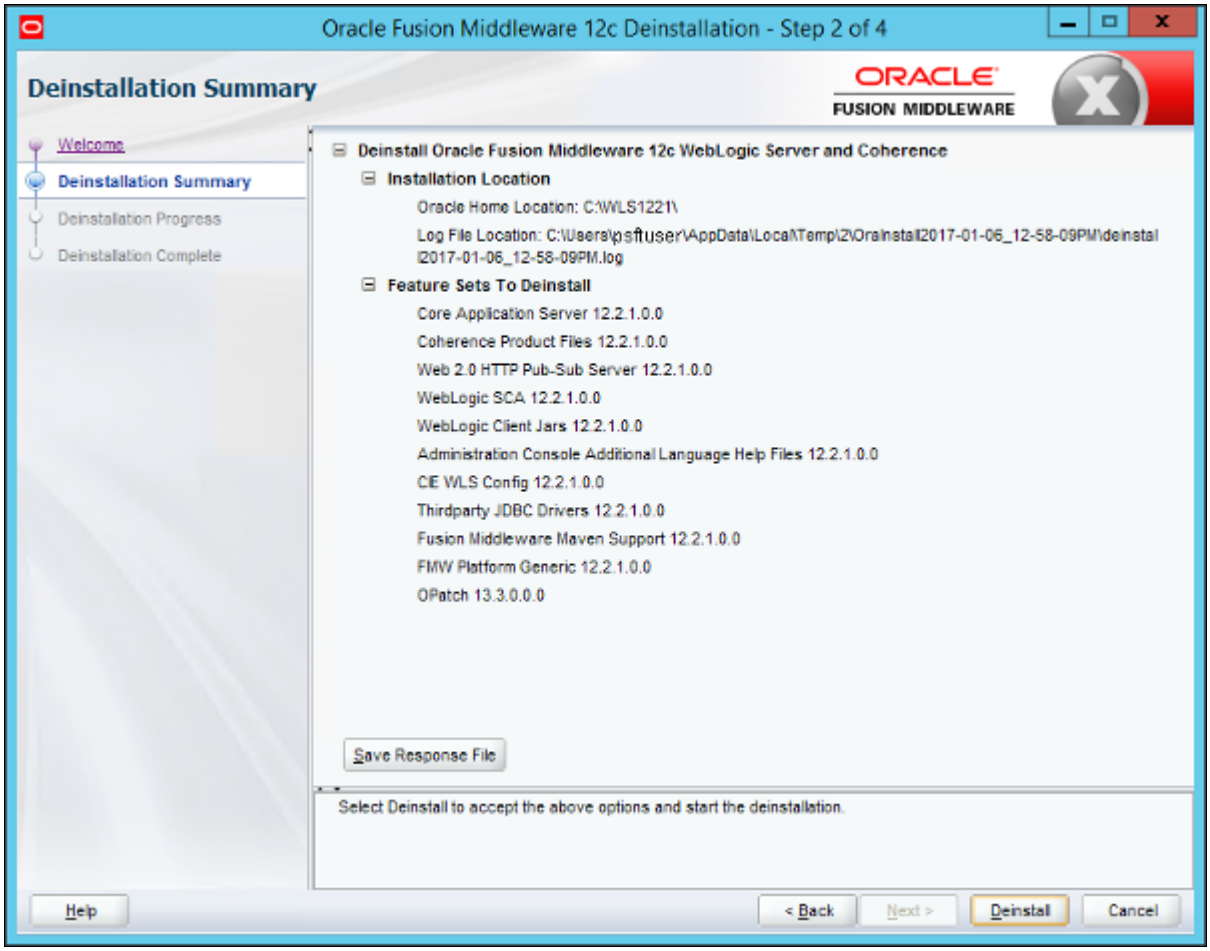
2. Change directory to the *WLS_HOME*\oui\bin folder and run the deinstall.cmd script.

   WLS_HOME is the location where you installed your Oracle WebLogic 12.2.1.0.0, for example C:\WLS1221. Click Next on the Welcome window.



Oracle Fusion Middleware 12c Deinstallation - Step 1 of 4

3. Verify the components that you want to uninstall on the summary page (by default all components are selected as shown in this example).

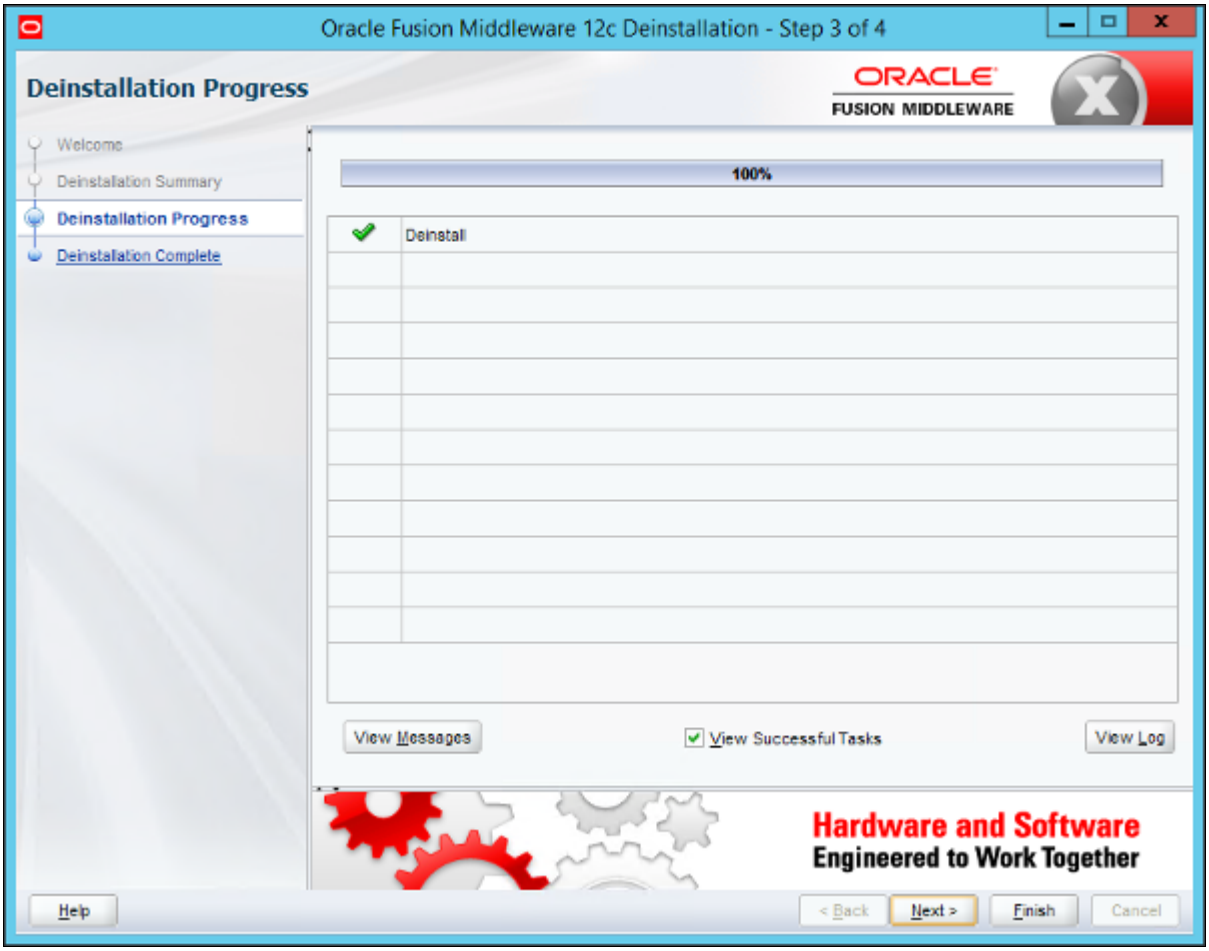


Oracle Fusion Middleware 12c Deinstallation - Step 2 of 4

4. Click the Save Response File button and browse to a location to save the file, which you can use for a silent mode deinstallation.

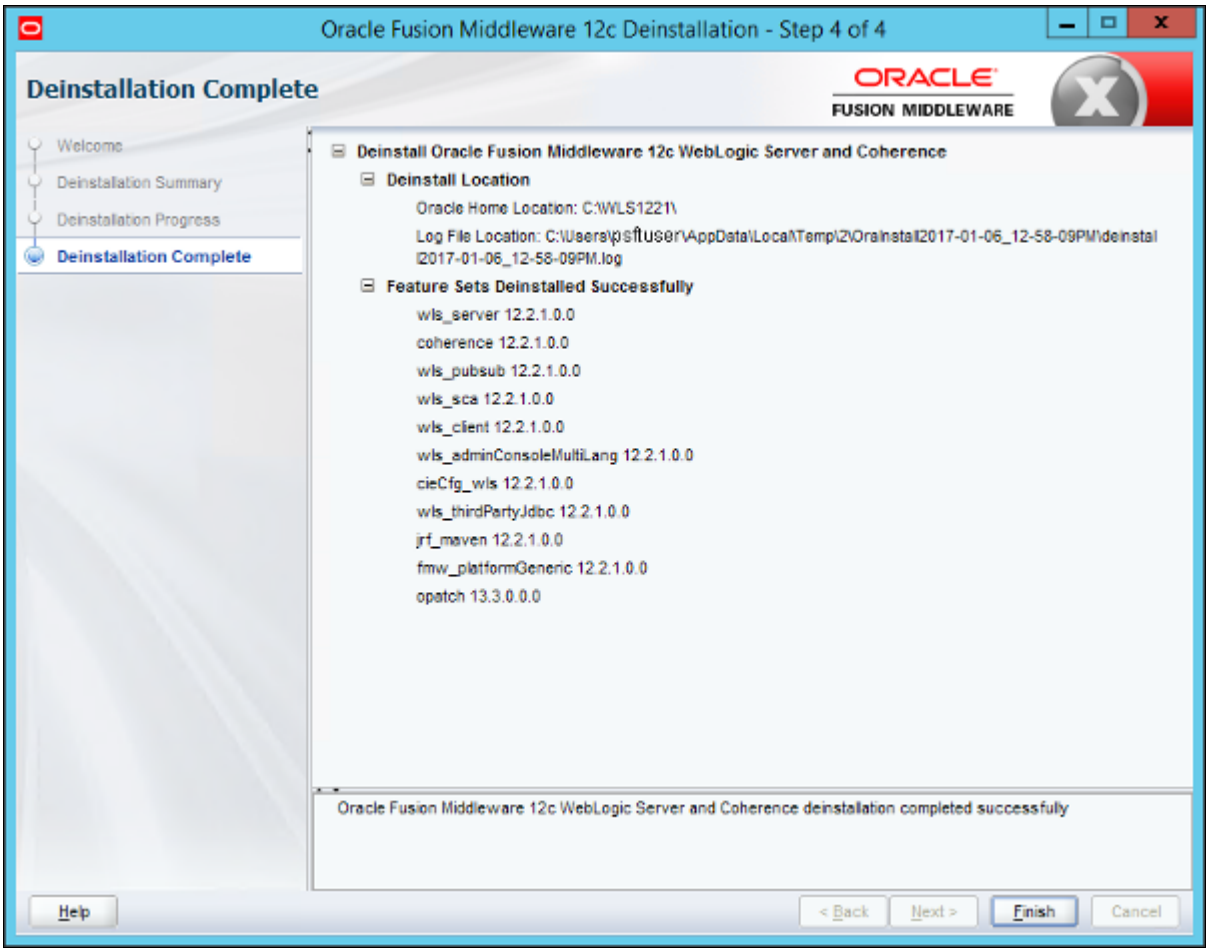
   See Removing the Oracle WebLogic Installation on UNIX.

   Click Deinstall. A progress indicator appears. Click Next when the tasks are complete, as shown in this example.



Oracle Fusion Middleware 12c Deinstallation - Step 3 of 4

5. Click Finish on the Deinstallation Complete window.



Oracle Fusion Middleware 12c Deinstallation - Step 4 of 4

6. Remove the *WLS_HOME* directory manually after the deinstallation.

Task 13-1-7: Removing the Oracle WebLogic Installation on UNIX

To remove the installation on UNIX operating systems, you run in console mode, and use a response file.

Note. The previous section, Removing the Oracle WebLogic Installation on Microsoft Windows, included a step in which you saved a response file. You can edit and use this response file for different operating system platforms.

To remove the Oracle WebLogic installation on UNIX in silent mode:

1. Before running the deinstaller, stop all servers and processes associated with the Oracle home you are going to remove.
2. If you need to create a response file, copy the following content into a text editor and save it.

   This is the silent response file, referred to here as *RESPONSE_DIR/response.txt.*

   ```
   [ENGINE]

   #DO NOT CHANGE THIS.
   ```

```
Response File Version=1.0.0.0.0

[GENERIC]

#This will be blank when there is nothing to be de-installed in⇒
 distribution level
SELECTED_DISTRIBUTION=WebLogic Server~12.2.1.0.0

#The oracle home location. This can be an existing Oracle Home or a new⇒
 Oracle Home
ORACLE_HOME=
```

3. Edit the ORACLE_HOME line to add the location where you installed Oracle WebLogic 12.2.1.0.0; for example:

```
#The oracle home location. This can be an existing Oracle Home or a new⇒
 Oracle Home
ORACLE_HOME=/home/wls1221
```

4. Change directory to *WLS_HOME*/oui/bin and locate the deinstall.sh script.

   WLS_HOME is the location where you installed your Oracle WebLogic 12.2.1.0.0.

5. Run the following command.

   For *INVENTORY_DIR*, specify the full directory path containing the Oracle installer inventory file, oraInst.loc.

   See Installing Oracle WebLogic on UNIX in Silent Mode.

```
./deinstall.sh -silent -response RESPONSE_DIR/response.txt -invPtrLoc ⇒
INVENTORY_DIR/oraInst.loc
```

6. An indicator shows the progress of the removal process, followed by a completion message such as "The uninstall of Oracle Fusion Middleware 12c WebLogic Server and Coherence 12.2.1.0.0 completed successfully."
7. Remove the *WLS_HOME* directory manually to complete the deinstallation.

Task 13-2: Installing IBM WebSphere Application Server

This section discusses:

- Understanding IBM WebSphere Installation
- Prerequisites
- Obtaining IBM WebSphere Installation Files
- Installing IBM WebSphere 9.0.0.0 ND
- Installing IBM HTTP Server 9.0.0.0
- Installing IBM WebSphere Plug-ins 9.0.0.0

Understanding IBM WebSphere Installation

Oracle supports 64-bit IBM® WebSphere® Application Server Network Deployment 9.0.0.0 (referred to as IBM WebSphere ND in this documentation) for PeopleSoft PeopleTools 8.56. The IBM WebSphere ND requires IBM Runtime Environment, Java Technology Edition 8.

IBM WebSphere Application Server supports IBM HTTP server (IHS) as a HTTP Reverse Proxy server. IBM WebSphere Application Server alone cannot act as a proxy server for PeopleSoft PeopleTools REN Server. You must also install PeopleSoft Pure Internet Architecture, as well as installing the IBM HTTP server. Consult My Oracle Support for information on the versions of IHS certified for use with PeopleSoft PeopleTools.

This section includes guidelines for installing IBM WebSphere ND, the Web server plug-ins for IBM WebSphere Application Server, and IHS. For detailed installation instructions, see the IBM documentation.

See Also

My Oracle Support, Certifications

Clustering and High Availability for PeopleTools, My Oracle Support, (search for the article name)

IBM WebSphere Application Server Information Center,
http://pic.dhe.ibm.com/infocenter/wasinfo/v8r5/index.jsp

Prerequisites

IBM WebSphere ND is certified for PeopleSoft PeopleTools 8.56 on the following operating systems:

- IBM AIX
- HP-UX Itanium
- Linux
- Microsoft Windows
- Oracle Solaris

The full lists of prerequisites for IBM WebSphere Application Server Network Deployment 9.0.0.0 are available on the IBM website:

See http://www-01.ibm.com/support/docview.wss?uid=swg27006921#9.0

In addition, review the following prerequisites before beginning your installation:

- Both IBM WebSphere ND and PeopleSoft Pure Internet Application (PIA) need to be installed and deployed using the same user ID. Following this requirement avoids security and profile management issues.
- On Microsoft Windows operating systems, if you are not using the built-in administrator account to run the commands, you will need stronger user account privileges to carry out the installation of IBM Installation Manager.

  To set the appropriate privileges, right-click the installer and select Run as administrator. Do the same thing for the installation of IBM Installation Manager.
- On UNIX platforms, the /var file system is used to store all the security logging information for the system. Therefore it is critical that you maintain free space in /var for these operations.
- When you carry out the GUI mode installation on UNIX, executing the installation wizard launches a GUI window. You must run this command from an X-Windows client window (for example, Reflection-X).
- PeopleSoft PeopleTools 8.56 supports the IBM HTTP Server (IHS) 9.0.0.0 that is bundled with the IBM

WebSphere 9.0.0.0 installation. Use of an external remote proxy server (RPS) is optional.

Task 13-2-1: Obtaining IBM WebSphere Installation Files

For the current PeopleSoft PeopleTools release, the installation files for IBM WebSphere are not packaged with PeopleSoft PeopleTools on Oracle Software Delivery Cloud. To download the necessary files for the IBM WebSphere installation, contact IBM. The installation of IBM WebSphere 9.0.0.0 requires the download of the following components:

- IBM Installation Manager V1.8.5 or later
- WebSphere Application Server Network Deployment V9.0.0.0 64-bit
- Application Client for WebSphere Application Server
- IBM HTTP Server V9.0.0.0 64-bit
- Plug-ins V9.0.0.0 64-bit
- IBM SDK V8.0.3.10

The distribution is provided as operating-system-specific zip files. Download and extract the appropriate zip files for your operating system. The base binaries of IBM WebSphere 9.0.0.0, IHS 9.0.0.0, and Plug-in 9.0.0.0 have to be downloaded by providing an IBM partner ID and password.

Task 13-2-2: Installing IBM WebSphere 9.0.0.0 ND

For detailed information on installing IBM WebSphere 9.0.0.0 ND, see the documentation on the IBM web site. See the previous section, Obtaining IBM WebSphere Installation Files, for the installation file names for your operating system. The installation of IBM WebSphere Application Server Network includes the following steps:

1. Install IBM Installation Manager V1.8.5 or later
2. Install IBM WebSphere 9.0.0.0 64-bit
3. Install IBM WebSphere SDK Java (TM) Technology Edition V8.0.3.10

Task 13-2-3: Installing IBM HTTP Server 9.0.0.0

For detailed information on installing IHS 9.0.0.0, see the documentation on the IBM web site. See the previous section, Obtaining IBM WebSphere Installation Files, for the installation file names for your operating system.

To install IHS 9.0.0.0 64-bit, use IBM Installation Manager.

Task 13-2-4: Installing IBM WebSphere Plug-ins 9.0.0.0

For detailed information on installing the Web server plug-ins for IBM WebSphere Application Servers, see the documentation on the IBM web site. See the earlier section, Obtaining IBM WebSphere Installation Files, for the installation file names for your operating system.

To install the IBM Plug-ins 9.0.0.0 64-bit for IBM WebSphere Application Servers, use IBM Installation Manager.

Chapter 14A

Configuring the Application Server on Windows

This chapter discusses:

- Understanding the Application Server
- Prerequisites
- Creating a Wallet for the SSL/TLS Setup
- Setting Up COBOL for Remote Call
- Verifying Database Connectivity
- Creating, Configuring, and Starting an Initial Application Server Domain

Understanding the Application Server

The information in this chapter is provided to help you configure your PeopleSoft application server.

Note. COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check the information on My Oracle Support, and your application-specific documentation, for the details on whether your application requires COBOL.

Oracle supports a Microsoft Windows application server to use with any of our supported databases for the PeopleSoft installation. For detailed information, consult the certification information on My Oracle Support. The application server support can be found on the certification pages for PeopleSoft systems.

You can install the application server using either a "logical" or "physical" three-tier configuration.

- Installing the application server on the same machine as the database server is known as a logical three-tier configuration. For your initial PeopleSoft installation, Oracle suggests that you install a logical configuration to simplify setup.
- Installing the application server on a machine separate from the database server machine is known as a physical three-tier configuration.

The configuration and log files for application server domains reside in *PS_CFG_HOME.* If you do not set a PS_CFG_HOME environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

`%USERPROFILE%\psft\pt\<peopletools_version>`

See "Preparing for Installation," Defining Installation Locations.

Note. You can start application servers as a Windows service, which means that administrators no longer need to manually start each application server that runs on a Windows machine.

See Also

"Preparing for Installation," Understanding PeopleSoft Servers and Clients

"Setting Up Process Scheduler on Windows," Starting Process Scheduler as a Windows Service

PeopleTools: System and Server Administration, "Using PSADMIN Menus"

PeopleTools: Data Management

My Oracle Support, Certifications

"Setting Up the Install Workstation"

"Installing and Compiling COBOL on Windows"

Prerequisites

Before beginning this procedure, you should have completed the following tasks:

- Installed your application server.

  See "Using the PeopleSoft Installer," Planning Your Initial Configuration.
- Installed the supported version of Oracle Tuxedo

  See "Installing Additional Components."
- Set up SSL/TLS protocol for the workstation connection.

  The Secure Socket Layers/Transport Layer Security (SSL/TLS) protocol is supported for Workstation Listener and Jolt Listener ports for the current PeopleSoft PeopleTools release. The application server domain configuration requires a wallet. You can use the delivered wallet or create your own.

  See *PeopleTools: Integration Broker*, "Installing Web Server-Based Digital Certificates."
- Granted authorization to a PeopleSoft user ID to start the application server.

  The database configuration procedure includes a step for setting up the user ID with authorization to start the application server. See the application-specific installation instructions for information on the user IDs for your PeopleSoft application. See the *PeopleTools: Security Administration* product documentation for information on PeopleSoft PeopleTools delivered user profiles.

  See "Creating a Database on UNIX," Running the Database Configuration Wizard.

  See "Creating a Database Manually on Windows," Creating Data Mover Import Scripts.

  See "Creating a Database Manually on UNIX," Creating Data Mover Import Scripts.
- Run the following SQL statements on your database server to review and if needed, update the PSCLASSDEFN table:

```
SELECT CLASSID, STARTAPPSERVER FROM PSCLASSDEFN
WHERE CLASSID IN (SELECT OPRCLASS FROM PSOPRCLS WHERE OPRID='<OPRID>')
UPDATE PSCLASSDEFN SET STARTAPPSERVER=1 WHERE CLASSID='<CLASSID>'
```

Note. Installers typically use VP1 or PS to test the application server. If these users are deleted or their passwords are changed, the application server will no longer be available. To avoid this problem, you can set up a new operator (called PSADMIN or PSASID, for instance) with privileges to start the application server. If you do this, you can use the new operator for your application servers and you won't need to change the password each time VP1 or PS is changed.

Task 14A-1: Creating a Wallet for the SSL/TLS Setup

This section discusses:

- Using the Delivered Wallet
- Creating a Wallet with orapki
- Creating a Wallet with OpenSSL

Task 14A-1-1: Using the Delivered Wallet

Before you configure the application server to use the SSL/TLS protocol, you need a wallet. Use these instructions to create wallets for the application server and workstation client.

Note. The term "Oracle Wallet" is sometimes used in the software and documentation, for example in PSADMIN custom configuration, to refer to wallets on all RDBMS. In this context it does not refer to an entity specific to an Oracle RDBMS.

You also have the option to use the wallets that are included with the PeopleSoft PeopleTools installation. The default wallet for the application server is named psft and is located in *$PS_SERVDIR/*security. When you configure the application server, define the default wallet as follows:

- SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
- SEC_PRINCIPAL_NAME=psft

To specify the default wallet for the workstation client:

- SEC_PRINCIPAL_LOCATION=*PS_HOME*\bin\client\winx86\security
- SEC_PRINCIPAL_NAME=wscpsft

The default Java Keystore file used for the SSL/TLS configuration for JSL ports is located in <*PIA_HOME*>\webserv\<*DOMAIN_NAME*>\piaconfig\keystore\pskey. If you change the Keystore password in this file, you must also provide the password in the PIA configuration.properties file at <*PIA_HOME*>\webserv\<*DOMAIN_NAME*>\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps.

Task 14A-1-2: Creating a Wallet with orapki

This section discusses:

- Creating a Server Wallet for the Application Server Domain with orapki
- Creating a Client Wallet for Workstation Clients with orapki
- Adding the Server's Certificate to the Client's Trust Store with orapki

Creating a Server Wallet for the Application Server Domain with orapki

On an Oracle database, you can use the orapki command-line utility to create a wallet.

See the Oracle database security documentation for more information on orapki.

To create a server wallet for the application server domain:

1. Enter this command to create the server wallet:

```
orapki wallet create -wallet <server_wallet> -pwd <server_wallet_⇒
password>
```

For example:

```
orapki wallet create -wallet wallet.psft -pwd ServerPassword
```

2. Enter this command to add a self-signed certificate to the wallet:

Note. Distinguished name is the unique name of a directory entry. It is comprised of all of the individual names of the parent entries back to the root entry of the directory information tree. See the Oracle database security documentation for more information.

```
orapki wallet add -wallet <server_wallet> -dn <distinguished_name> -⇒
keysize 1024 -self_signed -validity 3650 -pwd <server_wallet_password>
```

For example:

```
orapki wallet add -wallet wallet.psft -dn user_dn -keysize 1024 -self_⇒
signed -validity 3650 -pwd ServerPassword
```

Creating a Client Wallet for Workstation Clients with orapki

To create a client wallet for workstation clients:

1. Enter this command to create the workstation client wallet:

```
orapki wallet create -wallet <client_wallet> -pwd <client_wallet_⇒
password>
```

For example:

```
orapki wallet create -wallet wallet.wscpsft -pwd ClientPassword
```

2. Add a self-signed certificate to the wallet with this command:

```
orapki wallet add -wallet <client_wallet> -dn <distinguished_name> -⇒
keysize 1024 -self_signed -validity 3650 -pwd <client_wallet_password>
```

For example:

```
orapki wallet add -wallet wallet.wscpsft -dn user_dn -keysize 1024 -⇒
self_signed -validity 3650 -pwd ClientPassword
```

3. Export a public key from the server certificate with this command:

```
orapki wallet export -wallet <server_wallet> -dn <distinguished_name> -⇒
cert <server_wallet>/<server_certificate> -pwd <server_password>
```

For example:

```
orapki wallet export -wallet wallet.psft -dn user_dn -cert wallet.psft⇒
/psft.cer -pwd ServerPassword
```

4. Add the public key from the server certificate to the client certificate with this command:

```
orapki wallet add -wallet <client_wallet> -trusted_cert -cert <server_⇒
wallet>/<certificate> -pwd <client_password>
```

For example:

```
orapki wallet add -wallet wallet.wscpsft -trusted_cert -cert $PWD⇒
/wallet.psft/psft.cer -pwd ClientPassword
```

5. Use a tool such as OpenSSL to remove the client wallet password:
   a. Change directory to the client wallet that you created, called wallet.wscpsft in this example::

      ```
      cd wallet.wscpsft
      ```

   b. Make a backup copy of the wallet, ewallet.p12:

      On Microsoft Windows:

      ```
      xcopy ewallet.p12 oldwallet.p12
      ```

   c. Run this command:

      ```
      openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
       certificate.crt -password pass:<client_password> -passin pass:⇒
      <client_password>
      ```

   d. Run this command:

      ```
      openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
      password pass:<client_password> -passin pass:<client_password>
      ```

   e. Run this command:

      ```
      openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
       pass:<client_password> -passin pass:<client_password> -passout pass:⇒
      temp
      ```

   f. Run this command:

      ```
      openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
      ```

   g. Run the command to create the PEM.pem file.

      This file is created to copy the public key and root certificates.

      On Microsoft Windows:

      ```
      type certificate.crt ca-cert.ca >PEM.pem
      ```

   h. Run this command:

      ```
      openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
       ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
      ```

Adding the Server's Certificate to the Client's Trust Store with orapki

To complete the setup, add the application server's certificate to the workstation client's trust store:

1. Export the public key from the server certificate:

   ```
   orapki wallet export -wallet <server_wallet> -dn <distinguished_name> -⇒
   cert <server_wallet>/<certificate> -pwd <server_password>
   ```

   For example:

```
orapki wallet export -wallet wallet.psft -dn user_dn -cert wallet.psft⇒
/psft.cer -pwd ServerPassword
```

2. Change directory to the JDK/bin directory for the Oracle installation.

```
cd %ORACLE_HOME%\jdk\bin
```

3. Add the certificate to the trust store found in the web server directory for the application server domain.

```
keytool -import -file <server_wallet>/<certificate> -alias srv_cert -⇒
keystore <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey -⇒
storepass password -noprompt
```

For example, on Microsoft Windows:

```
keytool -import -file wallet.server/caCert.crt -alias srv_cert -⇒
keystore C:\user\psft\pt\8.56\webserv\ps\piaconfig\keystore\pskey -⇒
storepass password -noprompt
```

Task 14A-1-3: Creating a Wallet with OpenSSL

This section discusses:

- Defining OpenSSL Options
- Creating a Server Wallet for the Application Server Domain with OpenSSL
- Creating a Client Wallet for the Workstation Client with OpenSSL
- Adding the Server's Certificate to the Client's Trust Store with OpenSSL

Defining OpenSSL Options

An example of an OpenSSL command that can be used to create a wallet is as follows.

For more information, see the OpenSSL documentation.

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in server.crt -⇒
chain -CAfile caCert.crt -passout pass:<password>
```

- `-export`: indicates that a PKCS 12 file is being created
- `-chain`: specifies that an attempt is made to include the entire certificate chain of the user certificate
- `-inkey`: specifies the private key file
- `-in`: specifies the file that contains the user certificate and any other certificates in the certificate chain
- `-CAfile`: specifies a file containing trusted certificates
- `-out`: specifies the output file name, which must be ewallet.p12 for an Oracle Wallet for PeopleSoft installations.
- `-passin`: specifies the password for the private key file
- `-passout`: specifies the password for the newly created wallet

Creating a Server Wallet for the Application Server Domain with OpenSSL

This section gives an example of creating a wallet for the application server with the open-source tool OpenSSL.

1. Create a directory, for example wallet.server.

   For example on Microsoft Windows:

   ```
   mkdir C:\wallet.server
   ```

2. Change directory to wallet.server.

   ```
   cd wallet.server
   ```

3. Enter the following command:

   ```
   openssl genrsa -out server.key 4096
   ```

4. Enter the following command.

   ```
   openssl req -new -key server.key -out server.csr -subj <subject>
   ```

   For example:

   ```
   openssl req -new -key server.key -out server.csr -subj '/C=country/CN=⇒
   commonName'
   ```

   The <*subject*> values in this step and step 7 are used to replace the specified data in an input request, and output a modified request. The format for <*subject*> is `'/type0=value0/type1=value1/type2=....'`. Characters must be escaped with a backslash (\), and no spaces are skipped. Use the following fields:

   - /C — Country
   - /CN — Common name
   - /L — Location
   - /O — Organization
   - /OU — Organizational Unit
   - /ST — State

5. Enter the following command:

   ```
   openssl genrsa -out caCert.key 4096
   ```

6. Enter the following command,

   ```
   openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj ⇒
   <subject>
   ```

   For example:

   ```
   openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj⇒
    '/C=US/OU=Class 2 Public Primary Certification Authority/O=My⇒
   Organization'
   ```

7. Enter the following command:

   ```
   openssl x509 -req -days 730 -in server.csr -CA caCert.crt -CAkey ca⇒
   Cert.key -set_serial 01 -out server.crt
   ```

8. Enter the following command to create the wallet ewallet.p12 and specify the server password:

   ```
   openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in⇒
   ```

```
server.crt -chain -CAfile caCert.crt -passout pass:<server_password>
```

Creating a Client Wallet for the Workstation Client with OpenSSL

This section gives an example of creating a client wallet with the open-source tool OpenSSL.

1. Create a directory, for example wallet.client, and change to that directory.

   ```
   mkdir wallet.client
   cd wallet.client
   ```

2. Copy the server's trust store to the client wallet.

   ```
   cp wallet.server\caCert.crt wallet.client
   cp wallet.server\caCert.key wallet.client
   ```

3. Enter these commands:

   ```
   openssl genrsa -out client.key 4096
   ```

4. Run this command:

   ```
   openssl req -new -key client.key -out client.csr -subj <subject>
   ```

   For example:

   ```
   openssl req -new -key client.key -out client.csr -subj '/C=country/CN=⇒
   commonName'
   ```

5. Run this command:

   ```
   openssl x509 -req -days 730 -in client.csr -CA caCert.crt -CAkey ca⇒
   Cert.key -set_serial 01 -out client.crt
   ```

6. Enter the following command to create the wallet ewallet.p12 and specify the client password:

   ```
   openssl pkcs12 -export -out ewallet.p12 -inkey client.key -in⇒
    client.crt -chain -CAfile caCert.crt -passout pass:<client_password>
   ```

7. Remove the client wallet password:

   a. Make a backup copy of the wallet, ewallet.p12:

      On Microsoft Windows:

      ```
      xcopy ewallet.p12 oldwallet.p12
      ```

   b. Run this command:

      ```
      openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
       certificate.crt -password pass:<client_password> -passin pass:⇒
      <client_password>
      ```

   c. Run this command:

      ```
      openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
      password pass:C<client_password> -passin pass:<client_password>
      ```

   d. Run this command:

      ```
      openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
      ```

```
 pass:<client_password> -passin pass:<client_password> -passout pass:⇒
temp
```

e. Run this command:

```
openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
```

f. Run the command to create the PEM.pem file.

This file is created to copy the public key and root certificates.

On Microsoft Windows:

```
type certificate.crt ca-cert.ca >PEM.pem
```

g. Run this command:

```
openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
 ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
```

Adding the Server's Certificate to the Client's Trust Store with OpenSSL

To complete the setup, add the application server's certificate to the workstation client's trust store:

1. Change directory.

```
cd %ORACLE_HOME%\jdk\bin
```

2. Add the certificate to the trust store found in the web server directory for the application server domain.

```
keytool -import -file <server_wallet>/<certificate> -alias srvcert -⇒
keystore <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey -⇒
storepass password -noprompt
```

For example, on Microsoft Windows:

```
keytool -import -file wallet.server/caCert.crt -alias srvcert -keystore⇒
 C:\user\psft\pt\8.56\webserv\ps\piaconfig\keystore\pskey -storepass⇒
 password -noprompt
```

Task 14A-2: Setting Up COBOL for Remote Call

Remote Call is a PeopleCode feature that launches a COBOL program from an application server, PeopleCode program or a batch Application Engine PeopleCode program and waits for it to complete execution before continuing. The execution of a COBOL program via Remote Call is completely independent of the Process Scheduler. You need to set up a COBOL runtime environment and COBOL executables on the application server to support Remote Call.

See "Installing and Compiling COBOL on Windows."

Note. If your application does not contain COBOL programs, you do not need to purchase or compile COBOL.

Task 14A-3: Verifying Database Connectivity

Before continuing, it is critical to verify connectivity to the database that the application server domain will use. To verify connectivity, connect to the database server from the application server using the native SQL tool on the application server.

For Oracle use SQL*Plus.

Task 14A-4: Creating, Configuring, and Starting an Initial Application Server Domain

This section discusses:

- Creating, Configuring, and Starting the Application Server Domain
- Testing the Three-Tier Connection
- Importing an Existing Application Server Domain Configuration
- Setting Up a Custom Application Server Domain Configuration
- Troubleshooting Common Errors

Task 14A-4-1: Creating, Configuring, and Starting the Application Server Domain

To create, configure, and start the application server domain:

1. Run the `psadmin` command.

   You see the PeopleSoft Server Administration menu, as in this example:

```
--------------------------------
PeopleSoft Server Administration
--------------------------------

PS_CFG_HOME:  C:\Users\JSMITH\psft\pt\8.56
PS_HOME:      C:\PT8.56
PS_APP_HOME:  C:\HR92

1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Service Setup
7) Replicate Config Home
8) Refresh Config Home
q) Quit

Command to execute (1-8, q): 1
```

Note. Make sure you change the directory from the *PS_HOME* on the file server to the *PS_HOME,* or high-level directory, on the application server.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

```
*********************************************************
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
**********************************************************
```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.
3. Specify *1* for Application Server and press ENTER.
4. Specify *2* to Create a domain and press ENTER.

```
-------------------------------------------
PeopleSoft Application Server Administration
-------------------------------------------
  1) Administer a domain
  2) Create a domain
  3) Delete a domain
  4) Import domain configuration
  q) Quit

 Command to execute (1-4, q): 2
```

5. Specify the domain name.

   In this example the domain name is HRDMO:

```
Please enter name of domain to create :HRDMO
```

   Domain names are case sensitive and must be eight US-ASCII characters or less. The domain name is used to create a directory name under the *PS_CFG_HOME*\appserv directory.

   See the information on *PS_CFG_HOME* and server domain configuration in the *PeopleTools: System and Server Administration* product documentation.
6. Specify *4* for small if this is your initial domain installation, press ENTER.

   See *PeopleTools: System and Server Administration.*
7. After the system creates the domain, the PeopleSoft Application Server Administration menu appears with a Quick-configure menu similar to this:

```
---------------------------------------------------------
Quick-configure menu -- domain: HRDMO
```

```
-------------------------------------------------------
         Features                                  Settings
        ==========                                ==========
  1) Pub/Sub Servers       : No        17) DBNAME         :[HRDMO]
  2) Quick Server          : No        18) DBTYPE         :[ORACLE]
  3) Query Servers         : No        19) UserId         :[QEDMO]
  4) Jolt                  : Yes       20) UserPswd       :[]
  5) Jolt Relay            : No        21) DomainID       :[TESTSERV]
  6) WSL                   : No        22) AddToPATH      :[c:\oracle⇒
\product\11.2.0\dbhome_1\bin]
  7) PC Debugger           : No        23) ConnectID      :[people]
  8) Event Notification    : Yes       24) ConnectPswd    :[]
  9) MCF Servers           : No        25) DomainConnectPswd:[]
 10) Perf Collator         : No        26) WSL Port       :[7000]
 11) Analytic Servers      : Yes       27) WSL SSL Port   :[7010]
 12) Domains Gateway       : No        28) JSL Port       :[9000]
 13) Push Notifications    : No        29) JSL SSL Port   :[9010]
                                       30) JRAD Port      :[9100]
      Actions
     =========
 14) Load config as shown
 15) Custom configuration
 16) Edit environment settings
  h) Help for this menu
  q) Return to previous menu

 HINT: Enter 17 to edit DBNAME, then 14 to load

 Enter selection (1-28, h, or q):
```

Note. If your installation includes more than one application server domain on a given machine, read the troubleshooting section for more information.

See Troubleshooting Common Errors.

8. If you need to modify any of the values for these settings, enter the number next to the parameter name, press ENTER, then type the new value, and press ENTER again.

   If you need to change any of the features, type the number next to the feature name and press ENTER.

9. Configure the WSL to boot by changing option 6 to Yes.

   Enter *6*, and press ENTER.

10. If you intend to use the PeopleSoft Report Distribution system, you must select *Yes* for feature 8, Event Notification.

    This enables the REN server, which is used by the "run to window" functionality of the Report Distribution system. *The Report Distribution system, MultiChannel Framework, and Optimization Framework use REN servers.* You must also remember to enter an Authentication Token Domain when installing the PeopleSoft Pure Internet Architecture (PIA).

11. If you are configuring an application server domain to support applications based on the PeopleSoft MultiChannel Framework (such as PeopleSoft CRM ERMS), select feature 9, MCF Servers.

    See the information on configuring REN Servers in the product documentation.

    See *PeopleTools: MultiChannel Framework.*

12. Enter *22* for AddToPATH, and enter the path to the 64-bit connectivity software. For example:

    ```
    C:\oracle\product\11.2.0\dbhome_1\BIN
    ```

13. Enter the values for the 20) UserPswd and 24) ConnectPswd that you specified during the database configuration.

    Reenter each password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

14. If you want to set a Domain Connection password, enter *25* and specify a password of 8 characters or less.

    Reenter the password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

    The Domain Connection password is optional. You can specify a value or leave it blank. However, if you do specify a value, you must supply the same value when installing the PeopleSoft Pure Internet Architecture, to ensure the connection to the Application Server.

15. To set up the Workstation Listener for SSL/TLS protocol, enter *27* for WSL SSL Port, and specify an available port number.

    The default port number is 7010.

16. To set up the Jolt listener for SSL/TLS protocol, enter *29* for JSL SSL Port, and specify an available port number.

    The default port number is 9010.

17. Use the custom configuration menu to specify the settings for SSL/TLS encryption and the wallet location.

    See *PeopleTools: Integration Broker,* "Installing Web Server-Based Digital Certificates."

    a. To specify the minimum and maximum encryption for SSL/TLS, select *15* for Custom Configuration.

    b. Reply *y,* and press ENTER, at this prompt:

       ```
       Do you want to change any config values (y/n) [n]?
       ```

    c. Reply *n,* and press ENTER, at this prompt:

       ```
       Do you want to change any values (y/n) [n]?
       ```

       Continue to enter *n,* for No, for all sections until you see the Workstation Listener section, and then answer *y.* (Be aware that there are several sections.)

    d. If necessary, change the values for WSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

       ```
       Values for config section - Workstation Listener
            Address=%PS_MACH%
            Port=7000
            SSL Port=7010
            WSL Min Encryption=0
            WSL Max Encrytion=256
            Min Handlers=1
            Max Handlers=2
            Max Clients per Handler=40
            Client Cleanup Timeout=60
            Init Timeout=5
            Tuxedo Compression Threshold=5000
       ```

    e. Accept the defaults for the next series of questions until asked if you want Oracle Wallet configured. In

this case, answer *y*.

f. Specify the values for the Oracle Wallet location, name, and password, or accept the defaults.

You can use an existing wallet that you created, or use the default wallet found in the security directory.

```
Values for config section - Oracle Wallet
     SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
     SEC_PRINCIPAL_NAME=psft
     SEC_PRINCIPAL_PASSWORD=
```

g. Accept the defaults for the next series of questions until asked if you want the JOLT Listener configured. In this case, answer *y*

h. If necessary, change the values for JSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

```
Values for config section - JOLT Listener
     Address=%PS_MACH%
     Port=9000
     SSL Port=9010
     JSL Min Encryption=0
     JSL Max Encrytion=256
     Min Handlers=1
     Max Handlers=2
     Max Clients per Handler=40
     Client Cleanup Timeout=10
     Init Timeout=5
     Client Connection Mode=ANY
     Jolt Compression Threshold=1000000
```

i. Accept the default for the remaining questions; the configuration will load automatically.

18. If you are installing a REN server:

a. Enter *15* for Custom configuration.

b. Reply *y*, and press ENTER, at this prompt:

```
Do you want to change any config values (y/n) [n]?
```

c. Reply *n*, and press ENTER, at this prompt:

```
Do you want to change any values (y/n) [n]?
```

Continue to enter *n*, for No, for all sections until you see the PSRENSRV section, and then answer *y*. (Be aware that there are several sections.)

d. Leave the defaults for all settings except for default_auth_token, which you should set to the domain name for your web server.

Note. The default_auth_token setting should be identical to the Authentication Token Domain that you set during PIA installation.

See "Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode."

e. Accept the defaults for the next series of questions until asked if you want Event Notification configured. In this case, answer *y*.

f. Accept the default for the remaining questions; the configuration will load automatically.

19. If you are not installing a REN server, after you update the settings you can load the configuration by entering

14, for Load config as shown, from the Quick-configure menu.

20. To start the application server (whether you installed a REN server or not), select *1*, Boot this domain, from the PeopleSoft Domain administration menu.
21. Select *1*, Boot (Serial Boot) or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

---

22. If you plan to continue with PIA installation and testing, do not shut down the application server at this time.
23. If you want to shut down your PeopleSoft application server domain later, follow these simple steps:
    a. From the PeopleSoft Domain Administration menu, enter *2* for Domain shutdown menu.
    b. From the PeopleTools Domain Shutdown Menu, enter *1* for Normal shutdown.

       You see messages about the application server processes being shut down. The number of processes stopped will vary depending on the number of processes that started when you booted the domain.
    c. Enter *q* to quit the PeopleSoft Domain Administration Menu.

Task 14A-4-2: Testing the Three-Tier Connection

If you get an error message when you try to sign in to the Application Server in Application Designer (that is, three-tier mode), it may be due to an incorrect server name or port number, because the database server is not running, or because the application server was not booted. To test a three-tier connection from the PeopleTools Development Environment (the Windows-based client):

1. Start Configuration Manager with one of these methods:
   - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Configuration Manager.
   - On Microsoft Windows 8 or 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Configuration Manager.
   - Run *PS_HOME*\bin\client\winx86\pscfg.exe.
2. Select the Profile Tab. Highlight Default and select Edit.
3. On the Edit Profile dialog box, select *Application Server* as the Connection Type.
4. Enter values for these parameters:
   - Application Server Name
   - Machine Name or IP Address
   - Port Number (WSL)

     Enter the WSL port that you specified when creating the application server domain. If you want to use the SSL/TLS protocol for connection, enter the WSL SSL port number (the default is 7010). If you want to use the LLE protocol, enter the non-SSL WSL port (the default is 7000).
   - Domain Connection Password and Domain Connection Password (confirm)

     Specify a value for the password, and repeat your entry for confirmation. The password must be 8 characters or less.

     This password is optional. If you did not set the Domain Connection Password in Configuration Manager or in the Application Server configuration, leave it blank. If you specify a password, you must supply the same password during the PeopleSoft Pure Internet Architecture installation for a successful connection between the Application Server and PeopleSoft Pure Internet Architecture.

     See the *PeopleTools: System and Server Administration* product documentation for information on using

PeopleSoft Configuration Manager and PSADMIN.

- Wallet Location

  Enter the location that you specified for the client wallet. The default location is %PS_HOME%/bin/client/winx86/security.

- Wallet Name

  Enter the name for the client wallet that you specified. The default name is wscpsft.

5. Select Set to add the definition to the list and select OK to close the dialog box.
6. On the Configuration Manager dialog box, select the Startup tab.
7. Select *Application Server* from the Database Type list. Your application server name should be displayed.
8. Enter the values for User ID, Connect ID, and password.
9. Click OK.

Note. Confirm that the application server is running by booting it from PSADMIN. Select *1,* Boot this domain, from the PeopleSoft Domain administration menu. Select option *1,* Boot (Serial Boot) or *2,* Parallel Boot, from the PeopleSoft Domain Boot menu.

---

10. Start Application Designer with one of these methods:
    - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Application Designer.
    - On Microsoft Windows 8 or 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Application Designer.
    - Run *PS_HOME*\bin\client\winx86\pside.exe.
11. In the PeopleSoft Signon dialog box:
    - Select *Application Server* as the Connection Type.
    - Confirm that the Application Server Name is correct.
    - Enter values for User ID and password.
12. Select OK to open Application Designer.

If you see the following error message when you try to sign in to the Application Server in Application Designer:

```
Network API: "Could not connect to application server 'Application Server⇒
 Name' Make sure the PeopleTools authentication server (PSAUTH) is booted."
```

This may indicate a problem with the Domain Connection Password. For example, if the password set in the Application Server configuration file does not match the value in Configuration Manager, you may get this error message when you sign in to Application Designer in three-tier mode. Check the Application Server logs for more information.

Task 14A-4-3: Importing an Existing Application Server Domain Configuration

If you have an existing application server configuration for a previous PeopleSoft PeopleTools release, you can import it to create a new domain. You can import an existing domain configuration by specifying a file or by specifying the path to an existing domain. To import from a file, you must use the psappsrv.cfg file found inside an existing application server domain folder (you must specify the full path to psappsrv.cfg). This file can be located anywhere in the file system, but must be named psappsrv.cfg. To import from an existing domain configuration that you created in the current PeopleSoft PeopleTools release, you must specify *PS_CFG_HOME* and the name of an existing application server domain. (If you are importing a domain from a release before PeopleSoft PeopleTools 8.50, note that the domains were created in *PS_HOME,* and that is the path that you should provide.)

To import an existing application server domain configuration:

1. Go to the *PS_HOME*\appserv directory and run the `psadmin` command.

   You see the PeopleSoft Server Administration menu, as in this example:

   ```
   --------------------------------
   PeopleSoft Server Administration
   --------------------------------

   PS_CFG_HOME:  C:\Users\JSMITH\psft\pt\8.56
   PS_HOME:      C:\PT8.56
   PS_APP_HOME:  C:\HR92

   1) Application Server
   2) Process Scheduler
   3) Search Server
   4) Web (PIA) Server
   5) Switch Config Home
   6) Service Setup
   7) Replicate Config Home
   8) Refresh Config Home
   q) Quit

   Command to execute (1-8, q): 1
   ```

   The PS_CONFIG_HOME location, also referred to as Config Home, corresponds to the current working directory. For information on how Config Home is set, see the *PeopleTools: System and Server Administration* product documentation.

   Note. Make sure you change the directory from the *PS_HOME* on the file server to the *PS_HOME* on the application server.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

   ```
   ********************************************************
   PS_CFG_HOME/peopletools.properties file has been updated.
   You should use the Config Home Refresh feature in PSAdmin
   to ensure that all of your domains are current.
   ```

```
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*******************************************************
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.

3. Specify *1* for Application Server.
4. Specify *4* for Import domain configuration.

```
--------------------------------------------
PeopleSoft Application Server Administration
--------------------------------------------
  1) Administer a domain
  2) Create a domain
  3) Delete a domain
  4) Import domain configuration
  q) Quit

 Command to execute (1-4, q): 4
```

5. Specify *1* for Import regular domain.

```
--------------------------------------------
PeopleSoft Import Application Server Configuration
--------------------------------------------

  1) Import regular domain
  2) Import IB Master Configuration
  q) Quit

Command to execute (1-2, q) : 1
```

6. Specify whether to import the domain configuration from a file (option 1) or from an existing application domain configuration (option 2).

```
--------------------------------------------
PeopleSoft Import Application Server Configuration
--------------------------------------------
  1) Import from file
  2) Import from application domain
  q) Quit

Command to execute (1-2, q) :
```

7. If you selected *1*, provide the full path to the file psappsrv.cfg, and then specify the name of the domain you want to create. If you selected 2, go to the next step.

```
Enter full path to configuration file
  :C:\temp\oldconfig\psappsrv.cfg
```

```
Enter domain name to create
  :HRDMO
```

8. If you selected *2*, to Import from application domain, provide the full path to the *PS_CFG_HOME* of the existing domain.

```
If importing from PeopleTools 8.49 or earlier, provide PS_HOME for PS_⇒
CFG_HOME.

Enter PS_CFG_HOME of domain you wish to import: C:\Users\JSMITH\psft\pt⇒
\8.56
```

If applicable, choose among the existing application server domains in the specified *PS_CFG_HOME*:

```
Tuxedo domain list:
  1)  HRDBA
  2)  HRDBB

Select domain number to import: 1

Enter a name for new domain:  HRDMO
```

After you create the domain, continue to the next task to verify that the imported configuration parameters are appropriate for the newly created domain. You may need to change the following values:

- DBName

  DBName can be the same or different, depending on which database the application server needs to point to.
- DBType

  DBType depends on the database type of DBName.
- UserId and UserPswd

  UserId and UserPswd are the user's choice.
- Workstation Listener Port

  Workstation Listener Port will need to be modified if the old domain will be up and running in the same machine.
- Jolt Listener Port

  Jolt Listener Port will also need a different number if the old domain will be up and running in the same machine.
- Jolt Relay Adapter Listener Port

  Jolt Relay Adapter Listener Port will need a different number if the old domain will be up and running in the same machine, and will be using Jolt Relay Adapter.

Task 14A-4-4: Setting Up a Custom Application Server Domain Configuration

The Quick-configure menu is initially displayed when you choose to configure your domain. This menu is intended for the commonly adjusted parameters—those most likely to change from domain to domain. However, there are additional configuration parameters that are not available through the Quick-configure menu. For such configuration parameters, you must use the Custom Configuration option, which you can access from the Quick-configure menu. Feel free to skip this procedure if you have already created and configured your Application Server using the Quick-configure menu and want to move forward.

The following steps assume you will be using PSADMIN to specify parameter settings.

To reconfigure an application server domain:

1. Go to the *PS_HOME*\appserv directory and run the `psadmin` command.

   Note. Make sure you change the directory from the *PS_HOME* on the file server to the *PS_HOME* on the application server.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

   ```
   *******************************************************
   PS_CFG_HOME/peopletools.properties file has been updated.
   You should use the Config Home Refresh feature in PSAdmin
   to ensure that all of your domains are current.
   Alternatively, you may recreate all of your domains.
   Please press any key to continue...
   ********************************************************
   ```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME*/peopletools.properties file. Continue with the next step.
3. Specify *1* for Application Server and press ENTER.
4. Specify *1* for Administer a domain and press ENTER.
5. Select the domain to administer and press ENTER.
6. Specify *4* for Configure this domain and press ENTER.

   The option Configure this domain performs the following tasks:

   - Shuts down the application server, if it is running. (Shutdown is required since the binary file PSTUXCFG must be deleted and re-created to enable new configuration values. If there are no processes running when shutdown is attempted, an error will be displayed but the script continues on. This is normal.)
   - Initiates an interactive dialog, prompting for configuration parameters.
   - Updates psappsrv.cfg, generates psappsrv.ubb, and internally invokes Tuxedo's tmloadcf executable to create binary file PSTUXCFG used during the domain boot process.
7. Specify *15* for Custom Configuration and press ENTER.
8. Respond to this prompt:

   ```
   Do you want to change any config values (y/n):
   ```

   - Specify *y* to start an interactive dialog to change or examine parameter values, as described in the next step.

     Oracle recommends this option for more experienced users.
   - Specify *n* if you have already edited psappsrv.cfg, skip the next step, and continue with the step to select server process options.
9. Complete the interactive dialog to specify configuration parameters.

Configuration parameters are grouped into sections. For each section, you are asked whether you want to change any parameters in that section, as in the following example:

```
Values for config section - Startup
                DBName=
                DBType=
                UserId=
                UserPswd=
                ConnectId=
                ConnectPswd=
                ServerName=
                StandbyDBName=
                StandbyDBType=
                StandbyUserId=
                StandbyUserPswd=
                InMemoryDBName=
                InMemoryDBType=
Do you want to change any values (y/n)? [n]:  y
```

- Specify *y* to change any parameter values for the current configuration section displayed.

  You are prompted for each parameter value. Either specify a new value, or press ENTER to accept the default if applicable. After pressing ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
- Enter the user ID and user password that has security to start the application server. All application databases are delivered with one or more application server security users, usually PS or VP1.

  The password you enter is hidden by masking characters.
- The parameters StandbyDBName, StandbyDBType, StandbyUserId, and StandbyUserPswd, are used for a standby database in an Oracle environment.

  See *PeopleTools: Data Management*, "Implementing Oracle Active Data Guard."
- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- The WSL, JSL, and JRAD port numbers, which are found in other sections of the configuration parameters, have default values of 7000, 9000, and 9100, respectively. These values must be unique for each application server domain. You may alter the port values if necessary to ensure that they are unique
- If you do not wish to change any values, specify *n* and you will be prompted for the next configuration section.

Note. When setting up your application server, make a note of the values you use for Database Name, Application Server Name (the machine name), and JSL Port. You will need to use these same values when installing the PeopleSoft Pure Internet Architecture.

See *PeopleTools: System and Server Administration.*

10. Select server process options.

    At this point, you will be prompted to select server process options. If this is your initial installation, we suggest you accept the defaults. A message similar to this appears:

    ```
    Setting Log Directory to the default... [PS_SERVDIR\LOGS]
    Configuration file successfully created.
    Loading new configuration...
    ```

    The message "Loading new configuration" indicates that PSADMIN is generating a binary file named

PSTUXCFG, which is used to boot the application server. At this point, your application server should be properly configured.

Task 14A-4-5: Troubleshooting Common Errors

For troubleshooting help, you can access a log file through the PSADMIN PeopleSoft Domain Administration menu. The following list includes possible errors and troubleshooting tips.

- Use PSADMIN menu option 6 for Edit configuration/log files menu to check for errors in <*PS_CFG_HOME*>\appserv\<*domain*>\LOGS\APPSRV_mmdd.log and <*PS_CFG_HOME*>\appserv\<*domain*>\LOGS\TUXLOG.mmddyy.
- If a PeopleSoft server such as PSAPPSRV fails, examine your configuration parameters. The failure of the PSAPPSRV process is often signalled by the message "Assume failed"—which means the process has failed to start. Check the SIGNON section for misspelled or invalid database name, an invalid or unauthorized OprId, or ConnectId or ServerName is missing or invalid. Finally, make sure the database connectivity is set correctly.
- If a WSL (or JSL) fails to start, try specifying another port number (it may be in use already by another application server domain process).
- If you are unable to start the BBL, check that your Tuxedo is installed fully and that the directory really exists.
- If the installation includes more than one application server domain on a single machine, before booting the second domain, adjust the REN server configuration to avoid conflict in one of these ways:
  - Use PSADMIN to disable Event Notification (option 8 on the Quick-configure menu) for the second and subsequent app server domains.
  - Change default_http_port to a value other than 7180.

See Also

PeopleTools: System and Server Administration

PeopleTools: MultiChannel Framework

Chapter 14B

Configuring the Application Server on UNIX

This chapter discusses:

- Understanding the Application Server
- Understanding the Application Server Domain Processes
- Prerequisites
- Creating a Wallet for the SSL/TLS Setup
- Setting Environment Variables
- Setting Up COBOL for Remote Call
- Verifying Database Connectivity
- Creating, Configuring, and Starting an Initial Application Server Domain

Understanding the Application Server

The information in this chapter is provided to help you configure your PeopleSoft application server.

Note. COBOL is not needed for PeopleSoft PeopleTools or for PeopleSoft Applications that contain no COBOL programs. Check the information on My Oracle Support, and your application-specific documentation, for the details on whether your application requires COBOL.

Oracle supports application servers for the PeopleSoft installation on several UNIX operating system platforms. For detailed information, consult the certification information on My Oracle Support. The application server support can be found on the certification pages for PeopleSoft systems.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is sometimes used to refer to all UNIX-like operating systems, including IBM AIX, Linux, HP-UX, and Oracle Solaris for SPARC. For the most up-to-date information on operating system support for your database platform, see the Certification information on My Oracle Support.

You can install the application server using either a "logical" or "physical" three-tier configuration.

- Installing the application server on the same machine as the database server is known as a logical three-tier configuration. For your initial PeopleSoft installation, Oracle suggests that you install a logical configuration to simplify setup.
- Installing the application server on a machine separate from the database server machine is known as a physical three-tier configuration.

The configuration and log files for application server domains reside in *PS_CFG_HOME.* If you do not set a PS_CFG_HOME environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

```
$HOME/psft/pt/<peopletools_version>
```

See "Preparing for Installation," Defining Installation Locations.

See Also

"Preparing for Installation," Understanding PeopleSoft Servers and Clients

PeopleTools: System and Server Administration, "Using PSADMIN Menus"

PeopleTools: Data Management

My Oracle Support, Certifications

"Setting Up the Install Workstation"

"Installing and Compiling COBOL on UNIX"

Understanding the Application Server Domain Processes

On most platforms (IBM AIX, Oracle Solaris, Linux, and HP-UX Itanium) no changes are required from the system defaults, in order to allow the "small" and "development" domains that are shipped with PeopleSoft PeopleTools to boot successfully.

Refer to the performance documentation for guidance in configuring your system to run larger domains. That document describes the suggested minimum kernel settings for running PeopleSoft PeopleTools in a real-world environment.

See PeopleTools Performance Guidelines Red Paper on My Oracle Support (search for the article title).

Permanently changing system-wide parameters generally requires root privileges, and any changes to the kernel configuration of your operating system should be done with care.

If you are installing on HP-UX 11.31 operating systems, be aware that hosts with machine names longer than 8 characters require the HP-UX kernel configuration `uname_eoverflow` to be set to 0 (zero).

Prerequisites

Before beginning this procedure, you should have completed the following tasks:

- Installed your application server.

  See "Using the PeopleSoft Installer," Planning Your Initial Configuration.
- Installed the supported version of Oracle Tuxedo

  See "Installing Additional Components."
- Set up SSL/TLS protocol for the workstation connection.

  The Secure Socket Layers/Transport Layer Security (SSL/TLS) protocol is supported for Workstation Listener and Jolt Listener ports for the current PeopleSoft PeopleTools release. The application server domain configuration requires a wallet. You can use the delivered wallet or create your own.

  See *PeopleTools: Integration Broker,* "Installing Web Server-Based Digital Certificates."

- Granted authorization to a PeopleSoft user ID to start the application server.

  The database configuration procedure includes a step for setting up the user ID with authorization to start the application server. See the application-specific installation instructions for information on the user IDs for your PeopleSoft application. See the *PeopleTools: Security Administration* product documentation for information on PeopleSoft PeopleTools delivered user profiles.

  See "Creating a Database on UNIX," Running the Database Configuration Wizard.

  See "Creating a Database Manually on Windows," Creating Data Mover Import Scripts.

  See "Creating a Database Manually on UNIX," Creating Data Mover Import Scripts.
- Run the following SQL statements on your database server to review and if needed, update the PSCLASSDEFN table:

```
SELECT CLASSID, STARTAPPSERVER FROM PSCLASSDEFN
WHERE CLASSID IN (SELECT OPRCLASS FROM PSOPRCLS WHERE OPRID='<OPRID>')
UPDATE PSCLASSDEFN SET STARTAPPSERVER=1 WHERE CLASSID='<CLASSID>'
```

Note. Installers typically use VP1 or PS to test the application server. If these users are deleted or their passwords are changed, the application server will no longer be available. To avoid this problem, you can set up a new operator (called PSADMIN or PSASID, for instance) with privileges to start the application server. If you do this, you can use the new operator for your application servers and you won't need to change the password each time VP1 or PS is changed.

Task 14B-1: Creating a Wallet for the SSL/TLS Setup

This section discusses:

- Using the Delivered Wallet
- Creating a Wallet with orapki
- Creating a Wallet with OpenSSL

Task 14B-1-1: Using the Delivered Wallet

Before you configure the application server to use the SSL/TLS protocol, you need a wallet. Use these instructions to create wallets for the application server and workstation client.

Note. The term "Oracle Wallet" is sometimes used in the software and documentation, for example in PSADMIN custom configuration, to refer to wallets on all RDBMS. In this context it does not refer to an entity specific to an Oracle RDBMS.

You also have the option to use the wallets that are included with the PeopleSoft PeopleTools installation. The default wallet for the application server is named psft and is located in *$PS_SERVDIR/*security. When you configure the application server, define the default wallet as follows:

- SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
- SEC_PRINCIPAL_NAME=psft

To specify the default wallet for the workstation client:

- SEC_PRINCIPAL_LOCATION=*PS_HOME*\bin\client\winx86\security
- SEC_PRINCIPAL_NAME=wscpsft

The default Java Keystore file used for the SSL/TLS configuration for JSL ports is located in *<PIA_HOME>*\webserv*<DOMAIN_NAME>*\piaconfig\keystore\pskey. If you change the Keystore password in this file, you must also provide the password in the PIA configuration.properties file at *<PIA_HOME>*\webserv*<DOMAIN_NAME>*\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps.

Task 14B-1-2: Creating a Wallet with orapki

This section discusses:

- Creating a Server Wallet for the Application Server Domain with orapki
- Creating a Client Wallet for Workstation Clients with orapki
- Adding the Server's Certificate to the Client's Trust Store with orapki

Creating a Server Wallet for the Application Server Domain with orapki

On an Oracle database, you can use the orapki command-line utility to create a wallet.

See the Oracle database security documentation for more information on orapki.

To create a server wallet for the application server domain:

1. Enter this command to create the server wallet:

   ```
   orapki wallet create -wallet <server_wallet> -pwd <server_wallet_⇒
   password>
   ```

   For example:

   ```
   orapki wallet create -wallet wallet.psft -pwd ServerPassword
   ```

2. Enter this command to add a self-signed certificate to the wallet:

   Note. Distinguished name is the unique name of a directory entry. It is comprised of all of the individual names of the parent entries back to the root entry of the directory information tree. See the Oracle database security documentation for more information.

   ```
   orapki wallet add -wallet <server_wallet> -dn <distinguished_name> -⇒
   keysize 1024 -self_signed -validity 3650 -pwd <server_wallet_password>
   ```

   For example:

   ```
   orapki wallet add -wallet wallet.psft -dn user_dn -keysize 1024 -self_⇒
   signed -validity 3650 -pwd ServerPassword
   ```

Creating a Client Wallet for Workstation Clients with orapki

To create a client wallet for workstation clients:

1. Enter this command to create the workstation client wallet:

   ```
   orapki wallet create -wallet <client_wallet> -pwd <client_wallet_⇒
   password>
   ```

   For example:

```
orapki wallet create -wallet wallet.wscpsft -pwd ClientPassword
```

2. Add a self-signed certificate to the wallet with this command:

```
orapki wallet add -wallet <client_wallet> -dn <distinguished_name> -⇒
keysize 1024 -self_signed -validity 3650 -pwd <client_wallet_password>
```

For example:

```
orapki wallet add -wallet wallet.wscpsft -dn user_dn -keysize 1024 -⇒
self_signed -validity 3650 -pwd ClientPassword
```

3. Export a public key from the server certificate with this command:

```
orapki wallet export -wallet <server_wallet> -dn <distinguished_name> -⇒
cert <server_wallet>/<server_certificate> -pwd <server_password>
```

For example:

```
orapki wallet export -wallet wallet.psft -dn user_dn -cert wallet.psft⇒
/psft.cer -pwd ServerPassword
```

4. Add the public key from the server certificate to the client certificate with this command:

```
orapki wallet add -wallet <client_wallet> -trusted_cert -cert <server_⇒
wallet>/<certificate> -pwd <client_password>
```

For example:

```
orapki wallet add -wallet wallet.wscpsft -trusted_cert -cert $PWD⇒
/wallet.psft/psft.cer -pwd ClientPassword
```

5. Use a tool such as OpenSSL to remove the client wallet password:
   a. Change directory to the client wallet that you created, called wallet.wscpsft in this example::

   ```
   cd wallet.wscpsft
   ```

   b. Make a backup copy of the wallet, ewallet.p12:

   On UNIX:

   ```
   cp ewallet.p12 oldwallet.p12
   ```

   c. Run this command:

   ```
   openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
    certificate.crt -password pass:<client_password> -passin pass:⇒
   <client_password>
   ```

   d. Run this command:

   ```
   openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
   password pass:<client_password> -passin pass:<client_password>
   ```

   e. Run this command:

   ```
   openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
    pass:<client_password> -passin pass:<client_password> -passout pass:⇒
   temp
   ```

f. Run this command:

```
openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
```

g. Run the command to create the PEM.pem file.

This file is created to copy the public key and root certificates.

On UNIX:

```
cat certificate.crt ca-cert.ca >PEM.pem
```

h. Run this command:

```
openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
 ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
```

Adding the Server's Certificate to the Client's Trust Store with orapki

To complete the setup, add the application server's certificate to the workstation client's trust store:

1. Export the public key from the server certificate:

```
orapki wallet export -wallet <server_wallet> -dn <distinguished_name> -⇒
cert <server_wallet>/<certificate> -pwd <server_password>
```

For example:

```
orapki wallet export -wallet wallet.psft -dn user_dn -cert wallet.psft⇒
/psft.cer -pwd ServerPassword
```

2. Change directory to the JDK/bin directory for the Oracle installation.

```
cd %ORACLE_HOME%\jdk\bin
```

3. Add the certificate to the trust store found in the web server directory for the application server domain.

```
keytool -import -file <server_wallet>/<certificate> -alias srv_cert -⇒
keystore <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey -⇒
storepass password -noprompt
```

For example, on UNIX:

```
keytool -import -file wallet.server/caCert.crt -alias srv_cert -⇒
keystore /home/psft_user/psft/pt/8.56/webserv/ps/piaconfig/keystore⇒
/pskey -storepass password -noprompt
```

Task 14B-1-3: Creating a Wallet with OpenSSL

This section discusses:

- Defining OpenSSL Options
- Creating a Server Wallet for the Application Server Domain with OpenSSL
- Creating a Client Wallet for the Workstation Client with OpenSSL
- Adding the Server's Certificate to the Client's Trust Store with OpenSSL

Defining OpenSSL Options

An example of an OpenSSL command that can be used to create a wallet is as follows.

For more information, see the OpenSSL documentation.

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in server.crt -⇒
chain -CAfile caCert.crt -passout pass:<password>
```

- `-export`: indicates that a PKCS 12 file is being created
- `-chain`: specifies that an attempt is made to include the entire certificate chain of the user certificate
- `-inkey`: specifies the private key file
- `-in`: specifies the file that contains the user certificate and any other certificates in the certificate chain
- `-CAfile`: specifies a file containing trusted certificates
- `-out`: specifies the output file name, which must be ewallet.p12 for an Oracle Wallet for PeopleSoft installations.
- `-passin`: specifies the password for the private key file
- `-passout`: specifies the password for the newly created wallet

Creating a Server Wallet for the Application Server Domain with OpenSSL

This section gives an example of creating a wallet for the application server with the open-source tool OpenSSL.

1. Create a directory, for example wallet.server.

   For example on UNIX:

   ```
   mkdir /home/wallet.server
   ```

2. Change directory to wallet.server.

   ```
   cd wallet.server
   ```

3. Enter the following command:

   ```
   openssl genrsa -out server.key 4096
   ```

4. Enter the following command.

   ```
   openssl req -new -key server.key -out server.csr -subj <subject>
   ```

   For example:

   ```
   openssl req -new -key server.key -out server.csr -subj '/C=country/CN=⇒
   commonName'
   ```

   The <*subject*> values in this step and step 7 are used to replace the specified data in an input request, and output a modified request. The format for <*subject*> is `'/type0=value0/type1=value1/type2=....'`. Characters must be escaped with a backslash (\), and no spaces are skipped. Use the following fields:

   - /C — Country
   - /CN — Common name
   - /L — Location

- /O — Organization
- /OU — Organizational Unit
- /ST — State

5. Enter the following command:

```
openssl genrsa -out caCert.key 4096
```

6. Enter the following command,

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj ⇒
<subject>
```

For example:

```
openssl req -new -x509 -days 1826 -key caCert.key -out caCert.crt -subj⇒
 '/C=US/OU=Class 2 Public Primary Certification Authority/O=My⇒
Organization'
```

7. Enter the following command:

```
openssl x509 -req -days 730 -in server.csr -CA caCert.crt -CAkey ca⇒
Cert.key -set_serial 01 -out server.crt
```

8. Enter the following command to create the wallet ewallet.p12 and specify the server password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey server.key -in⇒
 server.crt -chain -CAfile caCert.crt -passout pass:<server_password>
```

Creating a Client Wallet for the Workstation Client with OpenSSL

This section gives an example of creating a client wallet with the open-source tool OpenSSL.

1. Create a directory, for example wallet.client, and change to that directory.

```
mkdir wallet.client
cd wallet.client
```

2. Copy the server's trust store to the client wallet.

```
cp wallet.server\caCert.crt wallet.client
cp wallet.server\caCert.key wallet.client
```

3. Enter these commands:

```
openssl genrsa -out client.key 4096
```

4. Run this command:

```
openssl req -new -key client.key -out client.csr -subj <subject>
```

For example:

```
openssl req -new -key client.key -out client.csr -subj '/C=country/CN=⇒
commonName'
```

5. Run this command:

```
openssl x509 -req -days 730 -in client.csr -CA caCert.crt -CAkey ca⇒
```

```
Cert.key -set_serial 01 -out client.crt
```

6. Enter the following command to create the wallet ewallet.p12 and specify the client password:

```
openssl pkcs12 -export -out ewallet.p12 -inkey client.key -in⇒
 client.crt -chain -CAfile caCert.crt -passout pass:<client_password>
```

7. Remove the client wallet password:
   a. Make a backup copy of the wallet, ewallet.p12:

      On UNIX:

      ```
      cp ewallet.p12 oldwallet.p12
      ```

   b. Run this command:

      ```
      openssl pkcs12 -clcerts -nokeys -in oldwallet.p12 -out⇒
       certificate.crt -password pass:<client_password> -passin pass:⇒
      <client_password>
      ```

   c. Run this command:

      ```
      openssl pkcs12 -cacerts -nokeys -in oldwallet.p12 -out ca-cert.ca -⇒
      password pass:C<client_password> -passin pass:<client_password>
      ```

   d. Run this command:

      ```
      openssl pkcs12 -nocerts -in oldwallet.p12 -out private.key -password⇒
       pass:<client_password> -passin pass:<client_password> -passout pass:⇒
      temp
      ```

   e. Run this command:

      ```
      openssl rsa -in private.key -out NewKeyFile.key -passin pass:temp
      ```

   f. Run the command to create the PEM.pem file.

      This file is created to copy the public key and root certificates.

      On UNIX:

      ```
      cat certificate.crt ca-cert.ca >PEM.pem
      ```

   g. Run this command:

      ```
      openssl pkcs12 -export -nodes -in PEM.pem -inkey NewKeyFile.key -out⇒
       ewallet.p12 -passout pass:TrustedCertsOnlyNoPWNeeded
      ```

Adding the Server's Certificate to the Client's Trust Store with OpenSSL

To complete the setup, add the application server's certificate to the workstation client's trust store:

1. Change directory.

   ```
   cd %ORACLE_HOME%\jdk\bin
   ```

2. Add the certificate to the trust store found in the web server directory for the application server domain.

   ```
   keytool -import -file <server_wallet>/<certificate> -alias srvcert -⇒
   keystore <PIA_HOME>\webserv\<DOMAIN_NAME>\piaconfig\keystore\pskey -⇒
   ```

```
storepass password -noprompt
```

For example, on UNIX:

```
keytool -import -file wallet.server/caCert.crt -alias srvcert -keystore⇒
 /home/psft_user/psft/pt/8.56/webserv/ps/piaconfig/keystore/pskey -⇒
storepass password -noprompt
```

Task 14B-2: Setting Environment Variables

Telnet to your UNIX system. Log in and ensure the following environment variables are set appropriately.

Note. The environment variables for Tuxedo must be set explicitly; they are not set by running psconfig.sh. These can be also set using the .profile file in the user's home directory.

- $TUXDIR must be set to the correct Oracle Tuxedo installation directory. For example:

  ```
  TUXDIR=/home/user/Oracle/tuxedo12cR1; export TUXDIR
  ```

- $TUXDIR/lib must be prepended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform. For example:

  ```
  LD_LIBRARY_PATH=$TUXDIR/lib:$LD_LIBRARY_PATH; export  LD_LIBRARY_PATH
  ```

- $TUXDIR/bin must be prepended to PATH. For example:

  ```
  PATH=$TUXDIR/bin:$PATH; export PATH
  ```

One method to ensure that the following PeopleSoft environment variables are set is to source psconfig.sh. Go to the *PS_HOME* directory, and enter the following command:

```
. ./psconfig.sh
```

Note. After running psconfig.sh, you can invoke the psadmin utility from any location.

Alternatively you can make sure the following environment variables are set in the .profile file in the user's home directory:

- $ORACLE_HOME must point to the correct Oracle installation for example:

  ```
  ORACLE_HOME=/products/oracle/11.2.0;export ORACLE_HOME
  ```

- $ORACLE_HOME/bin must be added to PATH; for example:

  ```
  PATH=$PATH:$ORACLE_HOME/bin;export PATH
  ```

- $ORACLE_HOME/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform.
- $ORACLE_HOME/lib must be ahead of $ORACLE_HOME/lib32 in the library path.
- $ORACLE_SID must be set to the correct Oracle instance. For example:

  ```
  ORACLE_SID=hdmo;export ORACLE_SID
  ```

- $COBDIR must be set to the Server Express installation directory. For example:

  ```
  COBDIR=/cobol/prod/svrexp-5.1_wp11-64bit;export COBDIR
  ```

Note. If your application does not contain COBOL programs, you do not need to set the $COBDIR environment variables.

- $COBDIR/bin must be appended to the PATH; for example:

  ```
  PATH=$PATH:$COBDIR/bin;export PATH
  ```

- $COBDIR/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform. For example:

  ```
  LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$COBDIR/lib;export LD_LIBRARY_PATH
  LIBPATH=$LIBPATH:$COBDIR/lib;export LIBPATH
  SHLIB_PATH=$SHLIB_PATH:$COBDIR/lib;export SHLIB_PATH
  ```

Task 14B-3: Setting Up COBOL for Remote Call

Remote Call is a PeopleCode feature that launches a COBOL program from an application server, PeopleCode program or a batch Application Engine PeopleCode program and waits for it to complete execution before continuing. The execution of a COBOL program via Remote Call is completely independent of the Process Scheduler. You need to set up a COBOL runtime environment and COBOL executables on the application server to support Remote Call.

See "Installing and Compiling COBOL on UNIX."

Note. If your application does not contain COBOL programs, you do not need to purchase or compile COBOL.

Task 14B-4: Verifying Database Connectivity

Before continuing, it is critical to verify connectivity to the database that the application server domain will use. To verify connectivity, connect to the database server from the application server using the native SQL tool on the application server.

For Oracle use SQL*Plus.

Task 14B-5: Creating, Configuring, and Starting an Initial Application Server Domain

This section discusses:

- Creating, Configuring, and Starting the Application Server Domain
- Testing the Three-Tier Connection
- Importing an Existing Application Server Domain Configuration
- Setting Up a Custom Application Server Domain Configuration
- Troubleshooting Common Errors

Task 14B-5-1: Creating, Configuring, and Starting the Application Server Domain

To create, configure, and start the application server domain:

1. Run the `psadmin` command.

   You see the PeopleSoft Server Administration menu, as in this example:

```
--------------------------------
PeopleSoft Server Administration
--------------------------------
PS_CFG_HOME:  /home/JSMITH/peopletools/8.56
PS_HOME:      /home/PT856
PS_APP_HOME:  /home/HR92


1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Replicate Config Home
7) Refresh Config Home
q) Quit

Command to execute (1-7, q): 1
```

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/*peopletools.properties file with the current *PS_HOME* location:

```
*********************************************************
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
**********************************************************
```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.

3. Specify *1* for Application Server and press ENTER.
4. Specify *2* to Create a domain and press ENTER.

```
-------------------------------------------
PeopleSoft Application Server Administration
-------------------------------------------
```

```
  1) Administer a domain
  2) Create a domain
  3) Delete a domain
  4) Import domain configuration
  q) Quit

 Command to execute (1-4, q): 2
```

5. Specify the domain name.

   In this example the domain name is HRDMO:

   ```
   Please enter name of domain to create :HRDMO
   ```

   Domain names are case sensitive and must be eight characters or less. The domain name is used to create a directory name under the *PS_CFG_HOME*/appserv directory.

   See the information on *PS_CFG_HOME* and server domain configuration in the *PeopleTools: System and Server Administration* product documentation.

6. Specify *4* for small if this is your initial domain installation, press ENTER.

   See *PeopleTools: System and Server Administration.*

7. After the system creates the domain, the PeopleSoft Application Server Administration menu appears with a Quick-configure menu similar to this:

```
-----------------------------------------------------------
Quick-configure menu -- domain: HRDMO
-----------------------------------------------------------
         Features                                  Settings
        ==========                                ==========
  1) Pub/Sub Servers       : No        17) DBNAME         :[HRDMO]
  2) Quick Server          : No        18) DBTYPE         :[ORACLE]
  3) Query Servers         : No        19) UserId         :[VP1]
  4) Jolt                  : Yes       20) UserPswd       :[]
  5) Jolt Relay            : No        21) DomainID       :[TESTSERV]
  6) WSL                   : No        22) AddToPATH      :[.]
  7) PC Debugger           : No        23) ConnectID      :[people]
  8) Event Notification    : Yes       24) ConnectPswd    :[]
  9) MCF Servers           : No        25) DomainConnectPswd:[]
 10) Perf Collator         : No        26) WSL Port       :[7000]
 11) Analytic Servers      : Yes       27) WSL SSL Port   :[7010]
 12) Domains Gateway       : No        28) JSL Port       :[9000]
 13) Push Notifications    : No        29) JSL SSL Port   :[9010]
                                       30) JRAD Port      :[9100]
      Actions
     =========
 14) Load config as shown
 15) Custom configuration
 16) Edit environment settings
  h) Help for this menu
  q) Return to previous menu

 HINT: Enter 17 to edit DBNAME, then 14 to load

 Enter selection (1-28, h, or q):
```

Note. If your installation includes more than one application server domain on a given machine, read the troubleshooting section for more information.

See Troubleshooting Common Errors.

8. If you need to modify any of the values for these settings, enter the number next to the parameter name, press ENTER, then type the new value, and press ENTER again.

   If you need to change any of the features, type the number next to the feature name and press ENTER.

9. Configure the WSL to boot by changing option 6 to Yes.

   Enter *6*, and press ENTER.

10. If you intend to use the PeopleSoft Report Distribution system, you must select *Yes* for feature 8, Event Notification.

    This enables the REN server, which is used by the "run to window" functionality of the Report Distribution system. *The Report Distribution system, MultiChannel Framework, and Optimization Framework use REN servers.* You must also remember to enter an Authentication Token Domain when installing the PeopleSoft Pure Internet Architecture (PIA).

11. If you are configuring an application server domain to support applications based on the PeopleSoft MultiChannel Framework (such as PeopleSoft CRM ERMS), select feature 9, MCF Servers.

    See the information on configuring REN Servers in the product documentation.

    See *PeopleTools: MultiChannel Framework.*

12. Enter the values for the 20) UserPswd and 24) ConnectPswd that you specified during the database configuration.

    Reenter each password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

13. If you want to set a Domain Connection password, enter *25* and specify a password of 8 characters or less.

    Reenter the password to verify the value. The password is hidden by masking characters as you type and in the Quick-configure menu.

    The Domain Connection password is optional. You can specify a value or leave it blank. However, if you do specify a value, you must supply the same value when installing the PeopleSoft Pure Internet Architecture, to ensure the connection to the Application Server.

14. To set up the Workstation Listener for SSL/TLS protocol, enter *27* for WSL SSL Port, and specify an available port number.

    The default port number is 7010.

15. To set up the Jolt listener for SSL/TLS protocol, enter *29* for JSL SSL Port, and specify an available port number.

    The default port number is 9010.

16. Use the custom configuration menu to specify the settings for SSL/TLS encryption and the wallet location.

    See *PeopleTools: Integration Broker*, "Installing Web Server-Based Digital Certificates."

    a. To specify the minimum and maximum encryption for SSL/TLS, select *15* for Custom Configuration.

    b. Reply *y*, and press ENTER, at this prompt:

       ```
       Do you want to change any config values (y/n) [n]?
       ```

    c. Reply *n*, and press ENTER, at this prompt:

       ```
       Do you want to change any values (y/n) [n]?
       ```

Continue to enter *n*, for No, for all sections until you see the Workstation Listener section, and then answer *y*. (Be aware that there are several sections.)

d. If necessary, change the values for WSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

```
Values for config section - Workstation Listener
     Address=%PS_MACH%
     Port=7000
     SSL Port=7010
     WSL Min Encryption=0
     WSL Max Encrytion=256
     Min Handlers=1
     Max Handlers=2
     Max Clients per Handler=40
     Client Cleanup Timeout=60
     Init Timeout=5
     Tuxedo Compression Threshold=5000
```

e. Accept the defaults for the next series of questions until asked if you want Oracle Wallet configured. In this case, answer *y*.

f. Specify the values for the Oracle Wallet location, name, and password, or accept the defaults.

You can use an existing wallet that you created, or use the default wallet found in the security directory.

```
Values for config section - Oracle Wallet
     SEC_PRINCIPAL_LOCATION=%PS_SERVDIR%\security
     SEC_PRINCIPAL_NAME=psft
     SEC_PRINCIPAL_PASSWORD=
```

g. Accept the defaults for the next series of questions until asked if you want the JOLT Listener configured. In this case, answer *y*

h. If necessary, change the values for JSL minimum and maximum encryption to correspond to your installed SSL/TLS cipher. The default minimum is 0 and the default maximum is 256. The maximum is the number of bits that indicates the highest level of encryption possible for the installed SSL/TLS version.

```
Values for config section - JOLT Listener
     Address=%PS_MACH%
     Port=9000
     SSL Port=9010
     JSL Min Encryption=0
     JSL Max Encrytion=256
     Min Handlers=1
     Max Handlers=2
     Max Clients per Handler=40
     Client Cleanup Timeout=10
     Init Timeout=5
     Client Connection Mode=ANY
     Jolt Compression Threshold=1000000
```

i. Accept the default for the remaining questions; the configuration will load automatically.

17. If you are installing a REN server:

a. Enter *15* for Custom configuration.

b. Reply *y*, and press ENTER, at this prompt:

```
Do you want to change any config values (y/n) [n]?
```

c. Reply *n*, and press ENTER, at this prompt:

```
Do you want to change any values (y/n) [n]?
```

Continue to enter *n*, for No, for all sections until you see the PSRENSRV section, and then answer *y*. (Be aware that there are several sections.)

d. Leave the defaults for all settings except for default_auth_token, which you should set to the domain name for your web server.

Note. The default_auth_token setting should be identical to the Authentication Token Domain that you set during PIA installation.

See "Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode."

e. Accept the defaults for the next series of questions until asked if you want Event Notification configured. In this case, answer *y*.

f. Accept the default for the remaining questions; the configuration will load automatically.

18. If you are not installing a REN server, after you update the settings you can load the configuration by entering *14*, for Load config as shown, from the Quick-configure menu.
19. To start the application server (whether you installed a REN server or not), select *1*, Boot this domain, from the PeopleSoft Domain administration menu.
20. Select *1*, Boot (Serial Boot) or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

---

21. If you plan to continue with PIA installation and testing, do not shut down the application server at this time.
22. If you want to shut down your PeopleSoft application server domain later, follow these simple steps:

a. From the PeopleSoft Domain Administration menu, enter *2* for Domain shutdown menu.

b. From the PeopleTools Domain Shutdown Menu, enter *1* for Normal shutdown.

You see messages about the application server processes being shut down. The number of processes stopped will vary depending on the number of processes that started when you booted the domain.

c. Enter *q* to quit the PeopleSoft Domain Administration Menu.

Task 14B-5-2: Testing the Three-Tier Connection

If you get an error message when you try to sign in to the Application Server in Application Designer (that is, three-tier mode), it may be due to an incorrect server name or port number, because the database server is not running, or because the application server was not booted. To test a three-tier connection from the PeopleTools Development Environment (the Windows-based client):

1. Start Configuration Manager with one of these methods:
   - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Configuration Manager.
   - On Microsoft Windows 8 or 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Configuration Manager.
   - Run *PS_HOME*\bin\client\winx86\pscfg.exe.
2. Select the Profile Tab. Highlight Default and select Edit.

3. On the Edit Profile dialog box, select *Application Server* as the Connection Type.
4. Enter values for these parameters:
   - Application Server Name
   - Machine Name or IP Address
   - Port Number (WSL)

     Enter the WSL port that you specified when creating the application server domain. If you want to use the SSL/TLS protocol for connection, enter the WSL SSL port number (the default is 7010). If you want to use the LLE protocol, enter the non-SSL WSL port (the default is 7000).
   - Domain Connection Password and Domain Connection Password (confirm)

     Specify a value for the password, and repeat your entry for confirmation. The password must be 8 characters or less.

     This password is optional. If you did not set the Domain Connection Password in Configuration Manager or in the Application Server configuration, leave it blank. If you specify a password, you must supply the same password during the PeopleSoft Pure Internet Architecture installation for a successful connection between the Application Server and PeopleSoft Pure Internet Architecture.

     See the *PeopleTools: System and Server Administration* product documentation for information on using PeopleSoft Configuration Manager and PSADMIN.
   - Wallet Location

     Enter the location that you specified for the client wallet. The default location is %PS_HOME%/bin/client/winx86/security.
   - Wallet Name

     Enter the name for the client wallet that you specified. The default name is wscpsft.
5. Select Set to add the definition to the list and select OK to close the dialog box.
6. On the Configuration Manager dialog box, select the Startup tab.
7. Select *Application Server* from the Database Type list. Your application server name should be displayed.
8. Enter the values for User ID, Connect ID, and password.
9. Click OK.

Note. Confirm that the application server is running by booting it from PSADMIN. Select *1,* Boot this domain, from the PeopleSoft Domain administration menu. Select option *1,* Boot (Serial Boot) or *2,* Parallel Boot, from the PeopleSoft Domain Boot menu.

---

10. Start Application Designer with one of these methods:
    - On Microsoft Windows 7, select Start, Programs, PeopleTools 8.56, Application Designer.
    - On Microsoft Windows 8 or 2012 R2, access the Apps screen and navigate to PeopleTools 8.56, Application Designer.
    - Run *PS_HOME*\bin\client\winx86\pside.exe.
11. In the PeopleSoft Signon dialog box:
    - Select *Application Server* as the Connection Type.
    - Confirm that the Application Server Name is correct.
    - Enter values for User ID and password.
12. Select OK to open Application Designer.

If you see the following error message when you try to sign in to the Application Server in Application Designer:

```
Network API: "Could not connect to application server 'Application Server⇒
 Name' Make sure the PeopleTools authentication server (PSAUTH) is booted."
```

This may indicate a problem with the Domain Connection Password. For example, if the password set in the Application Server configuration file does not match the value in Configuration Manager, you may get this error message when you sign in to Application Designer in three-tier mode. Check the Application Server logs for more information.

Task 14B-5-3: Importing an Existing Application Server Domain Configuration

If you have an existing application server configuration for a previous PeopleSoft PeopleTools release, you can import it to create a new domain. You can import an existing domain configuration by specifying a file or by specifying the path to an existing domain. To import from a file, you must use the psappsrv.cfg file found inside an existing application server domain folder (you must specify the full path to psappsrv.cfg). This file can be located anywhere in the file system, but must be named psappsrv.cfg. To import from an existing domain configuration that you created in the current PeopleSoft PeopleTools release, you must specify *PS_CFG_HOME* and the name of an existing application server domain. (If you are importing a domain from a release before PeopleSoft PeopleTools 8.50, note that the domains were created in *PS_HOME,* and that is the path that you should provide.)

To import an existing application server domain configuration:

1. Run the `psadmin` command.

   You see the PeopleSoft Server Administration menu, as in this example:

   ```
   --------------------------------
   PeopleSoft Server Administration
   --------------------------------
   PS_CFG_HOME:  /home/JSMITH/peopletools/8.56
   PS_HOME:      /home/PT856
   PS_APP_HOME:  /home/HR92


   1) Application Server
   2) Process Scheduler
   3) Search Server
   4) Web (PIA) Server
   5) Switch Config Home
   6) Replicate Config Home
   7) Refresh Config Home
   q) Quit

   Command to execute (1-7, q): 1
   ```

   The PS_CONFIG_HOME location, also referred to as Config Home, corresponds to the current working directory. For information on how Config Home is set, see the *PeopleTools: System and Server Administration* product documentation.

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

   ```
   ********************************************************
   ```

```
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
*********************************************************
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.

3. Specify *1* for Application Server.
4. Specify *4* for Import domain configuration.

```
--------------------------------------------
PeopleSoft Application Server Administration
--------------------------------------------
  1) Administer a domain
  2) Create a domain
  3) Delete a domain
  4) Import domain configuration
  q) Quit

 Command to execute (1-4, q): 4
```

5. Specify *1* for Import regular domain.

```
--------------------------------------------
PeopleSoft Import Application Server Configuration
--------------------------------------------

  1) Import regular domain
  2) Import IB Master Configuration
  q) Quit

Command to execute (1-2, q) : 1
```

6. Specify whether to import the domain configuration from a file (option 1) or from an existing application domain configuration (option 2).

```
--------------------------------------------
PeopleSoft Import Application Server Configuration
--------------------------------------------
  1) Import from file
  2) Import from application domain
  q) Quit

Command to execute (1-2, q) :
```

7. If you selected *1*, provide the full path to the file psappsrv.cfg, and then specify the name of the domain you want to create. If you selected 2, go to the next step.

```
Enter full path to configuration file
:/home/oldconfig/psappsrv.cfg

Enter domain name to create
 :HRDMO
```

8. If you selected *2*, to Import from application domain, provide the full path to the *PS_CFG_HOME* of the existing domain.

```
If importing from PeopleTools 8.49 or earlier, provide PS_HOME for PS_⇒
CFG_HOME.

Enter PS_CFG_HOME of domain you wish to import: /home/JSMITH⇒
/peopletools/8.56
```

If applicable, choose among the existing application server domains in the specified *PS_CFG_HOME*:

```
Tuxedo domain list:
  1)  HRDBA
  2)  HRDBB

Select domain number to import: 1

Enter a name for new domain:  HRDMO
```

After you create the domain, continue to the next task to verify that the imported configuration parameters are appropriate for the newly created domain. You may need to change the following values:

- DBName

  DBName can be the same or different, depending on which database the application server needs to point to.
- DBType

  DBType depends on the database type of DBName.
- UserId and UserPswd

  UserId and UserPswd are the user's choice.
- Workstation Listener Port

  Workstation Listener Port will need to be modified if the old domain will be up and running in the same machine.
- Jolt Listener Port

  Jolt Listener Port will also need a different number if the old domain will be up and running in the same machine.
- Jolt Relay Adapter Listener Port

  Jolt Relay Adapter Listener Port will need a different number if the old domain will be up and running in the same machine, and will be using Jolt Relay Adapter.

Task 14B-5-4: Setting Up a Custom Application Server Domain Configuration

The Quick-configure menu is initially displayed when you choose to configure your domain. This menu is intended for the commonly adjusted parameters—those most likely to change from domain to domain. However, there are additional configuration parameters that are not available through the Quick-configure menu. For such configuration parameters, you must use the Custom Configuration option, which you can access from the Quick-configure menu. Feel free to skip this procedure if you have already created and configured your Application Server using the Quick-configure menu and want to move forward.

The following steps assume you will be using PSADMIN to specify parameter settings.

To reconfigure an application server domain:

1. Run the `psadmin` command.
2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/*peopletools.properties file with the current *PS_HOME* location:

   ```
   ********************************************************
   PS_CFG_HOME/peopletools.properties file has been updated.
   You should use the Config Home Refresh feature in PSAdmin
   to ensure that all of your domains are current.
   Alternatively, you may recreate all of your domains.
   Please press any key to continue...
   ************************************************************
   ```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.
3. Specify *1* for Application Server and press ENTER.
4. Specify *1* for Administer a domain and press ENTER.
5. Select the domain to administer and press ENTER.
6. Specify *4* for Configure this domain and press ENTER.

   The option Configure this domain performs the following tasks:

   - Shuts down the application server, if it is running. (Shutdown is required since the binary file PSTUXCFG must be deleted and re-created to enable new configuration values. If there are no processes running when shutdown is attempted, an error will be displayed but the script continues on. This is normal.)
   - Initiates an interactive dialog, prompting for configuration parameters.
   - Updates psappsrv.cfg, generates psappsrv.ubb, and internally invokes Tuxedo's tmloadcf executable to create binary file PSTUXCFG used during the domain boot process.
7. Specify *15* for Custom Configuration and press ENTER.
8. Respond to this prompt:

   ```
   Do you want to change any config values (y/n):
   ```

- Specify *y* to start an interactive dialog to change or examine parameter values, as described in the next step.

  Oracle recommends this option for more experienced users.
- Specify *n* if you have already edited psappsrv.cfg, skip the next step, and continue with the step to select server process options.

9. Complete the interactive dialog to specify configuration parameters.

   Configuration parameters are grouped into sections. For each section, you are asked whether you want to change any parameters in that section, as in the following example:

```
Values for config section - Startup
                DBName=
                DBType=
                UserId=
                UserPswd=
                ConnectId=
                ConnectPswd=
                ServerName=
                StandbyDBName=
                StandbyDBType=
                StandbyUserId=
                StandbyUserPswd=
                InMemoryDBName=
                InMemoryDBType=
Do you want to change any values (y/n)? [n]:  y
```

- Specify *y* to change any parameter values for the current configuration section displayed.

  You are prompted for each parameter value. Either specify a new value, or press ENTER to accept the default if applicable. After pressing ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
- Enter the user ID and user password that has security to start the application server. All application databases are delivered with one or more application server security users, usually PS or VP1.

  The password you enter is hidden by masking characters.
- The parameters StandbyDBName, StandbyDBType, StandbyUserId, and StandbyUserPswd, are used for a standby database in an Oracle environment.

  See *PeopleTools: Data Management*, "Implementing Oracle Active Data Guard."
- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- The WSL, JSL, and JRAD port numbers, which are found in other sections of the configuration parameters, have default values of 7000, 9000, and 9100, respectively. These values must be unique for each application server domain. You may alter the port values if necessary to ensure that they are unique
- If you do not wish to change any values, specify *n* and you will be prompted for the next configuration section.

Note. When setting up your application server, make a note of the values you use for Database Name, Application Server Name (the machine name), and JSL Port. You will need to use these same values when installing the PeopleSoft Pure Internet Architecture.

See *PeopleTools: System and Server Administration.*

10. Select server process options.

At this point, you will be prompted to select server process options. If this is your initial installation, we suggest you accept the defaults. A message similar to this appears:

```
Setting Log Directory to the default... [PS_SERVDIR/LOGS]
Configuration file successfully created.
Loading new configuration...
```

The message "Loading new configuration" indicates that PSADMIN is generating a binary file named PSTUXCFG, which is used to boot the application server. At this point, your application server should be properly configured.

Task 14B-5-5: Troubleshooting Common Errors

For troubleshooting help, you can access a log file through the PSADMIN PeopleSoft Domain Administration menu. The following list includes possible errors and troubleshooting tips.

- Use the PSADMIN PeopleSoft Domain Administration menu option 6 for Edit configuration/log files menu to check for errors in <*PS_CFG_HOME*>/appserv/<*domain*>/LOGS/APPSRV_mmdd.LOG and <*PS_CFG_HOME*>/appserv/<*domain*>/LOGS/TUXLOG.mmddyy.
- If a PeopleSoft server such as PSAPPSRV fails, examine your configuration parameters. The failure of the PSAPPSRV process is often signalled by the message "Assume failed"—which means the process has failed to start. Check the SIGNON section for misspelled or invalid database name, an invalid or unauthorized OprId, or ConnectId or ServerName is missing or invalid. Finally, make sure the database connectivity is set correctly.
- If a WSL (or JSL) fails to start, try specifying another port number (it may be in use already by another application server domain process).
- If you are unable to start the BBL, check that your Tuxedo is installed fully and that the directory really exists.
- If the installation includes more than one application server domain on a single machine, before booting the second domain, adjust the REN server configuration to avoid conflict in one of these ways:
  - Use PSADMIN to disable Event Notification (option 8 on the Quick-configure menu) for the second and subsequent app server domains.
  - Change default_http_port to a value other than 7180.
- Check that you do not have older Tuxedo releases prepended in your PATH or runtime library (LIBPATH, SHLIB_PATH or LD_LIBRARY_PATH, depending on the UNIX operating system).

See Also

PeopleTools: System and Server Administration

PeopleTools: MultiChannel Framework

Chapter 15

Setting Up the PeopleSoft Pure Internet Architecture in Silent Mode

This chapter discusses:

- Understanding PeopleSoft Pure Internet Architecture
- Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation
- Installing the PeopleSoft Pure Internet Architecture in Silent Mode
- Configuring the SSL/TLS Port for JSL
- Testing and Administering the PeopleSoft Pure Internet Architecture Installation
- Completing Post-Installation Steps

Understanding PeopleSoft Pure Internet Architecture

This chapter explains how to install and configure the components of the PeopleSoft Pure Internet Architecture in silent mode.

See "Installing Web Server Products."

The setup program for the PeopleSoft Pure Internet Architecture is installed to the web server machine when you run the PeopleSoft Installer and select the PeopleSoft Web Server option.

See "Using the PeopleSoft Installer."

Oracle only supports customer installations that use web servers that are certified for PeopleSoft PeopleTools. *You must install the web server before you install the PeopleSoft Pure Internet Architecture.* Before you install the PeopleSoft Pure Internet Architecture, you must also have configured an application server, as described in the previous chapter.

The location where you install the PeopleSoft Pure Internet Architecture is referred to in this documentation as *PIA_HOME.* You can specify different locations for *PS_HOME* and *PIA_HOME.* After you complete the PeopleSoft Pure Internet Architecture installation, you can locate the installation files in the directory *PIA_HOME/*webserv.

For PeopleSoft PeopleTools 8.51 and later, if you are setting up the PeopleSoft Pure Internet Architecture on a Microsoft Windows platform, the directory and path that you specify for *PIA_HOME* may include spaces. However, parentheses in the directory name (for example, "C:\Program Files (x86)") are *not* allowed for *PIA_HOME.*

See "Preparing for Installation," Defining Installation Locations.

If your web server is on a different machine than your application server, you need to make sure you have JRE installed on your web server to run the PeopleSoft Pure Internet Architecture installation.

The initial PeopleSoft Pure Internet Architecture setup automatically creates the default PeopleSoft site named ps. In subsequent PeopleSoft Pure Internet Architecture setups, change the site name from *ps* to a unique value. We recommend using the database name. This is handy for easy identification and ensures that the database web server files are installed in a unique web site.

The URL that you use to invoke the PeopleSoft Pure Internet Architecture must conform to ASN.1 specifications. That is, it may contain only alphanumeric characters, dots ("."), or dashes ("-"). The URL must not begin or end with a dot or dash, or contain consecutive dots (".."). If the URL includes more than one portion, separated by dots, do not use a number to begin a segment if the other segments contain letters. For example, "mycompany.second.country.com" is correct, but "mycompany.2nd.country.com" is wrong.

Review the following additional notes before beginning the PeopleSoft Pure Internet Architecture installation:

- If you want to connect between multiple application databases, you need to implement single signon.
- If the PeopleSoft Pure Internet Architecture installation encounters an error, it will indicate which log files to refer to.

  See "Installing Web Server Products."
- The machine on which you run the PeopleSoft Pure Internet Architecture install must be running in *256 color mode*. This is not necessary for UNIX or console mode.

The PeopleSoft Pure Internet Architecture installation includes the following products:

- *PeopleSoft Pure Internet Architecture.* This product is the centerpiece of the PeopleSoft architecture that enables users to work on a machine with only a supported browser installed. This option installs the servlets required for deploying PeopleSoft Applications and for the PeopleSoft portal. The portal packs and PeopleSoft Portal Solutions have their own installation instructions, which are available on My Oracle Support. For an overview of the various types of portals, consult the *PeopleTools: Portal Technology* product documentation.
- *PeopleSoft Report Repository.* This product works in conjunction with Process Scheduler to allow report distribution over the web.
- *PeopleSoft Integration Gateway.* This product is the entry and exit point for all messages to and from the Integration Broker. Its Java-based Connector architecture allows asynchronous and synchronous messages to be sent over a variety of standard protocols, many that are delivered at install, or through custom connectors.

  Important! For PeopleSoft PeopleTools 8.50 and later, review the product documentation concerning security properties for Integration Gateway. When setting the properties in the integrationGateways.properties file, the property secureFileKeystorePasswd must be encrypted, and the secureFileKeystorePath must be set.

  See *PeopleTools: Integration Broker Administration.*
- *PeopleSoft CTI Console.* This product works in conjunction with CTI vendor software to enable call center agents to take advantage of browser-based teleset management and automatic population of application pages with relevant data associated with incoming calls, such as customer or case details.

  See *PeopleTools: MultiChannel Framework.*
- *Environment Management Hub.* The Environment Management hub is a web application that is installed with the PeopleSoft Pure Internet Architecture and portal. It is started along with the rest of the web applications when the user boots the web server. You cannot start the Environment Management Hub on a server that is configured to run HTTPS; in other words, if you plan to run Environment Management, your PIA server needs to be configured in HTTP mode.

  See *PeopleTools: Change Assistant and Update Manager*.

See Also

PeopleTools: Security Administration

Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation

You have the option to specify an authentication domain when you install the PeopleSoft Pure Internet Architecture on Oracle WebLogic or IBM WebSphere.

Note. The authentication domain was referred to as the Authentication Token Domain in previous releases, and that term is still seen in the software.

When an authentication domain is specified during the PeopleSoft Pure Internet Architecture installation, that value gets used as the Cookie domain in the web server configuration. The main requirements when setting a cookie domain are:

- The cookie domain value being set must begin with a dot (.ps.com is valid, ps.com is NOT valid).
- The cookie domain value being set must contain at least 1 embedded dot (.ps.com is valid, .corp.ps.com is valid, .com is NOT valid).
- The cookie domain value can only be a single domain name. It cannot be a delimiter-separated list of domains.

By default, the browser only sends cookies back to the machine that set the cookie. So if web server crm.yourdomain.com sets a cookie, the browser will only send it back there. You can make the browser send the single signon cookie to all servers at yourdomain.com by typing your domain name in the Authentication Token Domain list box of web server crm.

Specifying the authentication domain may be necessary in certain cases. For example, if you plan to use the PeopleSoft portal technology, be sure to read the supporting documentation on configuring the portal environment, to determine whether setting the authentication domain is required for correct operation.

See *PeopleTools: Portal Technology.*

Specify an authentication domain if you plan to run a REN Server. REN Servers are required for PeopleSoft MultiChannel Framework, Reporting, and some PeopleSoft CRM applications supported by PeopleSoft MultiChannel Framework.

See *PeopleTools: MultiChannel Framework.*

If you use the PeopleSoft Mobile Application Platform (MAP), you must specify the same authentication domain during the PeopleSoft Pure Internet Architecture installation, for MAP, and for Integration Broker and integration hubs.

See *PeopleTools: Mobile Application Platform.*

See *PeopleTools: Integration Broker.*

Task 15-1: Installing the PeopleSoft Pure Internet Architecture in Silent Mode

This section discusses:

- Understanding the Silent Installation and the Response File
- Editing the Response File

- Running the Silent Mode Installation

Understanding the Silent Installation and the Response File

You can carry out a silent installation of the PeopleSoft Pure Internet Architecture by providing all the required settings in a response file. With silent installation there is no user interaction. Silent mode installation of PeopleSoft Pure Internet Architecture is supported for both Microsoft Windows and UNIX operating systems platforms, and for both Oracle WebLogic and IBM WebSphere web servers.

Task 15-1-1: Editing the Response File

You need a response file to start the installer in silent mode. The PeopleSoft Pure Internet Architecture installer comes with a response file template (resp_file.txt) that can be found under *PS_HOME*\setup\PsMpPIAInstall\scripts. Modify the values in the response file according to your installation requirements.

Note. When specifying paths on Microsoft Windows operating systems, use forward slashes (/), as shown in the examples in the response file.

The response file should contain all the input parameters that are needed for deploying PeopleSoft Pure Internet Architecture The sample response files includes the following sections:

- The location where you want to install the PeopleSoft Pure Internet Architecture.

```
#Following inputs are required in response file for silent installation

# Location of PIA_HOME directory.  For windows path should have front⇒
 slash '/' instead of back slash '\'
# Set the below variable to the location where you want to install PIA.
# PLEASE NOTE this variable could be ANY DIRECTORY on your machine. It⇒
 includes but is definitely not limited to PeopleTools Home.
PS_CFG_HOME=C:/PT8.50
```

- Domain name

```
# Name of the PIA domain
DOMAIN_NAME=peoplesoft
```

- The Web server type and root directory for the web server installation

```
# Web server type. Possible values are "weblogic", "websphere"
SERVER_TYPE=weblogic

# WebLogic home, the location where Oracle WebLogic is installed (for⇒
 WebLogic deployment only)
BEA_HOME=c:/bea

# WebSphere Home, the location where IBM WebSphere is installed (for Web⇒
Sphere deployment only)
WS_HOME=C:/IBM/WebSphere/AppServer
```

  - Specify `SERVER_TYPE=weblogic` to deploy on Oracle WebLogic.

    For Oracle WebLogic, specify the installation location for BEA_HOME.
  - Specify `SERVER_TYPE=websphere` to deploy on IBM WebSphere.

If you installed IBM WebSphere, specify the installation location for WS_HOME.

- The administrator login ID, and the password for the web server domain.

```
# admin console user id/password for securing WebLogic/WebSphere admin⇒
 console credential
USER_ID=system
USER_PWD=
USER_PWD_RETYPE=
```

- Installation action

```
# Install action to specify the core task that installer should perform.
# For creating new PIA domain - CREATE_NEW_DOMAIN.
# For redeploying PIA - REDEPLOY_PSAPP.
# For recreating PIA domain - REBUILD_DOMAIN.
# For installing additional PSFT site - ADD_SITE
# For installing Extensions - ADD_PSAPP_EXT
INSTALL_ACTION=CREATE_NEW_DOMAIN
```

  - CREATE_NEW_DOMAIN

    Create a new PeopleSoft Pure Internet Architecture domain.

  - REDEPLOY_PSAPP

    If your web server is Oracle WebLogic,this option affects all of the PeopleSoft Pure Internet Architecture web applications installed to the local Oracle WebLogic domain. Select this option to redeploy all of the web components of the PeopleSoft Pure Internet Architecture. The redeployment process updates all of the web components of the PeopleSoft Pure Internet Architecture, without modifying the configuration files or scripts that belong to the Oracle WebLogic server domain.

    If your web server is IBM WebSphere, this selection affects all of the PeopleSoft Pure Internet Architecture web applications installed to the local IBM WebSphere Application Server profile. The redeployment process updates all of the web components of the PeopleSoft Pure Internet Architecture

  - REBUILD_DOMAIN

    This option affects Oracle WebLogic Server domain configuration and all of the PeopleSoft Pure Internet Architecture web applications installed to the local Oracle WebLogic domain. Select this option to completely remove an existing Oracle WebLogic domain and deploy the PeopleSoft Pure Internet Architecture components to create the newly specified PeopleSoft site.

    Warning! Re-creating an existing domain will delete everything previously installed into that domain.

  - ADD_SITE

    If your web server is Oracle WebLogic: This option is relevant only to the PeopleSoft PORTAL web application, and does not modify or revert any other configuration settings. Select this option to install only the necessary files for defining an additional PeopleSoft site onto an existing Oracle WebLogic configuration. The new site will be accessed using its name in the URL. A site named "CRM" would be accessed using a URL similar to http://mywebserver_machine/CRM. To reset or re-create an existing PeopleSoft site, simply enter that site's name as the site to create. On your web server, a PeopleSoft site is comprised of the following directories within the PORTAL web application:

    <WEBLOGIC_DOMAIN>\applications\peoplesoft\PORTAL\<site>*

    <WEBLOGIC_DOMAIN>\applications\peoplesoft\PORTAL\WEB-INF\psftdocs\<site>*

    If your web server is IBM WebSphere: Select this option to install only the necessary files for defining an additional PeopleSoft site onto the existing IBM WebSphere ND web server configuration .

- ADD_PSAPP_EXT

  This option is solely for use with PeopleSoft applications. PeopleSoft application extensions are provided with certain PeopleSoft applications, and this option allows you to deploy those extensions. Consult the installation documentation for your PeopleSoft application to see if this option is appropriate. PeopleSoft PeopleTools does not use application extensions.

- Create a new domain or modify an existing domain.

```
# Domain type to specify whether to create new domain or modify existing⇒
 domain. Possible values are "NEW_DOMAIN", "EXISTING_DOMAIN".
DOMAIN_TYPE=NEW_DOMAIN
```

- Specify the PS_APP_HOME

```
# App home is required only when you are installing extensions from a⇒
 decoupled Apps home, please leave it commented otherwise.
# Silent installer can detect the deployable application extensions from⇒
 the PS_APP_HOME
# PS_APP_HOME=D:/CR9.2
```

- INSTALL_TYPE

```
# Install type to specify whether the installation is a single server or⇒
 multi server deployment. Possible values are "SINGLE_SERVER_⇒
INSTALLATION", "MULTI_SERVER_INSTALLATION"
INSTALL_TYPE=SINGLE_SERVER_INSTALLATION
```

  - SINGLE_SERVER_INSTALLATION

    If your web server is Oracle WebLogic, the single server domain configuration contains one server named PIA, and the entire PeopleSoft application is deployed to it. This configuration is intended for single user or very small scale, non-production environments.

    If your web server is IBM WebSphere, the Single Server Installation option creates one WebSphere Application Server profile to hold all the PeopleSoft web applications. The installer uses the application name you enter for the new profile's name.

  - MULTI_SERVER_INSTALLATION

    If your web server is Oracle WebLogic, the multi-server domain configuration contains seven unique server definitions, an Oracle WebLogic cluster, and the PeopleSoft application split across multiple servers. This configuration is intended for a production environment.

    If your web server is IBM WebSphere, the multi server domain configuration creates a single profile with the name you enter as the application name. The profile includes two servers, which deploy discrete functionality and are found on different ports, as specified in the following table:

Server Name	Purpose	HTTP or HTTPS Port Number
server1	PORTAL applications	X
psemhub	PeopleSoft Environment Management Framework applications (PSEMHUB)	X+1

- The PeopleSoft web site name.

Warning! Warning! The site name can include underscores (_), but an underscore cannot be followed by a numeric character or the string "newwin" (for example, my_site_3 or my_newwin_site).

```
# WebSite Name
WEBSITE_NAME=ps
```

- PSSERVER

  For information on the optional PSSERVER parameter, see the information on configuring Jolt failover and load balancing in the *PeopleTools: System and Server Administration* production documentation.

```
# To enable jolt failover and load balancing, provide a list of⇒
 application server domains in the format of;  PSSERVER=AppSrvr:⇒
JSLport,...
# For example:  PSSERVER=SERVER1:9000,SERVER2:9010,SERVER3:9020
# PSSERVER is optional, but if set will have precedence over APPSERVER_⇒
NAME & JSL_PORT.
PSSERVER=
```

- The application server name, its JSL (Jolt Station Listener) port number, its HTTP and HTTPS port numbers, the Authentication Token Domain (optional).

```
# AppServer Name
APPSERVER_NAME=

# Appserver JSL Port
JSL_PORT=

# HTTP Port
HTTP_PORT=80

# HTTPS Port
HTTPS_PORT=443

# Authentication Domain (optional)
AUTH_DOMAIN=
```

  - APPSERVER_NAME — the name of your application server
  - JSL_PORT — the JSL port number you specified when setting up your application server.
  - HTTP_PORT — the port to access the software in a browser using HTTP.
  - HTTPS_PORT — the port to access the software in a browser using HTTPS.
  - AUTH_DOMAIN

    This is optional. The value you enter for Authentication Token Domain must match the value you specify when configuring your application server, as described earlier in this book. In addition, certain installation configurations require that you specify an authentication domain.

    If you enter a value for Authentication Token Domain, the URL to invoke PeopleSoft Pure Internet Architecture must include the network domain name in the URL. For example, if you do not enter an authentication domain, the URL to invoke PeopleSoft Pure Internet Architecture is http://MachineName/ps/signon.html. If you do enter a value for the authentication domain (for example, .myCompany.com), the URL to invoke PeopleSoft Pure Internet Architecture is http://MachineName.myCompany.com/ps/signon.html. In addition, if the web server for the database is

using an http port other than the default port of 80, the URL must include the port number, for example http://MachineName:8080/ps/signon.html if there is no authentication domain, or http://MachineName.myCompany.com:8080/ps/signon.html if there is an authentication domain. The URL must also comply with the naming rules given earlier in this chapter.

See Using Authentication Domains in the PeopleSoft Pure Internet Architecture Installation.

- Web profile name and password

  Enter a Web Profile Name, and enter the password two times. The example below shows the default web profile name, PROD, and default user ID, PTWEBSERVER. The web profile name will be used to configure this web site. You can specify one of the other predelivered web profiles, DEV, TEST, or KIOSK, or enter a different name. If you intend to use a Web Profile User ID other than the default, PTWEBSERVER, be sure to review the information on web profile configuration and security in the *PeopleTools: Portal Technology* product documentation.

```
# Web Profile Name Possible Values are "DEV","TEST","PROD","KIOSK"
WEB_PROF_NAME=PROD

# Web Profile password for User "PTWEBSERVER"
WEB_PROF_PWD=
WEB_PROF_PWD_RETYPE=
```

- Integration Gateway user name and password

  See *PeopleTools: Integration Broker Administration.*

```
# Integration Gateway user profile.
IGW_USERID=administrator
IGW_PWD=
IGW_PWD_RETYPE=
```

- AppServer Domain Connection password (optional).

  If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank as shown in this example. This password will be propagated to the Integration Gateway. For more information about Application Server domain configuration and setting domain parameters, see the product documentation *PeopleTools: System and Server Administration.*

```
# AppServer connection user profile
APPSRVR_CONN_PWD=
APPSRVR_CONN_PWD_RETYPE=
```

- The root directory for the Report Repository

  Make sure that the report repository directory is shared. You must have write access to the Report Repository directory.

Note. In setting up the Process Scheduler to transfer reports, if you choose the FTP transfer protocol, use the same directory for the Home Directory as you use here for the report repository.

See *PeopleTools: Portal Technology.*

See "Setting Up Process Scheduler on Windows," Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository.

```
# Directory path for reports
REPORTS_DIR=
```

Task 15-1-2: Running the Silent Mode Installation

Use the response file that you modified for your configuration. Substitute the location where you saved the response file for <*path_to_response_file*> in the following procedures:

To install the PeopleSoft Pure Internet Architecture in silent mode on Microsoft Windows:

1. In a command prompt, go to *PS_HOME*\setup\PsMpPIAInstall.
2. Run the following command, using forward slashes (/) to specify the path:

   ```
   setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
   ```

   For example:

   ```
   setup.bat -i silent -DRES_FILE_PATH=D:/PT8.56
   ```

To install the PeopleSoft Pure Internet Architecture in silent mode on UNIX:

1. Go to *PS_HOME/*setup/PsMpPIAInstall.
2. Run the following command, using forward slashes (/) to specify the path:

   ```
   setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
   ```

   For example:

   ```
   setup.bat -i silent -DRES_FILE_PATH=/home/PT856
   ```

Task 15-2: Configuring the SSL/TLS Port for JSL

Supply the SSL/TLS port for JSL in the configuration.properties file for the web server.

See *PeopleTools: Integration Broker,* "Installing Web Server-Based Digital Certificates."

1. Using a text editor, open the configuration.properties file in the web server deployment folder located here: <*PIA_HOME*>\webserv\<*DOMAIN_NAME*>\application\peoplesoft\PORTAL.war\WEB_INF\psftdoc\ps.
2. Locate the psserver section and enter the application server name and the SSL/TLS port.

   Enter the SSL/TLS port that you specified for the JSL SSL Port when setting up the application server domain.

   See Creating, Configuring, and Starting an Initial Application Server Domain.

   ```
   psserver=<machine_name>:<SSL_port_for_JSL>
   ```

3. Locate the section Keystore password for ssl connection.

   If you reset the SSL/TLS Java Keystore password, enter it here. Otherwise, accept the default value. The default Java Keystore file is located in <*PIA_HOME*>\webserv\<*DOMAIN_NAME*>\piaconfig\keystore\pskey.

   ```
   #Keystore password for ssl connection
   KeyStorePwd=={V1.1}7m4OtVwXFNyLc1j6pZG69Q==
   ```

4. Save and close the file.

If the JDK used for your web server does not support the algorithm used for SSL connection, you may see an error similar to the following when you sign in to the PeopleSoft Pure Internet Architecture through an SSL port: "Cannot support TLS_RSA_WITH_AES_256_CBC_SHA with currently installed providers"

This applies to the Oracle JDK for Linux, Microsoft Windows, or Oracle Solaris for SPARC operating systems.

See "Installing Web Server Products," Installing JDK.

To resolve the issue, use the following steps to upgrade the JDK with Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files:

1. Download the file jce_policy-8.zip from this site to a convenient directory:

   http://www.oracle.com/technetwork/java/javase/downloads/jce8-download-2133166.html
2. Unzip the file jce_policy-8.zip.
3. Copy the files local_policy.jar and US_export_policy.jar from jce_policy-8\UnlimitedJCEPolicyJDK8.
4. Paste the two files into the <*JAVA_HOME*>\jre\lib\security folder, and replace the existing files.

Task 15-3: Testing and Administering the PeopleSoft Pure Internet Architecture Installation

This section discusses:

- Verifying the PeopleSoft Pure Internet Architecture Installation
- Starting and Stopping Oracle WebLogic
- Starting and Stopping IBM WebSphere Application Servers
- Using PSADMIN to Start and Stop Web Servers
- Accessing the PeopleSoft Signon

Verifying the PeopleSoft Pure Internet Architecture Installation

After installing the PeopleSoft Pure Internet Architecture, you should make sure that your configuration is functional. You can test this by signing on to PeopleSoft, navigating within the menu structure, and accessing pages. (Make sure the application server is configured and booted.) This section includes procedures to start and stop the Oracle WebLogic or IBM WebSphere web servers whenever necessary.

Task 15-3-1: Starting and Stopping Oracle WebLogic

If you are using the Oracle WebLogic web server, you need to sign on to Oracle WebLogic before using these commands. If you are using IBM WebSphere instead, go on to the next section. Use the following commands in the Oracle WebLogic domain directory.

Note. Starting from Oracle WebLogic 9.2 and later releases, all the life-cycle management scripts and other batch scripts for the PIA server on Oracle WebLogic are located in <*PIA_HOME*>\webserv\<*domain_name*>\bin folder.

- To start Oracle WebLogic Server as a foreground process on a single server, use the following commands:

  On Microsoft Windows:

  ```
  startPIA.cmd
  ```

  On UNIX:

  ```
  startPIA.sh
  ```


- To start Oracle WebLogic Server as a foreground process on multiple-servers or distributed servers, use the following commands:
  1. Execute the following command:

     On Microsoft Windows:

     `startWebLogicAdmin.cmd`

     On UNIX:

     `startWebLogicAdmin.sh`

  2. Then execute:

     On Microsoft Windows:

     `startManagedWebLogic.cmd` *`ManagedServerName`*

     On UNIX:

     `startManagedWebLogic.sh` *`ManagedServerName`*

- To stop the server, use the following commands:
  - Single Server on Microsoft Windows:

    `stopPIA.cmd`

    Single Server on UNIX:

    `stopPIA.sh`

  - Multiple Servers or Distributed Servers on Microsoft Windows:

    `stopWebLogic.cmd` *`ManagedServerName`*

    Single Server on UNIX:

    `stopWebLogic.sh` *`ManagedServerName`*

For more information on working with Oracle WebLogic multiple servers or distributed servers, see the *PeopleTools: System and Server Administration* product documentation.

Note. For more information on working with Oracle WebLogic multiple or distributed servers, search My Oracle Support.

Task 15-3-2: Starting and Stopping IBM WebSphere Application Servers

This section discusses:

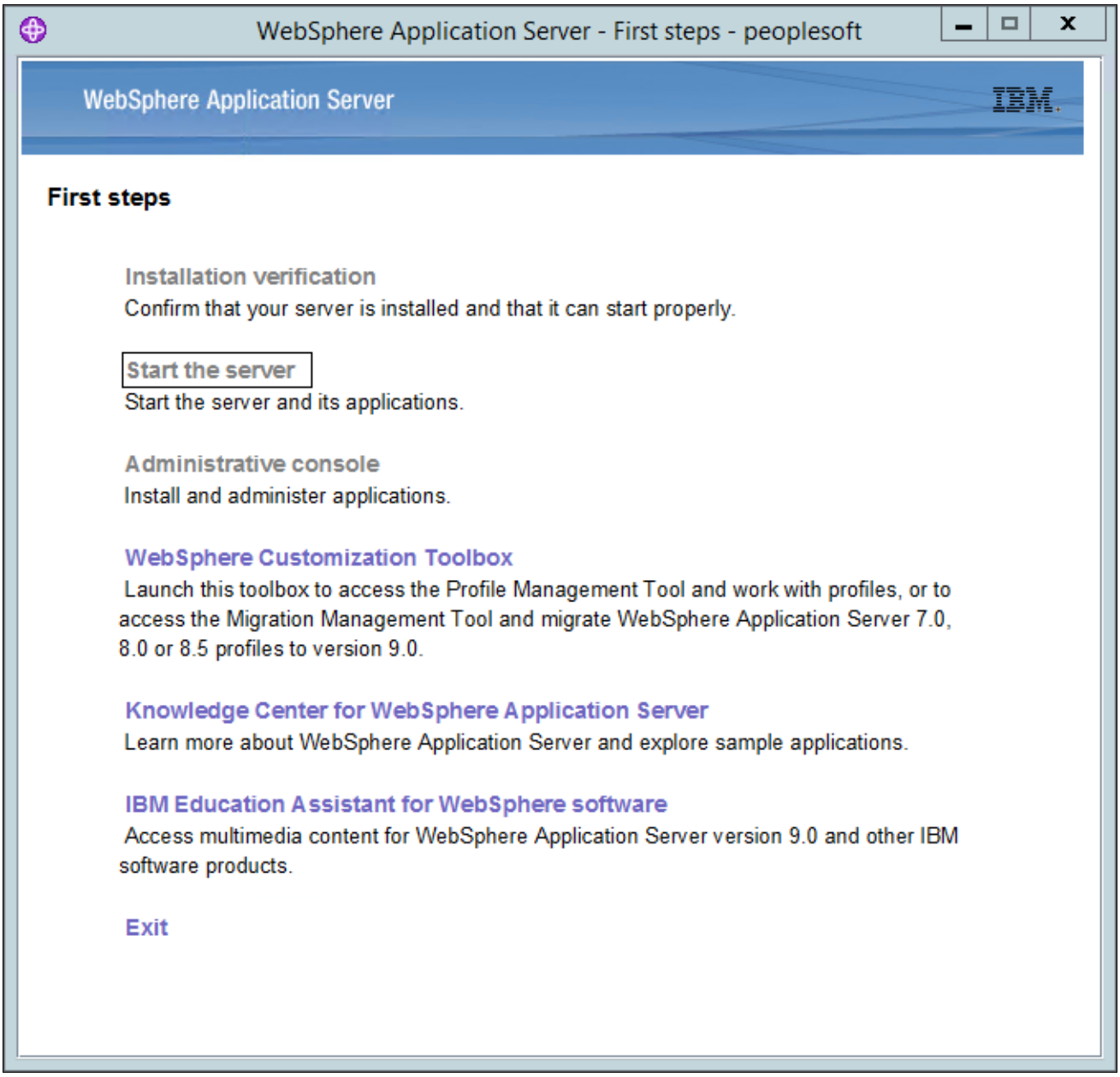
- Starting and Stopping IBM WebSphere Application Servers on Windows
- Starting and Stopping IBM WebSphere Application Servers on UNIX
- Verifying the IBM WebSphere Installation

Starting and Stopping IBM WebSphere Application Servers on Windows

To start and stop the WebSphere Application Server Network Deployment 9.0.0.0 (WebSphere ND), use the WebSphere First Steps utility:

1. For example, on Microsoft Windows 2012 R2, access the Apps screen and locate the First steps utility in the IBM WebSphere category.

   The following example shows the First steps window for the profile *peoplesoft*:

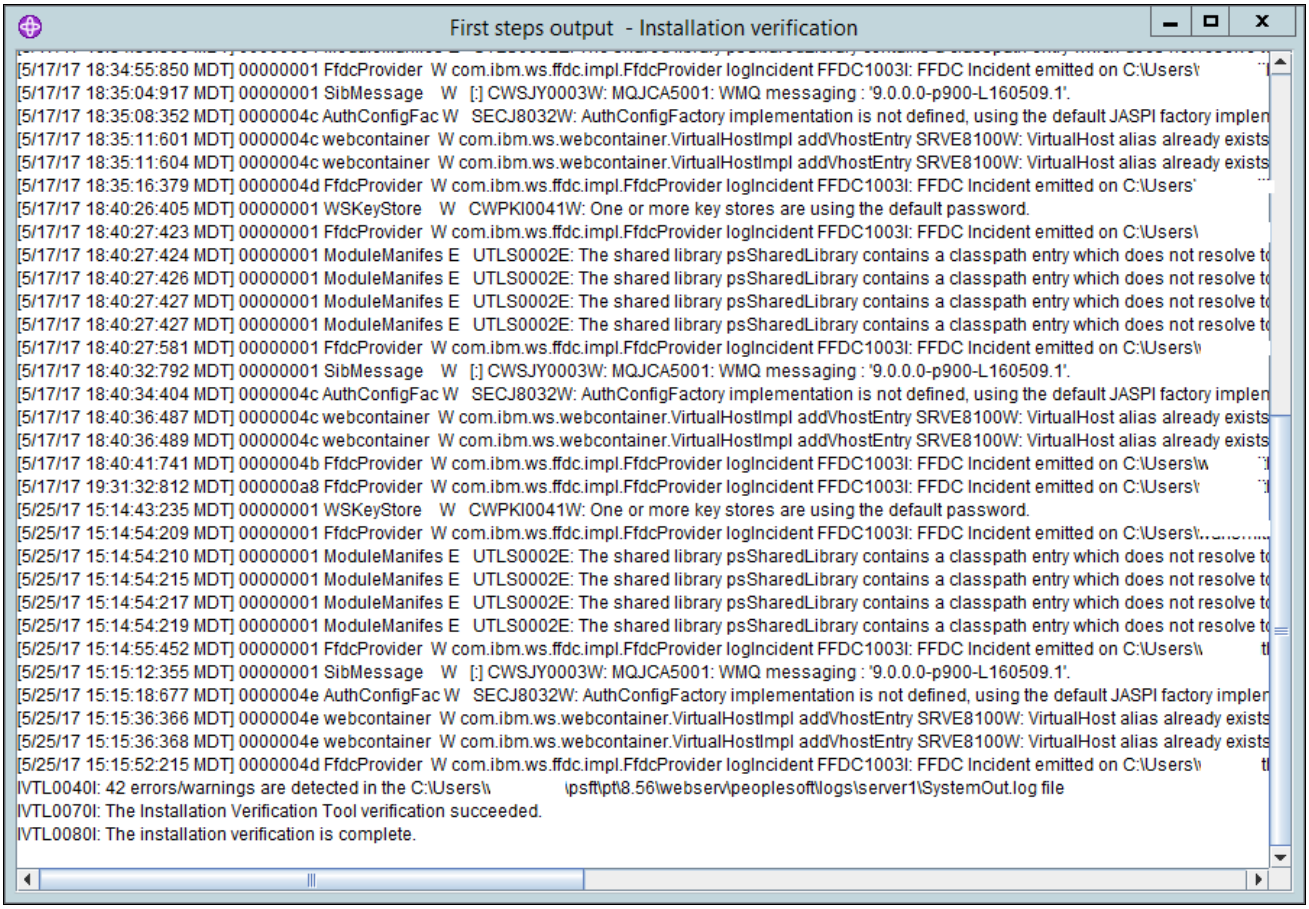


   WebSphere Application Server - First steps window

2. Select the link Start the server.

   If the server starts properly, a verification window appears with several messages about the initialization process.

3. To verify whether the server was installed and can start properly, click the link Installation Verification on the First Step window and review the messages.



First steps output - Installation verification window

Starting and Stopping IBM WebSphere Application Servers on UNIX

To start WebSphere ND on UNIX, use the following command:

```
<PIA_HOME>/webserv/<profile_name>/bin/startServer.sh <server_name>
```

For example:

```
/home/pt856/webserver/peoplesoft/bin/startServer.sh server1
```

To stop WebSphere ND, use the following command:

```
<PIA_HOME>/webserv/<profile_name>/bin/stopServer.sh <server_name>
```

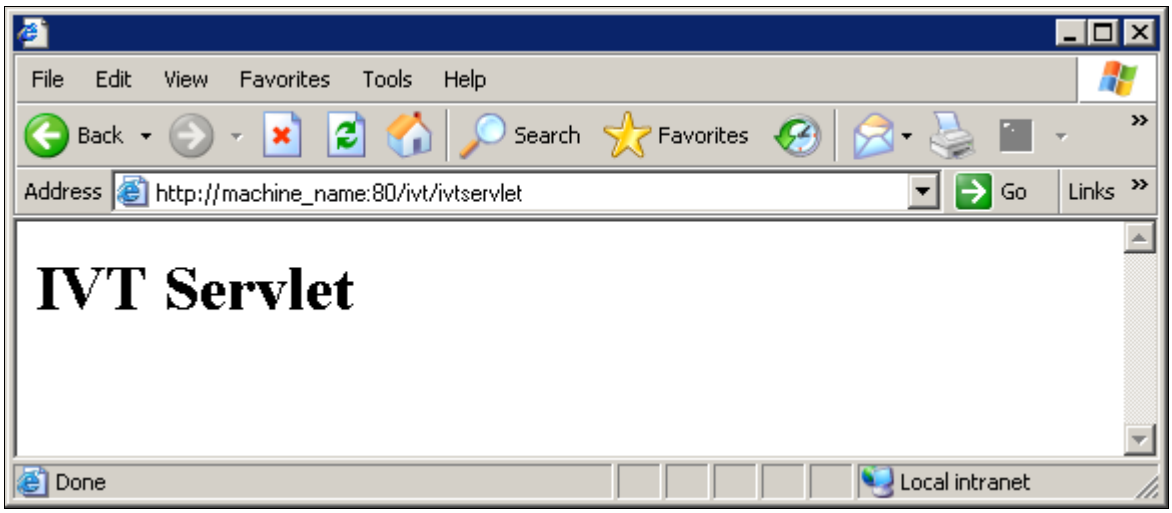
Verifying the IBM WebSphere Installation

Use this method to verify the WebSphere ND and PIA installation for both Microsoft Windows and UNIX.

To verify the WebSphere ND and PIA installation, copy the following URL into a browser address bar, substituting your machine name and the http port number:

```
http://<machine_name>:<http_port>/ivt/ivtservlet
```

You should see the text "IVT Servlet" in the browser, as in this example:



IVT Servlet window

You should also sign into the PeopleSoft application, as described in a later section, to verify the installation.

See Accessing the PeopleSoft Signon.

Task 15-3-3: Using PSADMIN to Start and Stop Web Servers

In addition to the methods given in the previous sections for starting and stopping Oracle WebLogic and IBM WebSphere web servers, in PeopleSoft PeopleTools 8.52 and later releases you can use PSADMIN to administer a web server domain.

See *PeopleTools: System and Server Administration.*

To start and stop web servers:

1. Specify *4* for Web (PIA) Server.

   The location of Config Home is the current working directory. The PSADMIN utility determines the Config Home directory by checking for the PS_CFG_HOME environment variable. If that is not set, it checks for the presence of domains in the default *PS_CFG_HOME* location. If none exists, it uses the *PS_HOME* location from which it was launched.

   See "Preparing for Installation," Defining Installation Locations.

2. Select *1* for Administer a domain.

   The PSADMIN utility determines the PIA Home location displayed here by first checking for a PIA_HOME environment variable. If none is set, it checks for the PS_CFG_HOME environment variable. If neither is set, it uses the default PS_CFG_HOME directory.

3. Select the domain you want to administer by entering the appropriate number.

```
-------------------------------------------------------
PeopleSoft PIA Domain Administration - Choose a Domain
-------------------------------------------------------
1) psftTST
2) peoplesoft

q) Quit
```

```
Command to execute: 2
```

4. To start a web server domain, enter *1*, Boot this domain.

```
Starting the domain.................
...
Verifying domain status..
The domain has started.
```

5. To stop a web server domain, select *2*, Shutdown this domain.

```
Stopping the domain.....
.....
Verifying domain status..........
The domain has stopped.
```

6. Select *1* to install a service, or *2* to remove it.

   This command invokes the installNTservice script, and creates a service named *WebLogicDomain-WebLogicServer*.

```
---------------------
Windows Service Setup
---------------------

  PIA Home:      C:\psft_websrv
  PIA Domain:    peoplesoft
  Domain status: started

  1) Install Service
  2) Uninstall Service

  q) Quit

Command to execute:
```

Task 15-3-4: Accessing the PeopleSoft Signon

To access the PeopleSoft signon:

1. Open your web browser.

2. Enter the name of the site you want to access—for example (the default value for *<site_name>* is ps):

   `http://<machine_name>:<http_port>/<site_name>/signon.html`

Note. PeopleSoft Pure Internet Architecture installed on IBM WebSphere server listens at the HTTP/HTTPS ports specified during the PeopleSoft Pure Internet Architecture install. Invoke PeopleSoft Pure Internet Architecture through a browser by using the specified HTTP or HTTPS ports—that is, http://*<WebSphere_machine_name>*:*<server_port>*/*<site_name>*/signon.html (if AuthTokenDomain is not specified) or http://*<WebSphere_machine_name.mycompany.com>*:*<server_port>*/*<site_name>*/signon.html (if you specified .mycompany.com as the AuthTokenDomain). You can find the HTTP and HTTPS ports in the file *<PIA_HOME>*/webserv/*<domain_name>*/logs/AboutThisProfile.txt.

This will take you to the sign-in window corresponding to your browser's language preference, as shown in this example:

Oracle PeopleSoft Enterprise Sign in window

Note. If you do not see the signon screen, check that you supplied all the correct variables and that your application server and the database server are running.

---

3. Sign in to the PeopleSoft system by entering a valid user ID and password.

   The user ID and password are case sensitive.

   Note. The user ID and password were set during the database configuration and also used to boot the application server.

   The PeopleSoft PeopleTools and PeopleSoft applications include various default user IDs. For information on using the user IDs delivered with your PeopleSoft application demo database, see the application-specific installation instructions. For information on using and securing PeopleSoft PeopleTools default user IDs, see the information on administering user profiles in the *PeopleTools: Security Administration* product documentation.

Task 15-4: Completing Post-Installation Steps

This section discusses:

- Using Fluid User Interface
- Updating the Installation Table
- Setting Options for Multilingual Databases
- Updating PeopleTools Options
- Updating Time Zone Information
- Updating Database Information

Task 15-4-1: Using Fluid User Interface

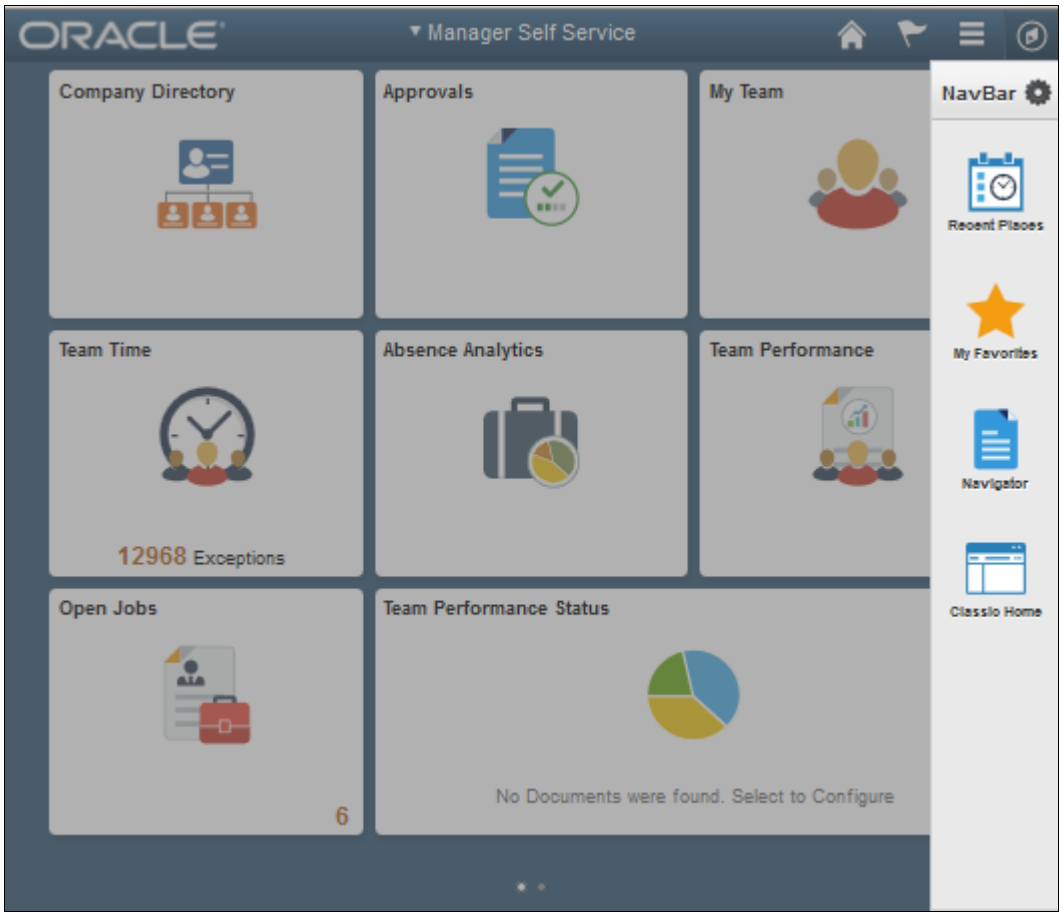
When you sign in to your PeopleSoft application, you may see the PeopleSoft Fluid User Interface by default. To access the menu items, as seen in the classic user interface, from the PeopleSoft Fluid User Interface:

1. On the PeopleSoft Fluid User Interface, shown in this example, select (press) the NavBar button at the top right (diamond inside a circle).

PeopleSoft Fluid User Interface home page

The Navigation bar (NavBar) side page appears.

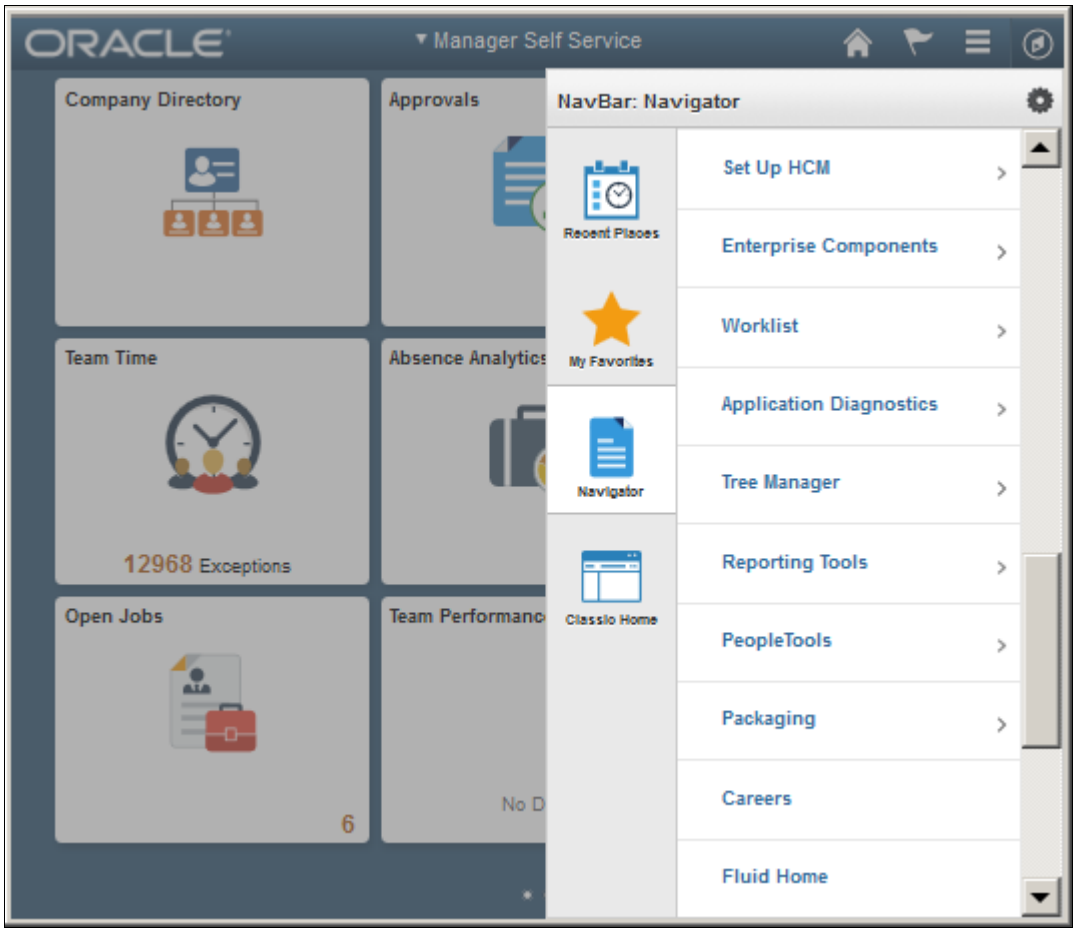
2. Select (press) Navigator.



NavBar side page

The menu structure appears.

3. Navigate to the desired item, such as Set Up HCM or PeopleTools.



Navigator side page with PeopleSoft menu items

See Also

PeopleTools: Applications User's Guide, "Working With Fluid Homepages"

PeopleTools: Fluid User Interface Developer's Guide

Task 15-4-2: Updating the Installation Table

After you complete the installation process, creating the database, installing the Application Server, and installing the PeopleSoft Pure Internet Architecture, you must complete this additional step. This postinstallation step ensures that only the products you are entitled to use are active in the installation. The location of the installation table in the PeopleSoft system varies depending upon the PeopleSoft application that you installed.

Note. For information on the products you are entitled to use, contact your Oracle Support representative.

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1. Sign on to the PeopleSoft system in a browser.
2. Select Set Up *Application_name* (where Application_name is the PeopleSoft application you installed), Install, Installation Table.
3. Select the Products tab.

4. Clear the check boxes for the products that you are not entitled to use.

Task 15-4-3: Setting Options for Multilingual Databases

Setting the Data Field Length Checking Option

The value to specify data field length checking must be set correctly in order for PeopleSoft applications to perform correctly in a browser. Use one of these methods to set the data field length checking option:

- Select PeopleTools, Utilities, Administration, PeopleTools Options, and select the Data Field Length Checking option from the drop-down list.
- Alternatively, use the SQL tool for your database platform to modify the DBLENGTHTYPE parameter in the PSOPTIONS table.

See *PeopleTools: Global Technology,* "Setting Data Field Length Checking."

See *PeopleTools: Global Technology,* "Selecting Character Sets."

Use the guidelines in this table to select the correct option for your environment:

Environment	PeopleTools Option Page Selection	PSOPTIONS.DBLENGTHTYPE Value
Unicode-encoded database or a non-Unicode SBCS database	Others	N
Japanese database on DB2 LUW	DB2 MBCS	D
Non-Unicode Japanese database **Note.** If your installation uses the Shift-JIS character set for Japanese, you must use this option.	MBCS **Note.** The MBCS option is not supported for DB2 z/OS.	M

Setting the Unicode Enabled Option

If you are running a Unicode database, verify that the UNICODE_ENABLED parameter in the PSSTATUS table is set correctly. For example:

- For non-Unicode databases, including those using the Shift-JIS character set for Japanese, set UNICODE_ENABLED=0.
- For Unicode databases, set UNICODE_ENABLED=1.

See the information on converting to Unicode in the *PeopleTools: Global Technology* product documentation.

Task 15-4-4: Updating PeopleTools Options

You can set the following options on the PeopleTools Options page:

- Multi-Currency — Select this check box if you plan to use currency conversion.

  See *PeopleTools: Global Technology,* "Using System-Wide Multicurrency Settings."
- Base Time Zone — Enter a value for the base time zone for your PeopleTools database.

See *PeopleTools: Global Technology*, "Setting the Base Time Zone."

- Sort Order Option — If you specified a non-binary sort order for your database, choose the Sort Order Option that most closely approximates your database sort order.

  See *PeopleTools: Global Technology*, "Setting the Sort Order."

Task 15-4-5: Updating Time Zone Information

Additional steps may be required to configure your time zone after you complete the installation.

See *PeopleTools: Global Technology,* "Maintaining Time Zones."

Task 15-4-6: Updating Database Information

The database information updated in this procedure is used by the PeopleSoft software update tools to identify your PeopleSoft database when searching for updates. These steps should be followed for all additional databases that you create to enable the accurate identification of your databases.

1. Sign on to your PeopleSoft database.
2. Navigate to PeopleTools, Utilities, Administration, PeopleTools Options.
3. Specify long and short names for your environment. For example:
   - Environment Long Name — Customer HR Demo Database
   - Environment Short Name — HR Demo DB
4. Select a system type from the drop-down list. For example, Demo Database.
5. Save your changes.

Chapter 16A

Setting Up Process Scheduler on Windows

This chapter discusses:

- Prerequisites
- Setting Up Process Scheduler Security
- Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository
- Setting Environment Variables
- Setting Up Process Scheduler Server Agent
- Starting Process Scheduler as a Windows Service (Optional)
- Configuring the Process Scheduler for Microsoft Word (Optional)
- Configuring Setup Manager
- Installing Products for PS/nVision

Prerequisites

Before setting up your Process Scheduler, you must:

- Install Tuxedo.

  See "Installing Additional Components."
- Install database connectivity to be able to communicate with your database server (Process Scheduler requires a direct connection to the database).

  See "Preparing for Installation."
- Set up the web server with the PeopleSoft Pure Internet Architecture, as described in the previous chapter. This is required to set up the Process Scheduler to transfer reports or log files to the Report Repository.
- Set up your COBOL batch environment if you need to run COBOL processes through Process Scheduler. If the PeopleSoft modules purchased do not contain any COBOL modules, the COBOL run time libraries are not required. Also, COBOL is not required for applications that contain no COBOL programs. Consult My Oracle Support for the details on whether your application requires COBOL.

  See "Preparing for Installation," Planning Your Initial Configuration.
- Install the Microsoft Office products Microsoft Word and Microsoft Excel.
- Have both your application server and the PeopleSoft Pure Internet Architecture started. In this chapter, you must modify security options of the designated PeopleSoft user ID that will be used to boot up Process Scheduler. This requires that the user ID's profile be modified through the User Security component. Please refer to earlier chapters for the details on starting the application server and the PeopleSoft Pure Internet Architecture.

In PeopleSoft PeopleTools 8.50 and later, the configuration and log files for Process Scheduler server domains reside in *PS_CFG_HOME*. If you do not set a PS_CFG_HOME environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

`%USERPROFILE%\psft\pt\<peopletools_version>`

See "Preparing for Installation," Defining Installation Locations.

See the product documentation *PeopleTools: System and Server Administration* for more information on the PS_CFG_HOME environment variable and working with server domain configuration.

See Also

PeopleTools: Process Scheduler

My Oracle Support, Certifications

Task 16A-1: Setting Up Process Scheduler Security

This section discusses:

- Understanding Process Scheduler Security
- Changing User Account to Start ORACLE ProcMGR V12.2.2.0.0_VS2015
- Granting Process Scheduler Administrative Rights

Understanding Process Scheduler Security

This task—in which you set up the PeopleSoft User ID that will be used to boot Process Scheduler server so it has administrative rights to both Process Scheduler and Report Manager—guarantees that security is set up properly both in Microsoft Windows and within your PeopleSoft database.

You must carry out this task to start Process Scheduler successfully.

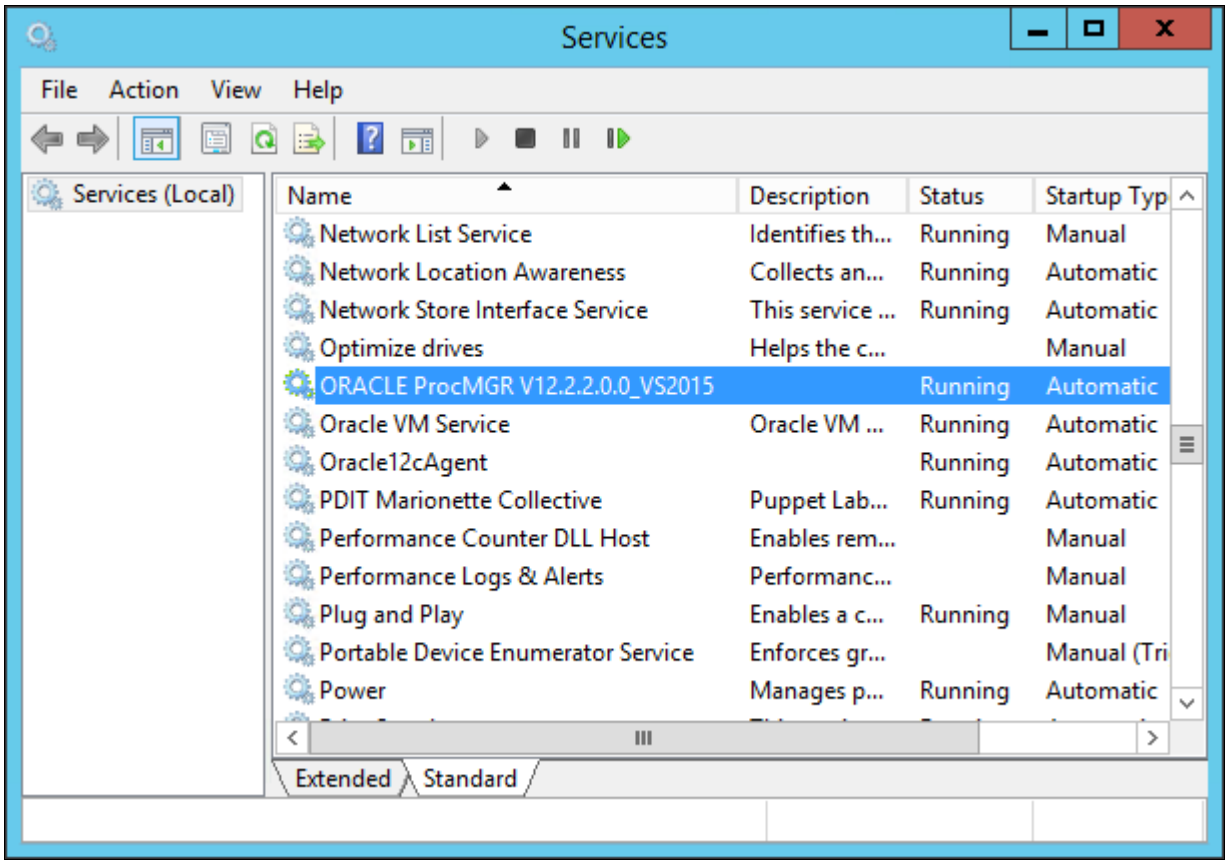
In the next section you set up ORACLE ProcMGR V12.2.2.0.0_VS2015 with a network user ID. When you install Oracle Tuxedo, the ORACLE ProcMGR V12.2.2.0.0_VS2015 service is set up by default to be started by local system account—a user account that does not have access to the Windows network. If the Process Scheduler server or processes initiated through Process Scheduler will be using a network printer, accessing files from a network drive, or using Microsoft Windows utilities such as XCOPY that may access UNC paths, you need to change the user account used to start ORACLE ProcMGR V12.2.2.0.0_VS2015 with a network user account.

Task 16A-1-1: Changing User Account to Start ORACLE ProcMGR V12.2.2.0.0_VS2015

To change User Account to start ORACLE ProcMGR V12.2.2.0.0_VS2015:

1. Launch the Services dialog box; for example, on Microsoft Windows 2012 R2, select Administrative Tools, Services.

   In the Services dialog box, find the service labeled *ORACLE ProcMGR V12.2.2.0.0_VS2015*. This service is installed automatically when you install Tuxedo, and is highlighted in this example.



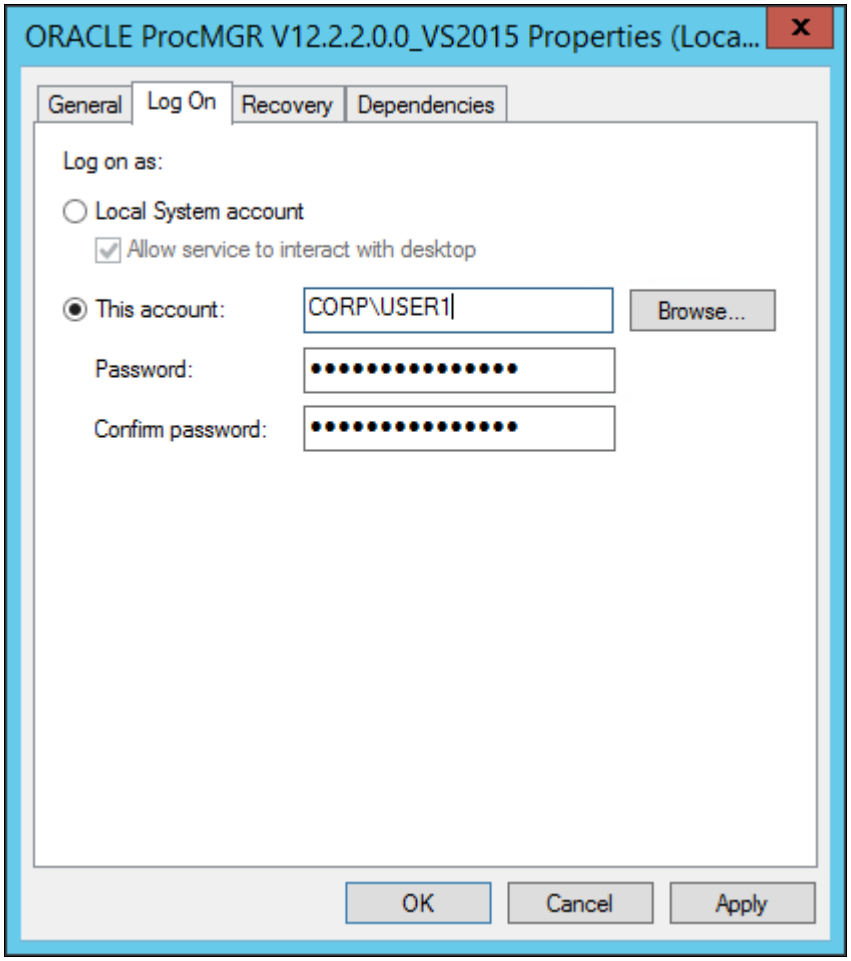
Microsoft Windows Services dialog box with ORACLE ProcMGR service highlighted

2. If the Stop button is enabled, click it to stop the current ORACLE ProcMGR V12.2.2.0.0_VS2015 process.
   a. Click Yes when a message informs you of the status change.
   b. Double-click ORACLE ProcMGR V12.2.2.0.0_VS2015.

      The Properties dialog box appears.

3. Select the option This account on the Log On tab.

   Enter an account name and password. In this example, the account name is CORP\USER1.



ORACLE ProcMGR V12.2.2.0.0_VS2015 Properties dialog box: Log On tab

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Note. When you configure your Oracle Tuxedo server as outlined in the chapter, "Configuring the Application Server on Windows," the user ID designated to be the Application Server Administrator must have read/write permissions to the PeopleSoft file directory and read permission to the %TUXDIR% directory, such as C:\oracle\tuxedo12.2.2.0.0_VS2015.

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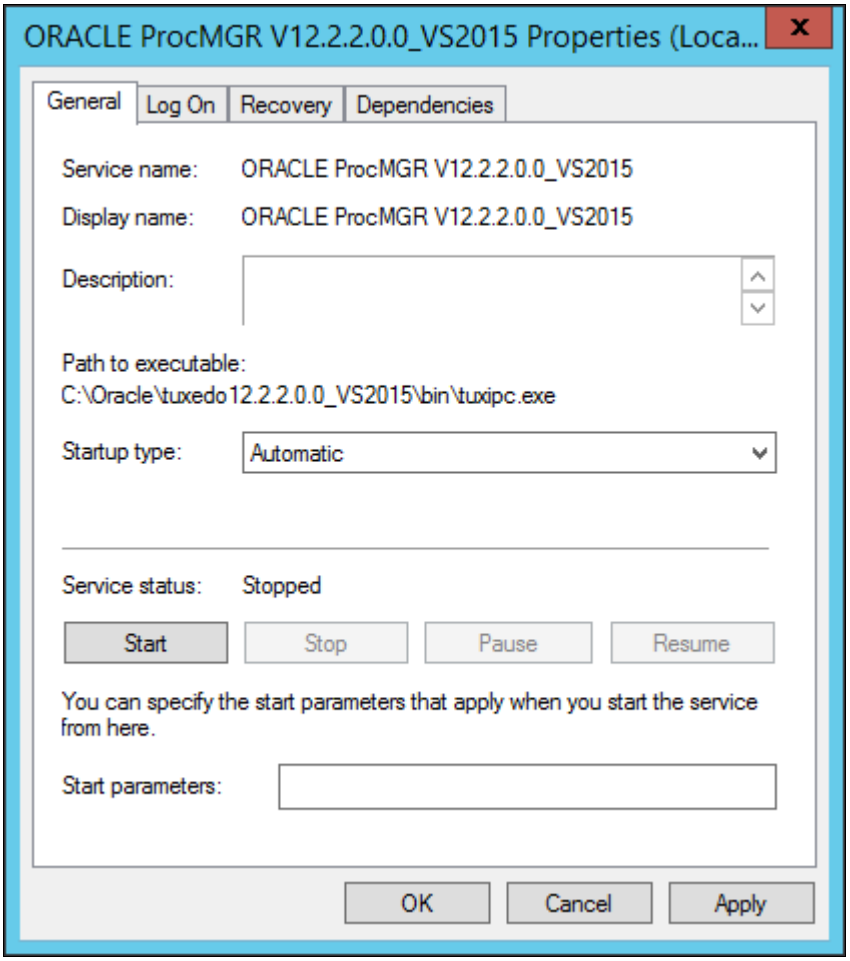
4. Select the General tab.

   Make sure that Startup Type is set to Automatic, as shown in this example, and click OK.



ORACLE ProcMGR V12.2.2.0.0_VS2015 Properties dialog box: General tab

5. Click Start.

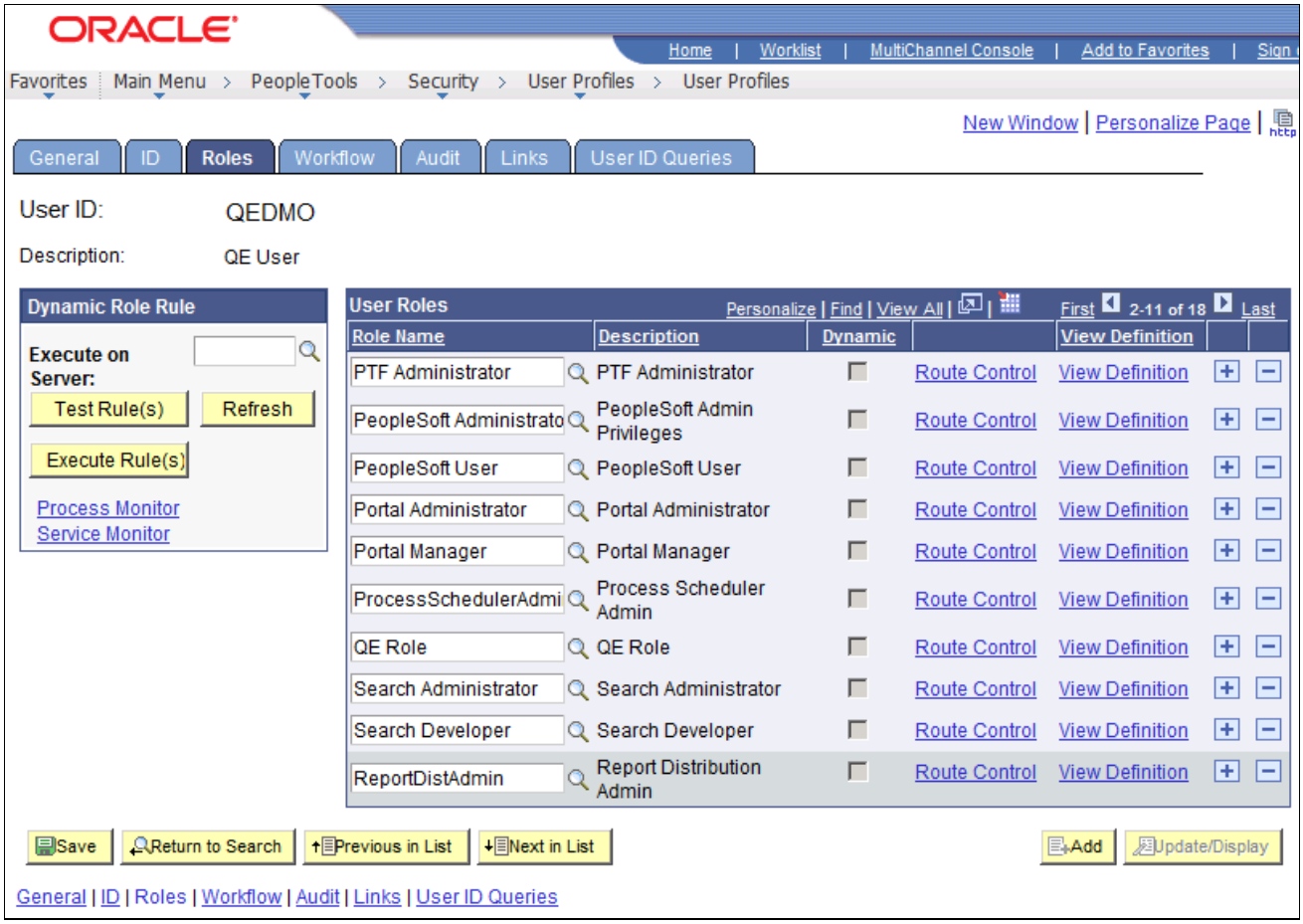
   A message in the Properties dialog box will indicate the "Started" status. You also see the status in the Services dialog box. Click OK to close the dialog box.

Task 16A-1-2: Granting Process Scheduler Administrative Rights

To grant Process Scheduler administrative rights:

1. Log onto your PeopleSoft database through the PeopleSoft Pure Internet Architecture.
2. Select PeopleTools, Security, User Profiles.
3. Select the User Profiles component. Use the Search dialog to select the PeopleSoft User ID you plan to use to boot the Process Scheduler server.

4. Click the Roles tab, click the plus icon to insert a new row, and there enter the *ProcessSchedulerAdmin* role to grant the user ID with administrative rights in the Process Scheduler components.



Process Scheduler window: Roles tab

5. Repeat the instructions in step 4 to add the role *ReportDistAdmin*.

   This will grant the user ID administrative rights to the Report Manager component. Carry out this step only if the same user is also responsible for maintaining the content of Report Manager.
6. Click Save to save your changes.
7. Select the General tab and jot down the Permission List name assigned to the Process Profile field.
8. From the Portal menu, choose PeopleTools, Security, Permissions & Roles, Permission Lists.
9. In the Search dialog, enter the Permission List you noted in step 7.
10. Select the Can Start Application Server check box.
11. Click Save to save your changes.

Task 16A-2: Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository

This section discusses:

- Understanding Report Distribution

- Setting Up Single Signon to Navigate from PIA to Report Repository
- Determining the Transfer Protocol
- Starting the Distribution Agent
- Setting Up the Report Repository
- Setting Up the Distribution for Your Process Scheduler Server
- Setting Up Sending and Receiving of Report Folders in the Report Manager

Understanding Report Distribution

The PeopleSoft PeopleTools Report Distribution lets you access reports and log files generated from process requests run by a Process Scheduler Server Agent. Using the PeopleSoft Pure Internet Architecture, you can view reports and log files from the web browser through the Report Manager or Process Monitor Detail page. Report Distribution enables you to restrict access to these reports to authorized users based either on user ID or role ID.

This product also includes the Distribution Agent component, which runs on the same server as the Process Scheduler Server Agent. The Distribution Agent, a process that runs concurrently with the Process Scheduler Server Agent, transfers to the Report Repository files generated by process requests initiated by the Process Scheduler Server Agent.

The Distribution Agent transfers files to the Report Repository when one of these criteria is true:

- The Process Scheduler Server Agent is set up in the *Server Definition* to transfer all log files to the Report Repository.
- The process request output destination type is *Web/Window*.

In either case, the Process Scheduler Server Agent inserts a row in the Report List table (PS_CDM_LIST). The server agent then updates the distribution status for a process request to *Posting* upon completion of the program associated with the process request. The distribution status of Posting signals that the files for the process request are ready for transfer to the Report Repository. The Distribution Agent is notified by Process Scheduler for any process requests that are ready for transferring. As part of the process to transfer files to the Report Repository, the Distribution Agent performs the following steps:

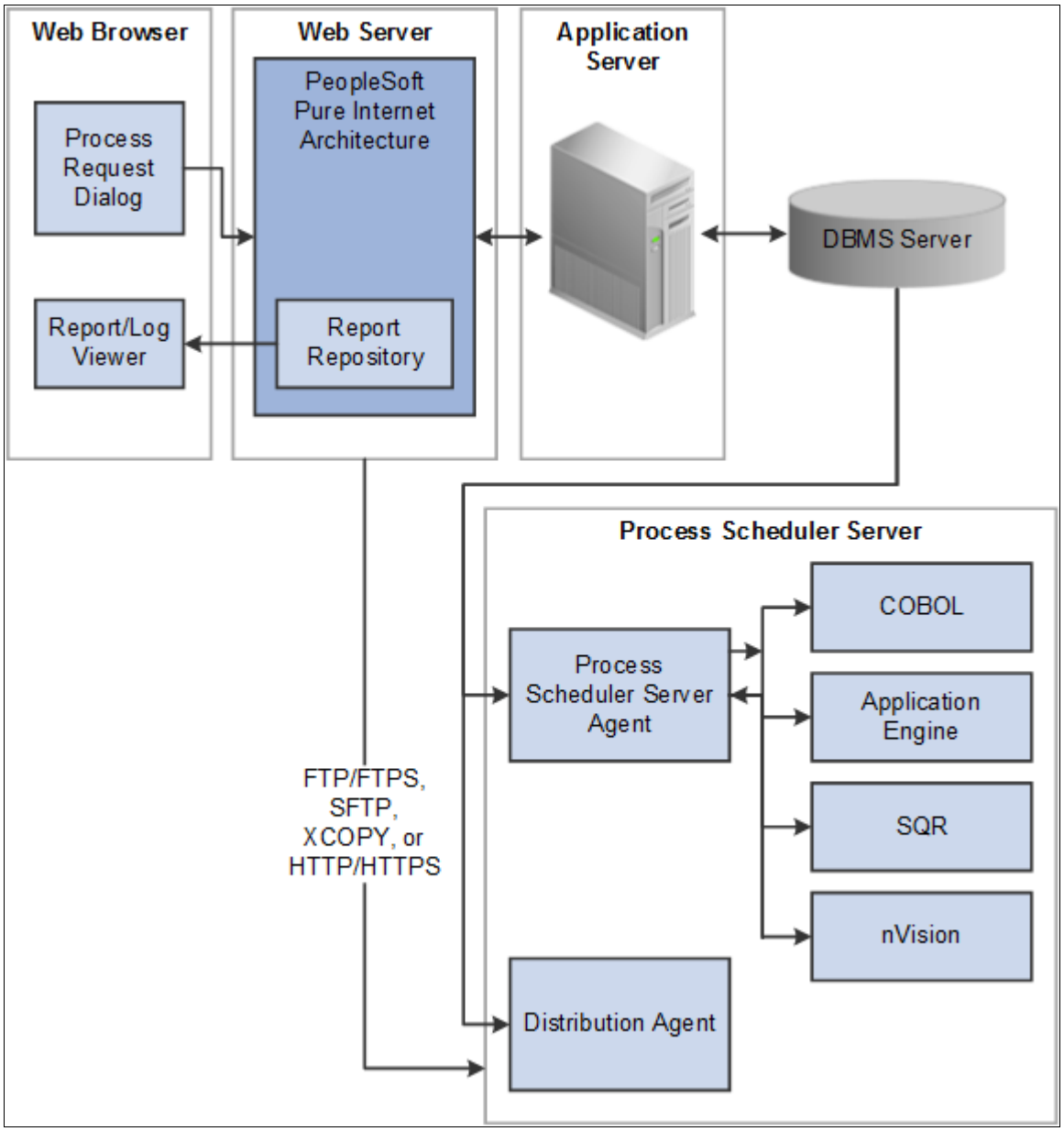
- *Transfer files to the Report Repository.* All the report and log files are transferred to the Report Repository. For each process request transferred, a directory is created in the Report Repository using the following format: \<database name\<date yyyymmdd>\<report id>. All the files for a process request are stored in this directory.
- *Delete the directory from the Process Scheduler Agent's Log/Output directory.* When the output destination type specified for a process request is Web/Window, all the files and directory associated with the process request are deleted from the Process Scheduler Log/Output directory after the files are transferred to the Report Repository.

The following diagram illustrates the Process Scheduler and Report Repository architecture. The diagram includes the following items:

- The web browser gives access to the Process Request dialog and the Report or Log Viewer.
- The Report Repository is part of the PeopleSoft Pure Internet Architecture.

  Note. The PeopleSoft Pure Internet Architecture must be installed for Process Scheduler to be able to transfer reports to the Report Repository.

- The Process Scheduler Server includes the Process Scheduler Server Agent and the Distribution Agent.
- The transfer protocol between Process Scheduler and the Report Repository may be FTP/FTPS, XCOPY, HTTP/HTTPS, or SFTP.



Process Scheduler and Report Repository Architecture

Before users can view a report, they are authenticated against the PeopleSoft database.

You should set up single signon if you do not want users to have to log on an additional time to view reports in the Report Repository. For the details on setting up single signon, consult the security documentation.

See *PeopleTools: Security Administration.*

Task 16A-2-1: Setting Up Single Signon to Navigate from PIA to Report Repository

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PeopleSoft Pure Internet Architecture (PIA) to Report Repository, you need to set up single signon to avoid getting a prompt for a second signon. This section includes some considerations for setting up single signon to navigate from PIA to Report Repository.

If Report Repository resides on the same web server as PIA, make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.

If Report Repository resides on a different web server than PIA, do the following:

- Make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.
- Use a fully qualified domain name when addressing the web server for both PIA and Report Repository. For example, enter http://*<machineName>*.peoplesoft.com/*<site_name>*/signon.html instead of http://*<machineName>*/*<site_name>*/signon.html.
- Specify the Authentication Domain for your application during installation. If you have multiple applications, and you want them to employ single signon, it is important to specify the same Authentication Domain for all applications.

  See the information on implementing single signon in the *PeopleTools: Security Administration* product documentation.
- Set up single signon with a password, like this:
  - Choose PeopleTools, Integration Broker, Integration Setup, Nodes.
  - Click Search and then select the node marked as Default Local Node.
  - Select *Password* for the Authentication Option.
  - Enter a password of your choice.
  - Enter the password again in the Confirm Password field.
  - Enter the user ID for which you are setting up single signon in the Default User ID field.
  - Save the Node Definition.
  - Sign out from the PeopleSoft application.
  - Reboot your application server.

See Also

PeopleTools: Security Administration

Task 16A-2-2: Determining the Transfer Protocol

We recommend using HTTP as your transfer protocol.

Before transferring the files to the Report Repository, you need to determine which transfer protocol to use. If you have a Microsoft Windows Process Scheduler and a Microsoft Windows web server, you can use either an XCOPY, FTP/FTPS, SFTP, or HTTP/HTTPS protocol. (If FTP information is not specified, Process Scheduler will perform an XCOPY.) If you have a PeopleSoft Process Scheduler on Microsoft Windows and a UNIX web server, you can use FTP/FTPS, SFTP, or HTTP/HTTPS. If you have a PeopleSoft Process Scheduler on UNIX , you can use FTP/FTPS, SFTP, or HTTP/HTTPS.

Note. If you are using FTP/FTPS or SFTP, the corresponding service must be set up in your web server.

Note. JRE is installed automatically on your Process Scheduler server.

Task 16A-2-3: Starting the Distribution Agent

The Distribution Agent is automatically started as another Oracle Tuxedo server when a Process Scheduler Server is booted. If a Process Scheduler Server was set up without specifying a Distribution Node in the *Server Definition* page, the Process Scheduler server will have a status in Process Monitor of "Running with No Report Node." After a node is defined for the Process Scheduler server, in the next cycle the Process Scheduler server checks the state of the system, and the Distribution Agent dynamically sets up its environment.

Task 16A-2-4: Setting Up the Report Repository

This section discusses:

- Defining ReportRepositoryPath
- Defining the Report Node to Use HTTP/HTTPS
- Defining the Report Node to Use XCOPY
- Defining the Report Node to Use FTP
- Defining the Report Node to Use FTPS
- Defining the Report Node to Use SFTP

Defining ReportRepositoryPath

The ReportRepositoryPath specifies the location of a directory for the Report Repository. You can specify the location for the Report Repository Path on the General page of the Web Profile during installation. If you do not set the location in the Web Profile, the location given by ReportRepositoryPath in the configuration.properties file is used for the default location. Note that the value entered for Report Repository Path in the Web Profile overrides any entry in the configuration.properties file.

See *PeopleTools: Portal Technology,* "Configuring Web Profiles."

Use the following formats to enter the name for the directory that you want to use for the ReportRepositoryPath. The examples below give the default values. Note that you must use a forward slash ('/') in both cases:

- *Microsoft Windows*: ReportRepositoryPath=c:/psreports
- *UNIX*: ReportRepositoryPath=<*user_home*>/PeopleSoft Internet Architecture/psreports

  For <user_home> substitute the home directory for the current user.

Defining the Report Node to Use HTTP/HTTPS

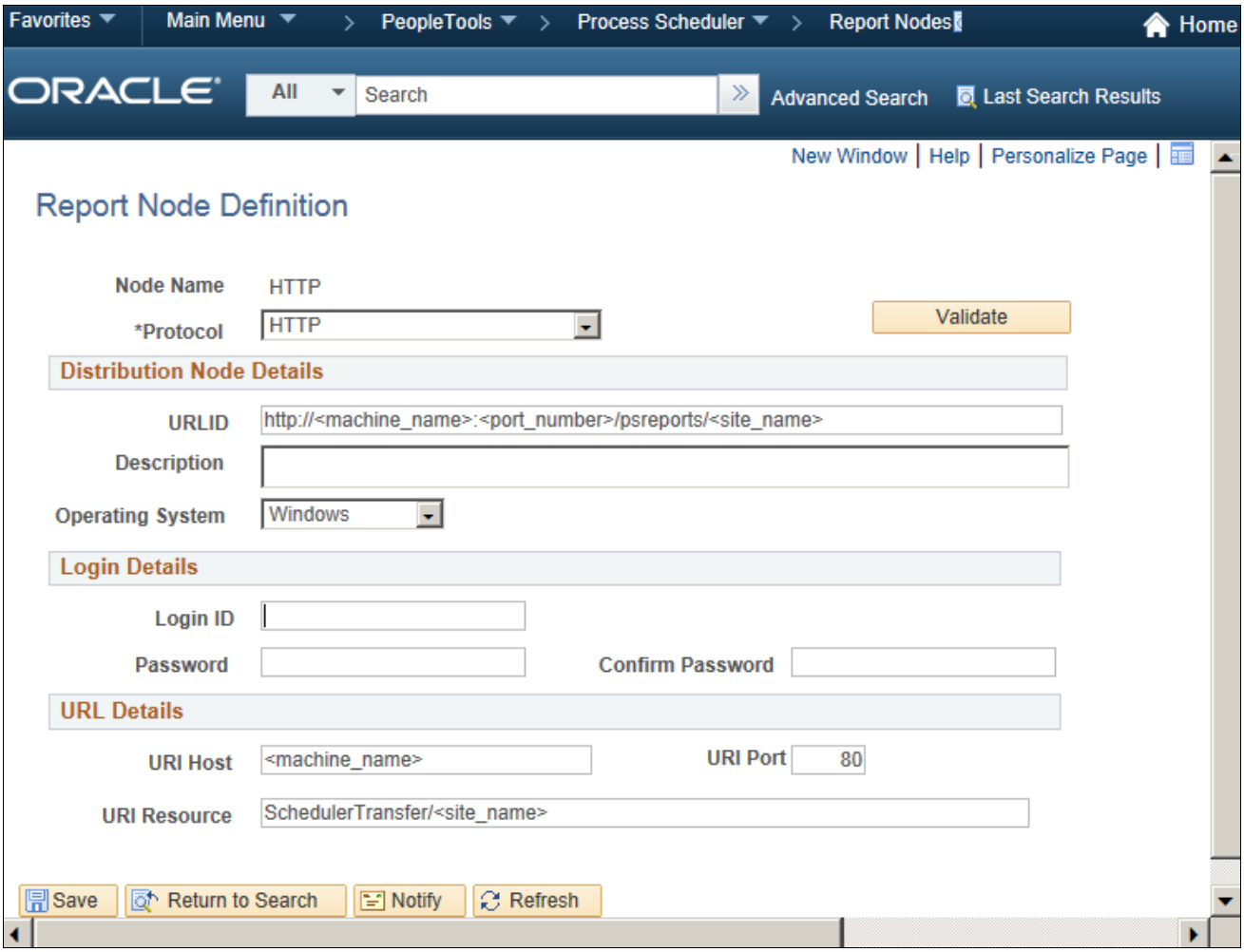
To define the report node to use HTTP/HTTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select the Add a New Value link and enter the Report node name.

3. On the Report Node Definition page, select HTTP or HTTPS from the Protocol drop-down list.

   Select the HTTP option if you are *not* using SSL. Select the HTTPS option if you are using SSL. The pages for HTTP and HTTPS have the same fields. These examples show HTTP.

   Note that if you are using SSL you need to have Client Certificates installed on your web server.



Report Node Definition page for the HTTP protocol

4. Enter the following information in the Distribution Node Details area:

   - *URLID*: Enter the URL of the web server using the following format:

     `http://<machine_name>:<port_number>/psreports/<site_name>`

     Replace *<machine_name>* with the name of your machine. Use the fully qualified host name for your web server. If you are using an HTTP or HTTPS port other than the defaults, you need to specify the port number.

     Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

   - *Description:* Enter a description of the server (optional).
   - *Operating System:* Select the web server operating system, Windows or UNIX.

5. Enter the following information in the Login Details area:

- *Login ID*: Enter the Login ID. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.
- *Password and Confirm Password*: Enter the password, and confirm it, for the user ID specified in the Login ID field. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.

Note. The setup of authentication is optional, but is recommended for security of the Report Repository when using the HTTP to transfer files. For information on setting up authentication on the web server where the Report Repository resides, refer to the *PeopleTools: Security Administration* product documentation.

6. Enter the following information in the URI Details area:
   - *URI Host:* Enter the machine name for the report repository.

     Note. In a basic setup, the machine name for the report repository will match the machine name of the web server URL. However, under certain circumstances—for example, if you are using a reverse proxy server—the URL and URI Host may have different machine names.

   - *URI Port:* Enter the port number, which must match the port number of your web server (defaults are HTTP = 80, HTTPS = 443). If you change a port number you will lose the default values for both protocols.
   - *URI Resource:* Enter SchedulerTransfer/<*site name*>.
7. Click Save to save your entries.
8. Click Validate to confirm that your entries are complete and correct.

   The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
9. To add additional report nodes, click Add to return to the Search page.

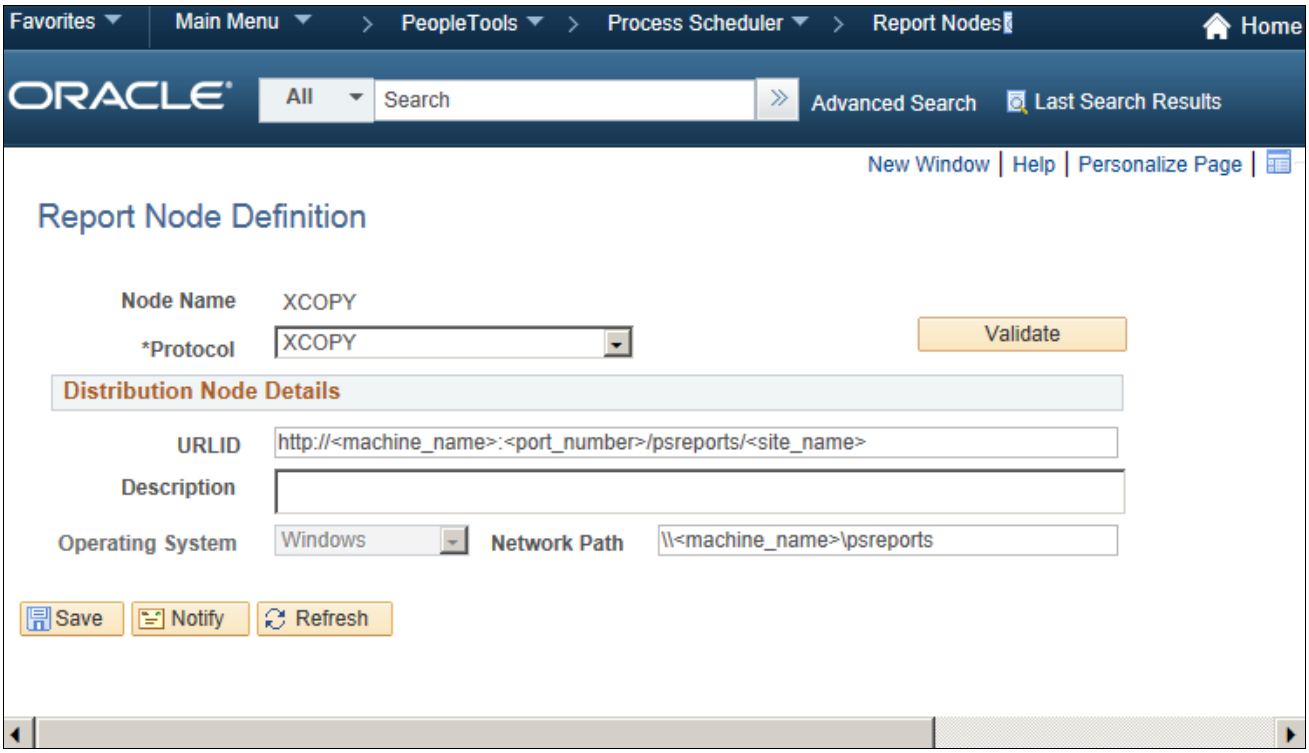
Defining the Report Node to Use XCOPY

Both the Process Scheduler machine and the Report Repository machine must be Microsoft Windows machines for XCOPY to be used.

To define the report node to use XCOPY:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select XCOPY from the Protocol drop-down list.



Report Node Definition page for the XCOPY protocol

4. Enter the following information in the Distribution Node Details area:
   - *URLID*: Enter the URL of the web server using this format:

     `http://<machine_name>:<port_number>/psreports/<site_name>`

     Replace *<machine name>* with the name of your web server. Replace *<site name>* with the directory where you installed the PIA files.

     If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.
   - *Description*: Enter an optional description for the node.
   - *Network Path*: Enter the path that points to your Report Repository share, using this format (where *<machine_name>* refers to the web server machine):

     `\\<machine_name>\psreports`

     Make sure that this directory is shared with the login accounts used to start Process Scheduler. Use UNC format instead of mapped drive format.
5. Select Save to save your entries.
6. Click Validate to confirm that your entries are correct.

   The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
7. To add additional report nodes, select Add to return to the Search page.

Defining the Report Node to Use FTP

If you use the FTP report node protocol, note that:

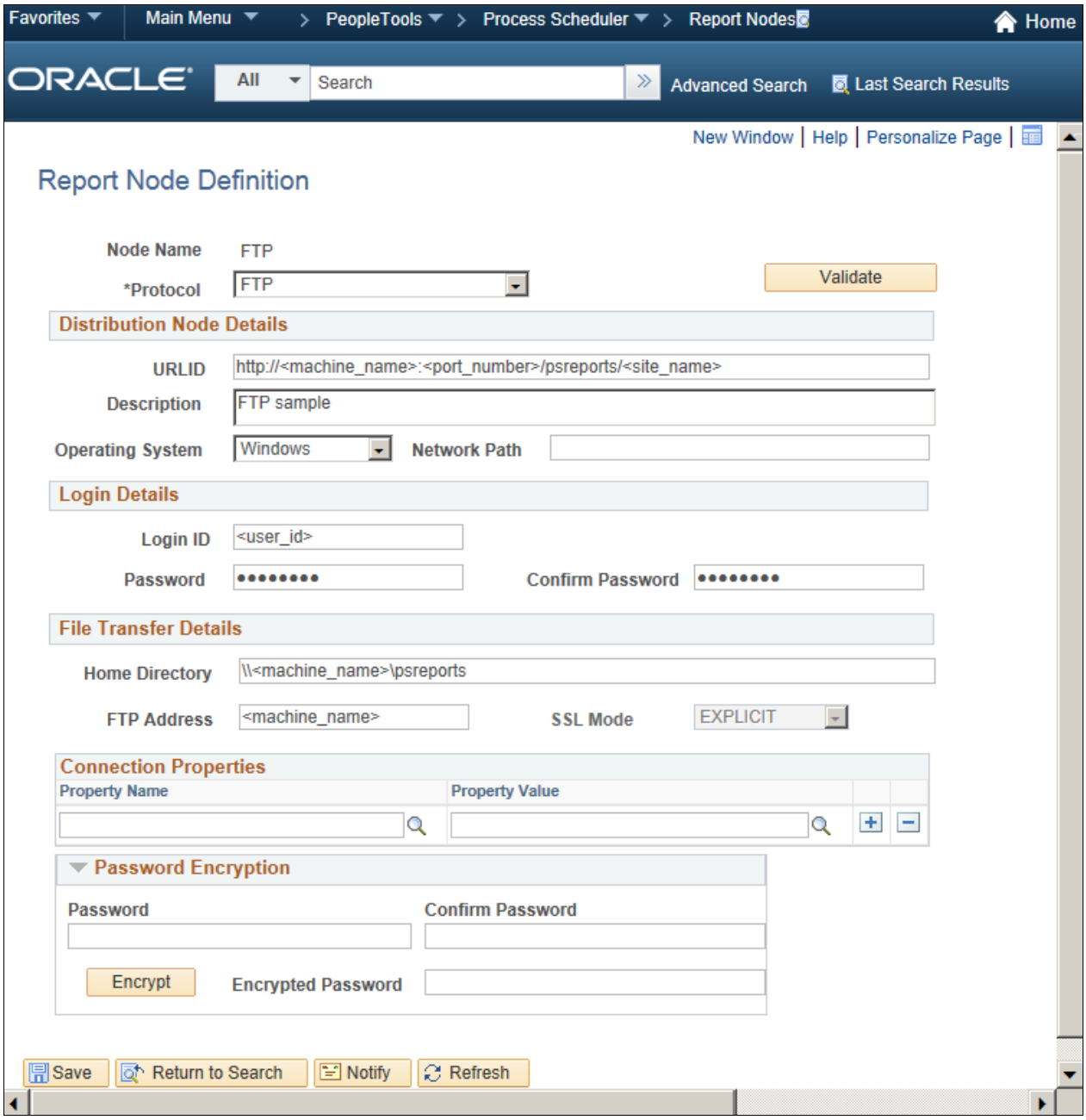
- If your FTP server is a Microsoft Windows server, you may have to set up the FTP service.
- The Distribution Agent will perform a validation after FTP has transferred files into the Report Repository by sending a query request to the web server. For this task to be completed, it is critical that the value entered in the URL is accurate. Verify that the machine name, port number, and site number that you specify are correct.

  If this setup is not completed, the process request will get a status of NOT POSTED in the Process Monitor Detail page and will log the message "Unable to verify files posted."

To define the report node to use FTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTP from the Protocol drop-down list.



Report Node Definition page for the FTP protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the FTP protocol

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the FTP User ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. If you need to specify additional properties, use the Connection Properties area. Specifying the Connection Properties is optional.

   Click the lookup button (magnifying glass) and select one of the properties in the following table. Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to *Y*. The default FTP connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: *10.176.147.111:10000-13000*
ENABLEEPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRT is set to *N*, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	• *0*: Disable EPSV • *1*: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) path.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
   a. In the Password field, enter a password.
   b. In the Confirm Password field, enter the password again.
   c. Click Encrypt.

      The encrypted password is displayed in the Encrypted Password field.
   d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

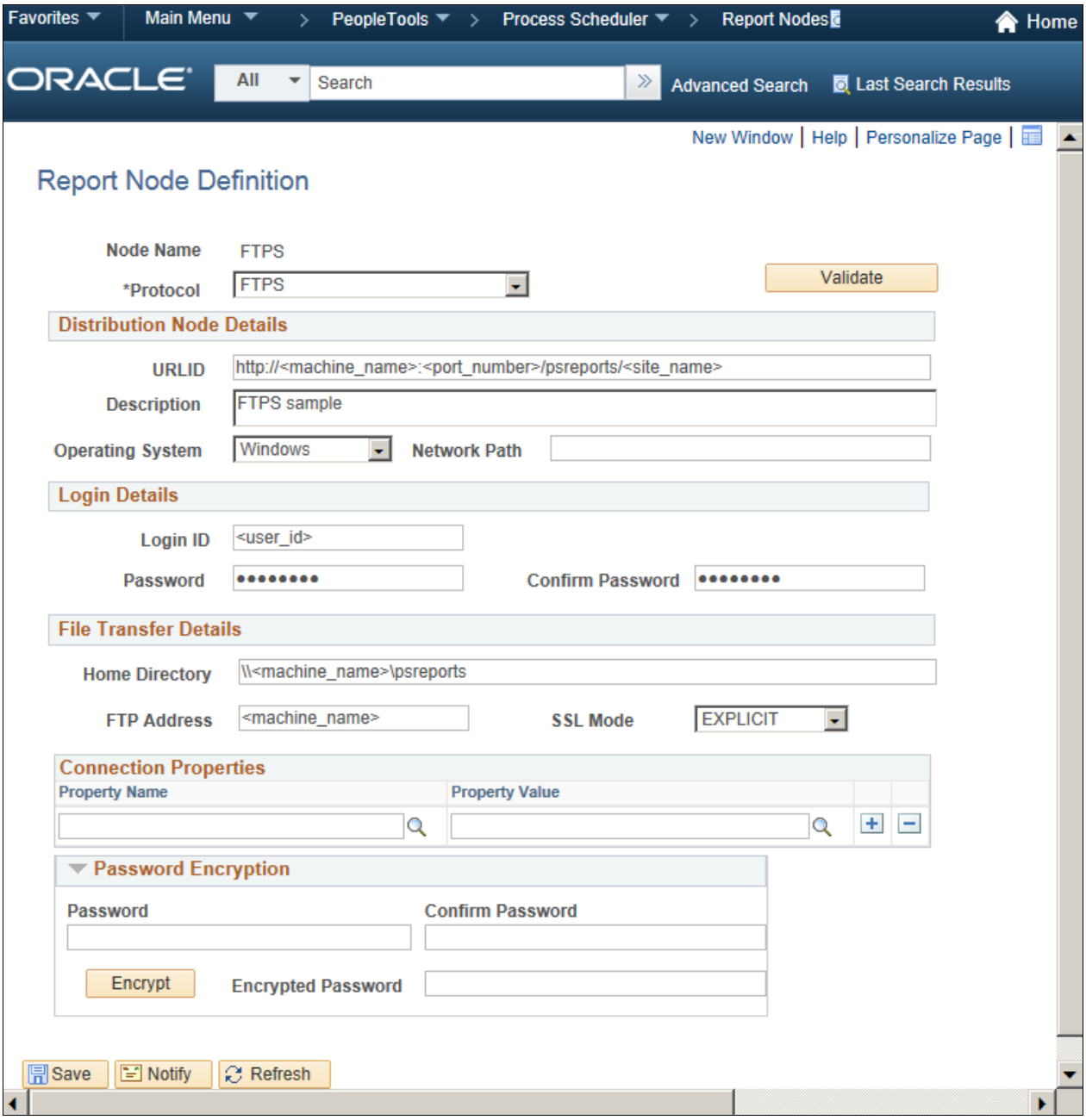
    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTPS

To define the report node to use FTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTPS from the Protocol drop-down list.



Report Node Definition page for the FTPS protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the FTPS protocol.

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
   - *SSL Mode*: Select Explicit or Implicit from the drop-down list.

     These are two separate methods developed to invoke the client security for use with FTP clients. With the explicit mode, FTPS-aware clients can invoke security with an FTPS-aware server without breaking overall FTP functionality with non-FTPS-aware clients. The implicit method requires that all clients of the FTPS server be aware that SSL is to be used on the session, and thus is incompatible with non-FTPS-aware clients.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table:

   Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to *Y*. The default FTPS connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: *10.176.147.111:10000-13000*
CERTALIAS	Certificate Alias: The Certificate Alias must be an alias name of a certificate stored in the database (using the PeopleSoft PeopleTools Digital Certificates page). **Note.** Currently, only PEM certificates are supported for FTPS.
ENABLEEPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRT is set to *N*, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	• *0*: Disable EPSV • *1*: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) user.

Property Name	Property Value
KEYSTOREPASSWORD	This property is required for FTPS and HTTPS repositories. For attachments transferred from the PeopleSoft system to the FTPS or HTTPS repository, the system retrieves the key pair for the client certificate from the digital certificate store and writes the pair to a file in PKCS12 format with password protection. The value of this property will be used as the password for the PKCS12 file. The PKCS12 file enables connection and file transfer, and it exists only temporarily in <PS_SERVDIR>\files\<CERT ALIAS NAME> for the duration of the file transfer. The system deletes the file after the file transfer transaction. **Note.** If the system fails to delete the certificate alias file, a message will be written to the application server log. The maximum number of files that can exist at any time is equal to the total number of FTPS and HTTPS URL identifiers defined in the system. For information on setting the PS_SERVDIR environment variable, see the *PeopleTools: Integration Broker* product documentation.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
SSLUAGELEVEL	• *0 - No SSL*: No SSL will be used. • *1 - Try SSL*: Try using SSL, but proceed as normal otherwise. • *2 - Control*: Require SSL for the control connection. • *3 - SSL Only*: (Default) Require SSL for all communication.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.
VERIFYHOST	• *0:* Do not verify the server for host name. • *1*: Check if there exists any value in the common name field in the server certificate. This check does not verify if it matches with what the client specifies. • *2*: (Default) Check for a match with the host name in the URL with the common name or Subject Alternate field in the server certificate.
VERIFYPEER	• *False*: Do not verify the peer. • *True*: (Default) Verify the peer by authenticating the certificate sent by the server.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:

a. In the Password field, enter a password.
b. In the Confirm Password field, enter the password again.
c. Click Encrypt.

   The encrypted password is displayed in the Encrypted Password field.
d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.

9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

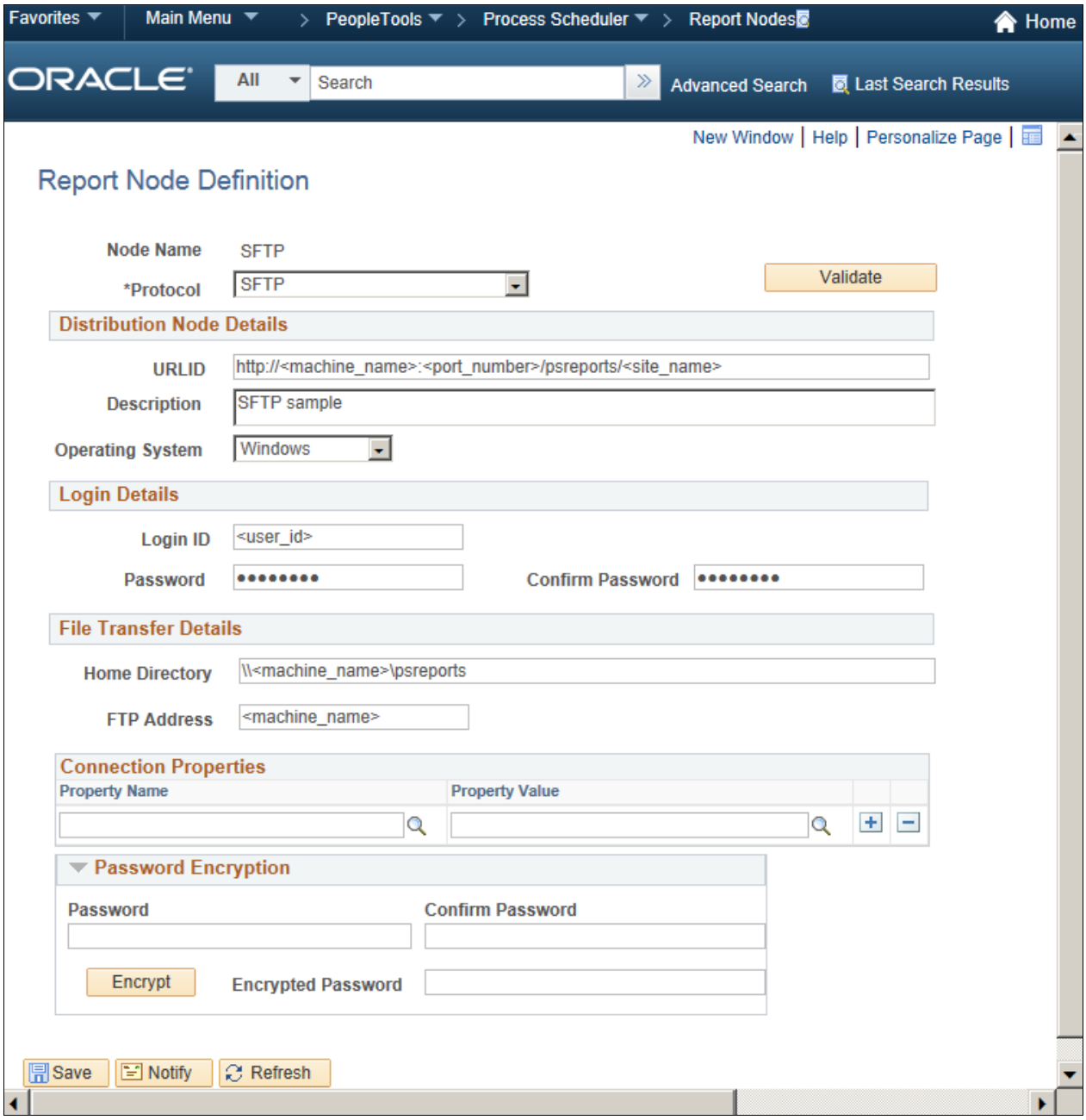
    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use SFTP

To define the report node to use SFTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select SFTP from the Protocol drop-down list.



Report Node Definition page for the SFTP protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the SFTP protocol.

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For Microsoft Windows operating systems, the directory needs to match the Report Repository path. Make sure that you do not include any drive information—as in c:\psreports\—because you are using the FTP protocol to interpret this parameter.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table.

   Click the plus sign to add additional connection properties.

Property Name	Property Value
AUTHTYPE	Select one of the following the authentication types: • *PUBLICKEY* • *PASSWORD* • *ANY*
PASSWORD	Specify the user password. You can enter the password in the Password Encryption box, click Encrypt, and then copy the encrypted value to the Password property.
PASSWORDKEY	Enter the password for the private key.
PRIVATEKEY	Select the private key.
PUBLICKEY	Select the public key.
SSHKEYALIAS	Select the SSH certificate saved to the database using the PeopleTools Security, Digital Certificates page (select PeopleTools, Security, Security Objects, Digital Certificates). The SSH certificate added through the Digital Certificates page contains both the public and private key data, identified by the Alias column value on the Digital Certificates page. If using the SSHKEYALIAS URL property, the Property Value prompt displays only the list of SSH certificates that have been added to the Digital Certificates page. If you have added the SSH certificate using the Digital Certificates page, and you have assigned an SSH certificate to the SSHKEYALIAS URL property, the system ignores the PUBLICKEY and PRIVATEKEY properties, regardless of whether they refer to valid key files in the file system. If you provided a password (or passphrase) when generating your SSH certificate, specify that value using the PASSWORDKEY URL property. See *PeopleTools: Security Administration,* "Configuring Digital Certificates."
USER	Specify the user ID to be authenticated.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
   a. In the Password field, enter a password.
   b. In the Confirm Password field, enter the password again.
   c. Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.

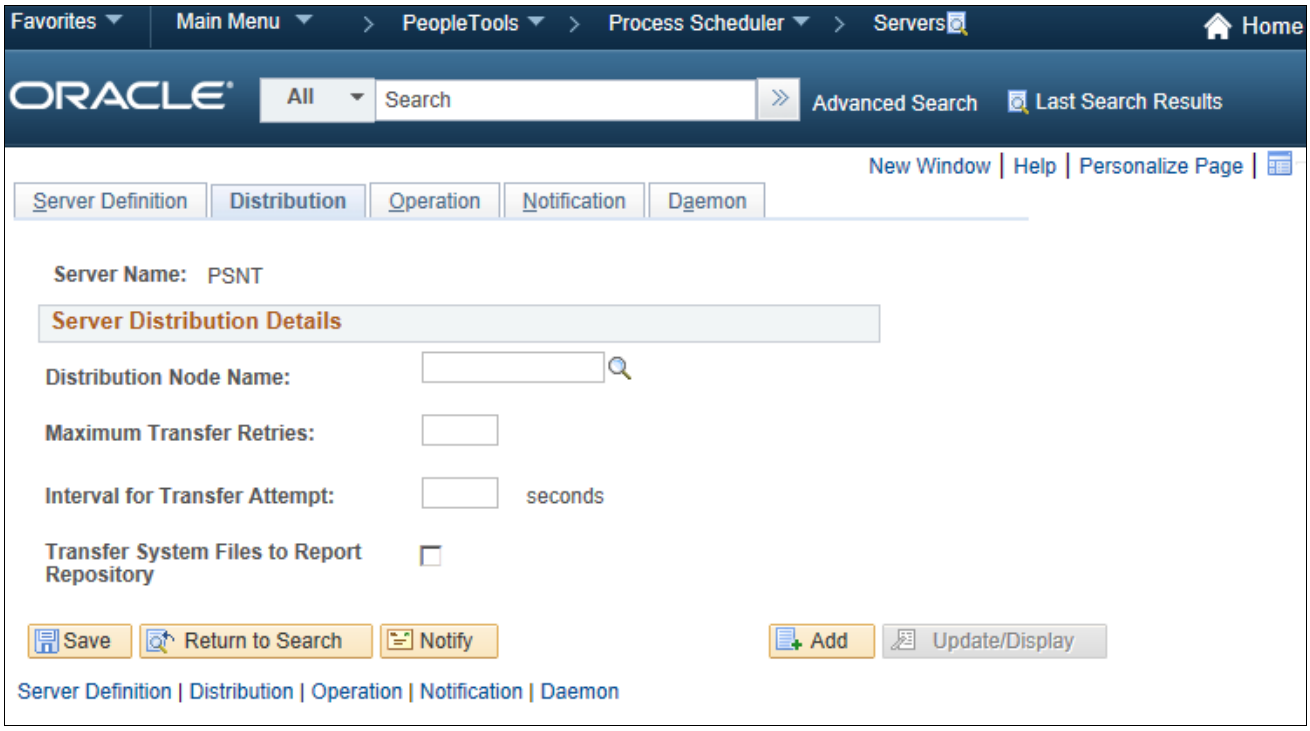
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Task 16A-2-5: Setting Up the Distribution for Your Process Scheduler Server

To set up the Distribution Settings for your Process Scheduler Server:

1. Select PeopleTools, Process Scheduler, Servers.
2. Enter the Server Name (such as PSNT). The Server Definition page appears.
3. Select the Distribution tab.



Server Definition page for PSNT: Distribution tab

4. Click the lookup button for Distribution Node Name to display the report node names and select the name of the required report node.
5. Enter a number for the Maximum Transfer Retries. This is the maximum number of times the server can try to send a report before it errors out.
6. Enter the number of seconds for the Interval for Transfer Attempt field. This is the interval between attempts to send the report.

7. Select the check box Transfer Log Files to Report Repository if you want to transfer all log and trace files from processes that do not generate reports.
8. Click Save to save your entries.
9. If Process Scheduler is running, you must reboot for any new settings to take effect.

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PIA to Report Repository, you need to set up single signon in order to avoid getting a prompt for a second signon.

Task 16A-2-6: Setting Up Sending and Receiving of Report Folders in the Report Manager

To be able to view reports in the Report Manager Explorer and List pages, you need to set up the sending and receiving of report folders in the Report Manager by activating the domain on which a sending and receiving server resides. Consult the documentation covering the PeopleSoft Integration Broker to learn how to activate the sending and receiving server domain.

See *PeopleTools: Integration Broker.*

See *PeopleTools: Integration Broker Service Operations Monitor.*

Task 16A-3: Setting Environment Variables

To set the appropriate Tuxedo environment variables, carry out these steps. (If you have already set these variables on the machine you are using as your Process Scheduler Server, you can skip this task.)

See "Installing Additional Components," Installing Oracle Tuxedo on Microsoft Windows.

To set the variables:

1. Choose Start, Settings, Control Panel.
2. Double-click the System icon.
3. Make sure that the NLSPATH environment variable is set.

   NLSPATH does not need to be explicitly set since Oracle Tuxedo sets NLSPATH in its own registry tree. This value can be displayed using Control Panel, Tuxedo, on the Environment tab. However, the installation of certain products, such as IBM DB2 connectivity (DB2 for z/OS and DB2 for Linux, UNIX, and Windows) sets NLSPATH to a value that causes Oracle Tuxedo to fail. The solution is to either set NLSPATH=c:\tuxedo\locale\c, or to delete it entirely and let Oracle Tuxedo pick up the value from its registry tree. If you are running DB2 for Linux, UNIX, and Windows, the solution instead is to append the c:\tuxedo\locale\c directory in the NLSPATH directory.

Search the Oracle Tuxedo documentation for additional information on NLSPATH.

Task 16A-4: Setting Up Process Scheduler Server Agent

This section discusses:

- Understanding Process Scheduler Server Agent
- Creating and Configuring a Process Scheduler Server
- Reconfiguring a Process Scheduler Server

- Verifying the Process Scheduler Server Status

Understanding Process Scheduler Server Agent

For installation purposes, you can use predefined server names and other definitions. The predefined name that you might use is as follows:

Server Name	Operating System
PSNT	Microsoft Windows

To test this, use processes already defined in your PeopleSoft database. To set up a new server definition in your PeopleSoft database, refer to the *PeopleTools: Process Scheduler* product documentation.

Note. When creating multiple Process Scheduler Servers for the same database, each server must have a unique server name. For example, two Process Scheduler Servers, both named PSNT, cannot run against the same database.

Task 16A-4-1: Creating and Configuring a Process Scheduler Server

This section describes how to create and configure a Process Scheduler server.

You can set Process Scheduler configuration parameters either by using PSADMIN, which provides an interactive dialog, or by editing the configuration file psprcs.cfg located in the *PS_CFG_HOME*\appserv\prcs*database name* directory. The following steps assume you are using PSADMIN to specify parameter settings.

Note. For Cube Builder users, if Essbase Server is installed on a different machine than the Process Scheduler, you must install Essbase Client 11.1.2.1 on the process scheduler server machine. You must also ensure that the %ESSBASEPATH% and %ARBORPATH% environmental variables are properly set in the Process Scheduler.

Note. If you use the configuration file psprcs.cfg, be aware that in the PeopleSoft PeopleTools 8.49 release and later, the section [Output Dest Exceptions] has been modified to trap metastring exceptions not only in the output destination but in other process parameters as well. In this section the entry `OUTDEST_EXCEPT01=%ANYMETASTRING%` has been changed to `PARAMETER_EXCEPT01=%ANYMETASTRING%`.

To create and configure a Process Scheduler Server:

1. From *PS_HOME*\appserv on the batch server, type `psadmin`.

   You see the PeopleSoft Server Administration menu, as in this example:

```
---------------------------------------------
PeopleSoft Server Administration
--------------------------------
PS_CONFIG_HOME       C:\User\JSMITH\psft\pt\8.56
PS_HOME              C:\PT8.56
PS_APP_HOME          C:\HC9.2

1) Application Server
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
```

```
5) Switch Config Home
6) Service Setup
7) Replicate Config Home
8) Refresh Config Home
q) Quit

Command to execute (1-8 q):
```

2. Depending on your environment, you may see a message after the menu selection, which indicates that PSADMIN has modified the *PS_CFG_HOME*/peopletools.properties file with the current *PS_HOME* location:

```
************************************************************
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
************************************************************
```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME*/peopletools.properties file. Continue with the next step.
3. Select *2* to access the Process Scheduler submenus.
4. Select *2* for Create a domain from the PeopleSoft Process Scheduler Administration menu.

```
-------------------------------------------
PeopleSoft Process Scheduler Administration
-------------------------------------------
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration

q) Quit

Command to execute (1-4, q) : 2
```

5. Enter the name of the domain at the following prompt, such as HRDMO in this example, and press ENTER:

```
Please enter name of domain to create : HRDMO
```

6. After the system creates the domain, the Quick-configure menu appears:

```
------------------------------------------------------------
Quick-configure menu -- domain: HRDMO
------------------------------------------------------------
     Features                      Settings
    ==========                    ==========
  1) App Engine        : Yes    9) DBNAME     :[HRDMO]
  2) Master Scheduler  : Yes   10) DBTYPE     :[ORACLE]
```

```
  3) Perf Collator     : No    11) PrcsServer :[PSNT]
  4) Domains Gateway   : No    12) UserId     :[PS]
  5) Push Notifications: No    13) UserPswd   :[]
                               14) ConnectID  :[people]
                               15) ConnectPswd:[]
                               16) Log/Output Dir:[%PS_SERVDIR%\log_⇒
output]
                               17) SQRBIN     :[%PS_HOME%\bin\sqr\ORA⇒
\binw]
                               18) AddToPATH  :[%WINDIR%;%WINDIR%⇒
\SYSTEM32]
                               19) DBBIN      :[C:\<connectivity⇒
 directory>]
                               20) DomainConnectPswd:[]
     Actions
    =========
  6) Load config as shown
  7) Custom configuration
  8) Edit environment settings
  h) Help for this menu
  q) Return to previous menu

HINT: Enter 9 to edit DBNAME, then 6 to load

Enter selection (1-20, h, or q):
```

7. If you need to modify any of these settings, enter the number next to the parameter name, type the new value, and press ENTER. This table lists the parameters and gives brief descriptions.

Parameter	Description
Master Scheduler	Select this option to enable the Master Scheduler Server (PSMSTPRC). The default is to enable the server. See *PeopleTools: Process Scheduler.*
App Engine	Select this option to initiate Application Engine programs through the AE Tuxedo Server (PSAESRV). The default is set to run AE using PSAESRV. See *PeopleTools: Process Scheduler.*
Perf Collator	Select this option to enable the PSPPMSRV server process. See *PeopleTools: Performance Monitor,* "Enabling the Required Elements on the Monitoring System."
Domain Gateways	Select this option to enables inter domain communication, for example between Application Server and Process Scheduler domains. See *PeopleTools: Fluid User Interface Developer's Guide,* "Setting Up Push Notification Configurations."
Push Notifications	Select this option to enables pushing server events from PeopleSoft PeopleTools server runtime, such as Application Server and Process Scheduler, to browser clients and other PeopleSoft PeopleTools server runtime components. See *PeopleTools: Fluid User Interface Developer's Guide,* "Setting Up Push Notification Configurations."
Load config as shown	Load the selections you made in the Quick Configure menu.
Custom configuration	Make custom selections in PSADMIN, using options that are not available in the Quick Configure menu.
Edit environment settings	Edit, add, remove, comment out, and review domain-level environment variables.
DBNAME	Specify the database name that is associated with a PeopleSoft Process Scheduler Server Agent, such as HRDMO, FSDMO, SADMO, and so on.
DBTYPE	Specify the database type: ORACLE.
PrcsServer	Specify the process server name. This must match the name defined in the Server Definition table, such as *PSNT* or *PSUNX*.

Parameter	Description
UserId	Enter the user ID, such as VP1 or PS.
UserPswd	Enter the password for the user ID, as you specified during the database configuration. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
ConnectID	Enter the connect ID. This value is required.
ConnectPswd	Enter the connect password, as you specified during the database configuration. This value is required. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
Log/Output Dir	Specify the directory in which files that are generated by the program are written. When PeopleSoft Process Scheduler initiates a process request, it creates a subdirectory in the format <Process Type ID>_<Program Name>_<Process Instance> that contains the generated files. For instance, the SQR program XRFWIN that ran with process instance 20 has all reports, trace, and log files in the subdirectory SQR_XRFWIN_20. It is also the optional directory used with the Output Destination field when scheduling a request. This variable (%%OutputDirectory%%) can be used in the File/Printer field of the Process Scheduler Request dialog box.
SQRBIN	Enter the path to the SQR executables.
AddToPATH	(Optional for Tuxedo) Specify an additional directory that is appended to the PATH environment variable. Add the paths to the 64-bit connectivity software. For example: C:\oracle\product\11.2.0\dbhome_1\BIN. **Note.** If the PATH environment variable contains the path for the 64-bit connectivity software, then you do not need to change the setting for AddToPATH.
DBBIN	Enter the path to the database drivers; that is, your connectivity software. For an Oracle installation, this should indicate the 64-bit connectivity software, for example C:\oracle\product\11.2.0\dbhome_1\BIN.

Parameter	Description
DomainConnectPswd	If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank. The password is hidden by masking characters as you type, and in the Quick-configure menu after entry. See the information on setting Application Server Domain Parameters in the *PeopleTools: System and Server Administration* product documentation.

For descriptions of the PSADMIN options that do not appear in the Quick-configure menu, see the information on using PSADMIN in the *PeopleTools: Process Scheduler* product documentation. For a basic installation, in most cases you can accept the defaults.

8. When you have updated the settings as needed, choose *5, Load config as shown,* from the Quick-Configure menu to save your settings to the Process Scheduler configuration file, pstuxcfg.
9. To start Process Scheduler, choose *1,* for Administer Domain.
10. On the PeopleSoft Process Scheduler Administration menu, choose *1* for Boot this domain.

```
--------------------------------
PeopleSoft Process Scheduler Administration
--------------------------------

Domain Name: HRDMO

1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit

Command to execute (1-7, q) :
```

11. Choose *1,* Boot (Serial Boot), or *2,* Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

12. If you want to stop Process Scheduler Server, from the PeopleSoft Domain Administration menu, choose *2,* for Domain Shutdown menu, and then enter the number corresponding to the name of the appropriate database.

Note. If you see the following message, then the server is already down:

```
Command to execute (1-2, q) [q]: 1 Loading command line administration
utility ... tmadmin - Copyright (c) 2007-2008, Oracle. Portions *
Copyright 1986-1997 RSA Data Security, Inc. All Rights Reserved.
Distributed under license by Oracle. Tuxedo is a registered trademark. No
bulletin board exists. Entering boot mode. > TMADMIN_CAT:111: ERROR: No
such command.
```

Task 16A-4-2: Reconfiguring a Process Scheduler Server

If you create and then immediately configure a Process Scheduler server, you can use the Quick-configure menu. Alternatively, you can use PSADMIN as described in this section. Feel free to skip this procedure if you have already created and configured your Process Scheduler Server using the Quick-configure menu and want to move forward with your installation.

Note. If you want to configure the Process Scheduler Server while it is running, you need to stop and restart the server to load the new settings.

To reconfigure a Process Scheduler Server:

1. Go to *PS_HOME*\appserv and enter:

   ```
   psadmin
   ```

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/*peopletools.properties file with the current *PS_HOME* location:

   ```
   ************************************************************
   PS_CFG_HOME/peopletools.properties file has been updated.
   You should use the Config Home Refresh feature in PSAdmin
   to ensure that all of your domains are current.
   Alternatively, you may recreate all of your domains.
   Please press any key to continue...
   ************************************************************
   ```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.
3. Select *2* for Process Scheduler in the PeopleSoft Server Administration menu.
4. In the PeopleSoft Process Scheduler Administration menu, select *1* for Administer a domain.
5. Select the database for which the Process Scheduler needs to be configured.
6. You see the following prompt:

   ```
   Do you want to change any config values (y/n)? [n]:
   ```

   Specify *y* to start an interactive dialog that lets you examine or change parameter values.
7. Specify the configuration parameters one by one.

Configuration parameters are grouped into sections. At each section, you are asked whether to change any parameters—for example:

```
Values for config section - Startup
  DBName=
  DBType=
  UserId=
  UserPswd=
  ConnectId=
  ConnectPswd=
  ServerName=
  StandbyDBName=
  StandbyDBType=
  StandbyUserId=
  StandbyUserPswd=
  InMemoryDBName=
  InMemoryDBType=
Do you want to change any values (y/n)? [n]:
```

- Specify *y* to change any parameter values for the current section. You are prompted for each parameter value. Either specify a new value or press ENTER to accept the default. After you press ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
- The parameters StandbyDBName, StandbyDBType, StandbyUserID, and StandbyUserPswd are used for a standby database in an Oracle database environment.

  See the information on implementing Oracle Active Data Guard in the *PeopleTools: Data Management,* product documentation.
- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- If you do not want to change any values, specify *n* and you are prompted for the next configuration section.

8. After you have selected all your parameters, you see this message:

```
You will need to shut down and start up the server to read the new⇒
 settings.
```

For descriptions of the Process Scheduler options in the PSADMIN, see the *PeopleTools: Process Scheduler* product documentation. In most cases you can accept the defaults.

Task 16A-4-3: Verifying the Process Scheduler Server Status

At this stage it is a good idea to verify the Process Scheduler Server status.

To verify the Process Scheduler Server status:

1. From the PeopleSoft Process Scheduler Administration menu, choose option *3*, for Domain status menu.

```
--------------------------------
PeopleSoft Process Scheduler Administration
--------------------------------

Domain Name: HRDMO

1) Boot this domain
```



```
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit

Command to execute (1-7, q) : 3
```

2. To verify the status of the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

   For example:

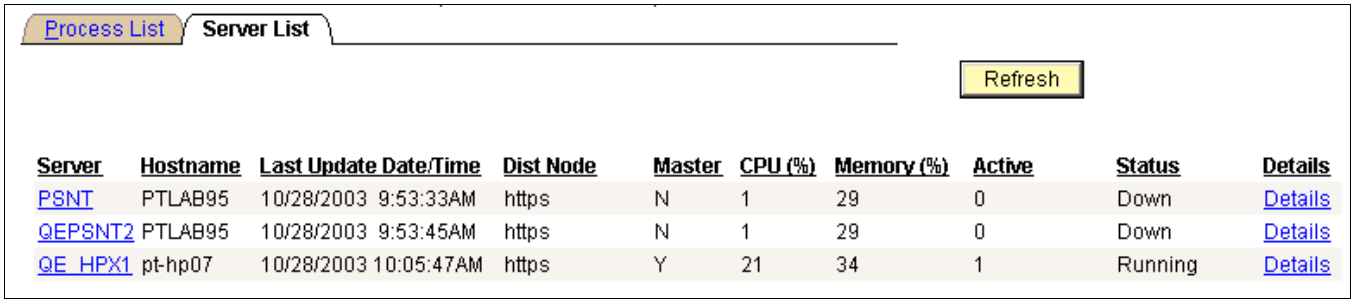
```
Database list:

  1)  HRDMO

Select item number to start: 1

Loading command line administration utility ...
tmadmin - Copyright (c) 2007-2008 Oracle.
Portions * Copyright 1986-1997 RSA Data Security, Inc.
All Rights Reserved.
Distributed under license by Oracle.
Tuxedo is a registered trademark.

> Prog Name      Queue Name  Grp Name      ID RqDone Load Done Current⇒
 Service
---------      ----------  --------      -- ------ --------- -----------⇒
----
BBL.exe        46845       PSSERVER+      0      9       450 (  IDLE )
PSMONITORSRV.e MONITOR     MONITOR        1      0         0 (  IDLE )
PSAESRV.exe    00101.00001 AESRV          1      0         0 (  IDLE )
PSAESRV.exe    00101.00002 AESRV          2      0         0 (  IDLE )
PSAESRV.exe    00101.00003 AESRV          3      0         0 (  IDLE )
PSPRCSRV.exe   SCHEDQ      BASE         101      0         0 (  IDLE )
PSMSTPRC.exe   MSTRSCHQ    BASE         102      0         0 (  IDLE )
PSDSTSRV.exe   DSTQ        BASE         103      0         0 (  IDLE )
>
```

You can also verify the status of the Process Scheduler Server from Process Monitor in PeopleSoft Pure Internet Architecture. To verify the Process Scheduler Server status from the Process Monitor page, go to PeopleTools, Process Scheduler, Process Monitor, and select *Server List.*

If the user has the process security rights to update the server status, the *Refresh* button can be used to refresh the screen, too.

See Setting Up Process Scheduler Security.

This example of the Server List page shows two Process Scheduler servers with status Down, and one with status Running.



Server	Hostname	Last Update Date/Time	Dist Node	Master	CPU (%)	Memory (%)	Active	Status	Details
PSNT	PTLAB95	10/28/2003 9:53:33AM	https	N	1	29	0	Down	Details
QEPSNT2	PTLAB95	10/28/2003 9:53:45AM	https	N	1	29	0	Down	Details
QE_HPX1	pt-hp07	10/28/2003 10:05:47AM	https	Y	21	34	1	Running	Details

Process Monitor page: Server List tab

Task 16A-5: Starting Process Scheduler as a Windows Service (Optional)

You can start the Process Scheduler server as a Windows service. This means that administrators do not need to manually boot each Process Scheduler server that runs on a Microsoft Windows machine. Instead, each time you boot the Microsoft Windows server where the Process Scheduler server resides, the Process Scheduler Server will boot automatically. You can also still manually boot Process Scheduler Servers on your Microsoft Windows server.

Note. If you have set up TUXDIR and TEMP as new SYSTEM variables, you need to reboot your machine before any Windows services will pick up the value of these environment variables.

Note. You can also set up application servers and search servers as a Windows service using the instructions provided here.

The following directions assume that the Process Scheduler is already configured on the Microsoft Windows server.

To set up the Windows Service for a Process Scheduler Server:

1. Open the System utility within the Control Panel, and set the variables, listed with a brief explanation in the following table, in the System Variables section of the Environment tab.

   Note. Even if the following variables are in the User Variables section, they must also be in the System Variables section because the Windows service will be started under the System Account.

Variable	Value
TEMP	Specify the location of the TEMP directory on the Windows server, as in C:\TEMP.
TUXDIR	Specify the location of the Tuxedo directory on the Windows server, as in C:\tuxedo.

2. Reboot the Windows computer if any changes or additions were made for the system variables.
3. Run the PeopleSoft PSADMIN utility (psadmin.exe in the *PS_HOME*\appserv directory), and press ENTER.

4. Select *6* for Service Setup from the PeopleSoft Server Administration menu.

```
 --------------------------------
PeopleSoft Server Administration
 --------------------------------
  PS_CFG_HOME             C:\Users\JSMITH\psftuser\psft\pt\8.56
  PS_HOME                 C:\PT8.56
  PS_APP_HOME             C:\HC9.2

  1) Application Server
  2) Process Scheduler
  3) Search Server
  4) Web (PIA) Server
  5) Switch Config Home
  6) Service Setup
  7) Replicate Config Home
  8) Refresh Config Home
  q) Quit

Command to execute (1-8, q): 6
```

5. Select *1* from the PeopleSoft Services Administration menu.

```
-------------------------------------------
PeopleSoft Services Administration
-------------------------------------------
 1) Configure Windows Service
 2) Install Windows Service
 3) Delete Windows Service
 4) Edit Service Configuration File
 q) Quit

Command to execute (1-4, q) : 1
```

When asked if you want to change configuration values, enter *y*.

6. Enter the name of the Process Scheduler databases that you intend to include as part of the Windows service.

```
Values for config section - NT Services
  Service Start Delay=60
  Application Server Domains=HRDMO
  Process Scheduler Databases=HRDMO
  Search Server Domains=HRDMO

Do you want to change any values (y/n)? [n]:
```

If you specify more than one Process Scheduler database, separate each entry with a comma.

Note. You can use PSADMIN to set up Process Scheduler Servers, application servers, or search servers as a Windows service. The Windows Service psntsrv.exe automatically starts application servers, Process Scheduler servers, and search servers that reside on the same Microsoft Windows machine. Occasionally, psntsrv.exe would attempt to initiate a connection between an application server, Process Scheduler server, or search server and a database on the same machine that was not ready to receive requests. As a result the connection would fail. When you set up these servers as a Windows Service, you can specify a Service Start Delay, in seconds, that elapses before a service attempts to start any application server domains, Process Scheduler servers, or search servers. This allows the RDBMS to boot and become available to accept requests. The default setting for the Service Start Delay parameter is 60 seconds.

Note. The NT Services section of the PSADMIN modifies the psntsrv.cfg file located in the *PS_CFG_HOME*\appserv directory. You can edit this file manually by selecting *4, Edit Service Configuration File* from the PeopleSoft Services Administration menu. If you edit it, you need to delete and then install the service again.

7. Select option *2* from the PeopleSoft Services Administration menu.

```
 -----------------------------------------
PeopleSoft Services Administration
 -----------------------------------------
   1) Configure Windows Service
   2) Install Windows Service
   3) Delete Windows Service
   4) Edit Service Configuration File
   q) Quit

Command to execute (1-4, q) : 2
```

8. Return to the Control Panel, choose *Administrative Tools,* and launch the Services utility.
9. On the Services dialog, scroll to find the entry that adheres to the following naming convention, and select it:

```
PeopleSoft <PS_CFG_HOME>
```

For example:

```
PeopleSoft C:\Users\JSMITH\psftuser\psft\pt\8.56
```

Note. The default Startup mode is Manual.

10. Click *Startup.*
11. On the Service dialog in the Startup Type group, select *Automatic,* and in the Log On As group, select *Local System Account.* Then click OK.

Note. The *Log On As* setting needs to reflect that which you set for your ORACLE ProcMGR V12.2.2.0.0_VS2015 and Tlisten processes. Oracle recommends that you set these services to *Local System Account* when you install Tuxedo. The *Log On As* value only affects the application server because Process Scheduler runs independently from Tuxedo. See the chapter "Installing Additional Components" for more information on installing Tuxedo, and refer to the chapter "Configuring the Application Server on Windows" for the details on configuring the application server.

12. On the Services dialog, make sure the PeopleSoft service is selected, and click Start.
13. Use the Process Monitor to verify that the Process Scheduler Server is running. You can also use Task Manager to verify that the executables involved with the service are running.

For the Process Scheduler, make sure that the psprcsrv.exe is running. If you have customized the name of psprcsrv.exe, make sure the appropriate executable is running.

Task 16A-6: Configuring the Process Scheduler for Microsoft Word (Optional)

This section discusses:

- Configuring Process Scheduler
- Executing Winword on Mapped Drive

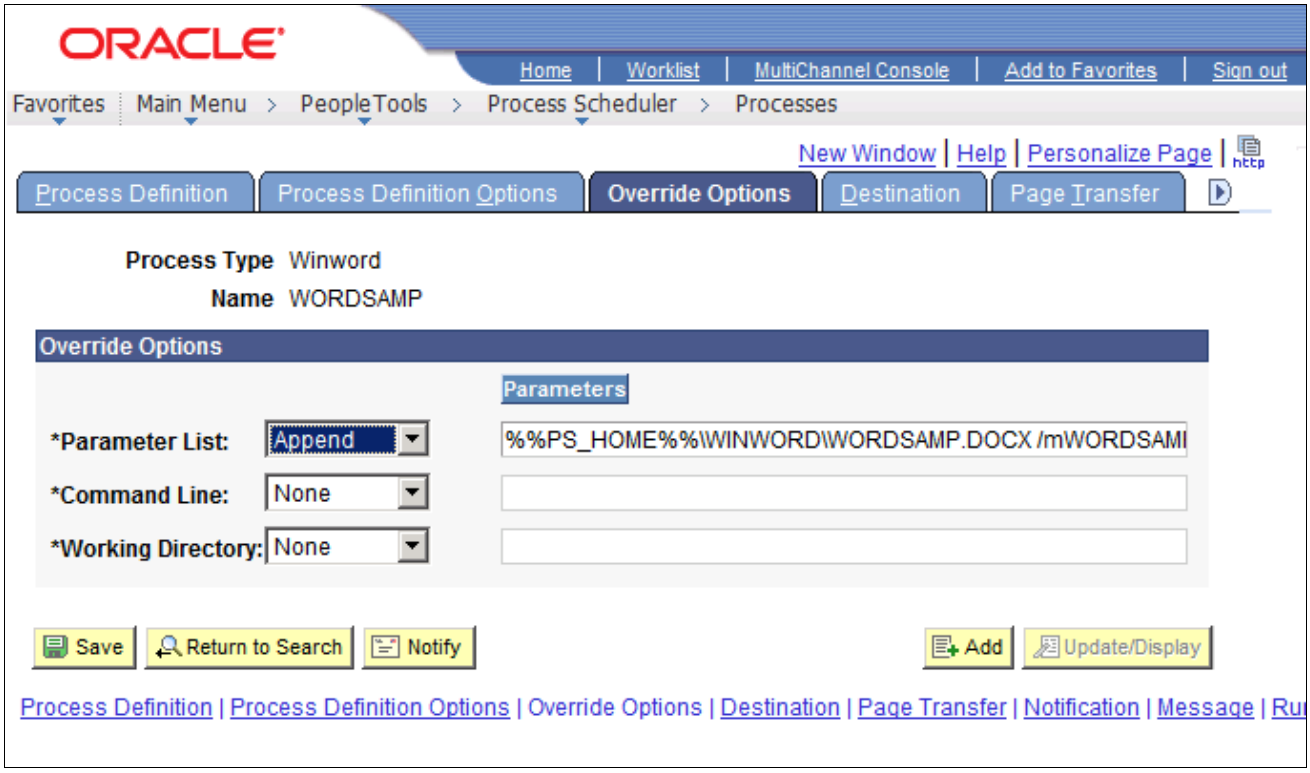
Task 16A-6-1: Configuring Process Scheduler

Some applications process documents using Microsoft Word. Here is how to configure Microsoft Word to work with the Process Scheduler.

Note. Microsoft Word must already be installed on the server; it is not included with the PeopleSoft PeopleTools install.

To configure Process Scheduler for Microsoft Word:

1. Log in to the PeopleSoft application in a browser and select PeopleTools, Process Scheduler, Processes.
2. Search for Process Type *Winword* and select a process.
3. On the Process Definition page, select Override Options, as shown in this example.



Process Definition page: Override Options

4. In the Parameter List field, enter %%PS_HOME%%\WINWORD\WORDSAMP.DOCX/mWORDSAMP and save.
5. Locate the Process Scheduler configuration file psprcs.cfg in *PS_CFG_HOME*\appserv\prcs\ <*database_name*> directory and open it for editing.
6. In the [Process Scheduler] section, edit the WINWORD entry so that it points to the directory where winword.exe is installed—for example, "WINWORD=C:\Program Files\Microsoft Office\OFFICE 12" (include the quotes in the entry).
7. If spaces exist in the WINWORD path in the Process Scheduler configuration file (psprcs.cfg), Microsoft Word reports will fail. You will need to modify the Process Type Definition and add quotes around the entry in the Command Line field, for example " %%WINWORD%%\winword.exe".
8. Change the Microsoft Word macro security to allow macros to be run.

   Start Microsoft Word and select Tools, Macro, Security. Select the *Low* security setting and click OK.
9. If you are running on Microsoft Windows, modify your macros to include the following line:

   ```
   Application.AutomationSecurity=msoAutomationSecurityLow
   ```

   You can see an example by viewing the macros in *PS_HOME*\winword\Wordsamp.doc.
10. Make sure that all the servers (that is, Application Server and Process Scheduler servers) are running in the context of the logged-in user, as WinWord is executed in the same context.

Task 16A-6-2: Executing Winword on Mapped Drive

If you encounter a problem in executing the WinWord process on a mapped drive, there are a couple of solutions to try. If the first solution does not work, try the second one. Try the following workaround suggestions in the order given.

To perform the first workaround:

1. Copy the file WORDSAMP.dotm from *PS_HOME*\WINWORD\.
2. Locate the WinWord templates folder and place the file WORDSAMP.dotm there.

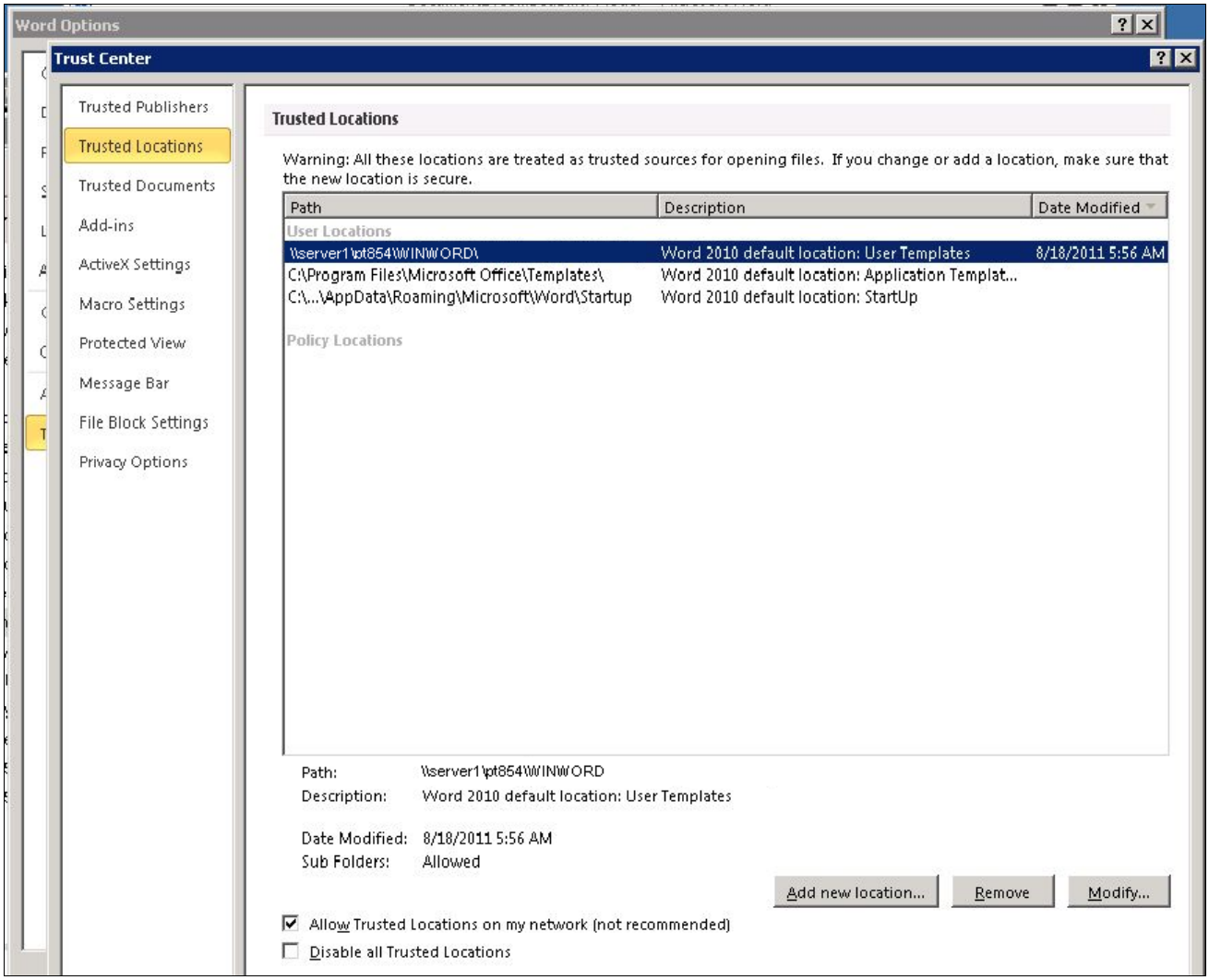
   In general, you can find the templates folder under the logged-in user's directory. For example, for user psftuser, this would be:

   C:\Users\psftuser\Microsoft\Templates
3. Open the WinWord.docx file under *PS_HOME*\WINWORD folder and verify macro is present.
4. Sign in to the PeopleSoft application to execute the WinWord process and verify its status in Process Monitor.

To perform the second workaround:

1. In Microsoft Word, click the Microsoft Office button, and click Word Options.
2. Select Trust Center, and then click Trust Center Settings, Trusted Locations.
3. Select the check box for Allow Trusted Locations on my network, and clear the check box Disable all Trusted Locations.

4. Create a new trusted location with path pointing to the *PS_HOME*\WINWORD folder on your mapped drive. In this example, the trusted location is \\server1\pt854\WINWORD:



Microsoft Word Trusted Locations window

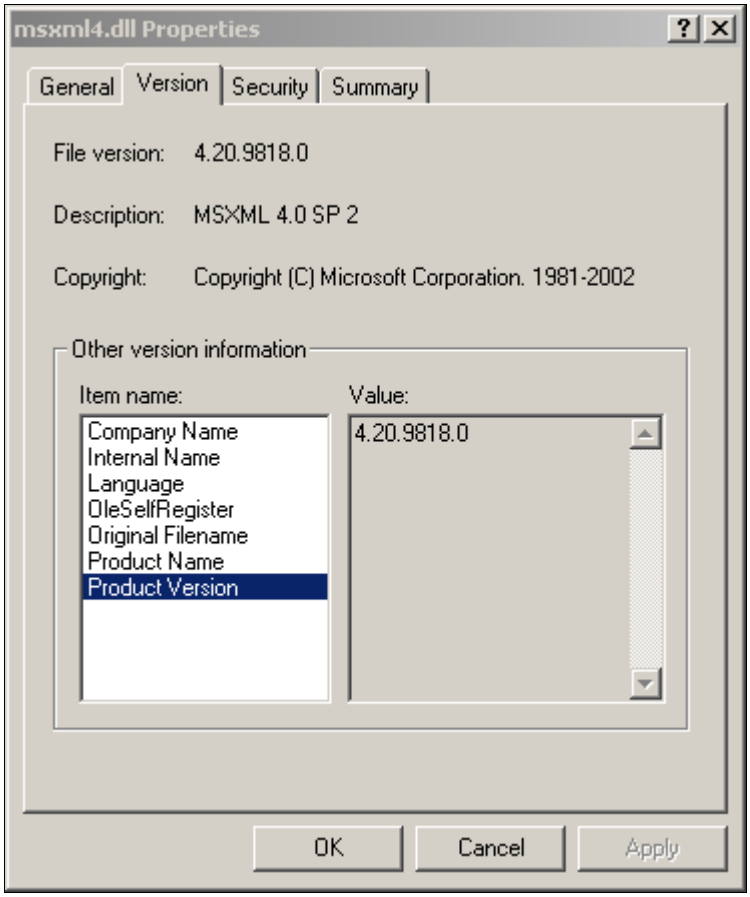
Task 16A-7: Configuring Setup Manager

Before you can use Setup Manager, you must fulfill these requirements:

- To use the Excel to CI template-generation feature of Setup manager, the Process Scheduler must be PSNT. That is, Process Scheduler must be installed on a Microsoft Windows machine.
- Process Scheduler must be running.
- Any Process Scheduler environment variables (especially %PS_FILEDIR%) must be specified.
- A supported version Microsoft Office must be present on the process scheduler server, and Microsoft Excel must be installed.
- The MSXML COM object for Microsoft Excel, msxml4.dll, must be present on the system.

  For confirmation, navigate to %SystemRoot%\system32\msxml4.dll. Right-click and select Properties. On the

msxml4.dll Properties dialog box, select the Version tab, and then Product Version. As shown on this example of the msxml4.dll Properties dialog box, the version number must be 4.20 or above.



msxml4.dll Properties dialog box: Version tab

See Also

PeopleTools: Setup Manager

Microsoft support, support.microsoft.com

Task 16A-8: Installing Products for PS/nVision

This section discusses:

- Understanding the PS/nVision Setup
- Installing Products for PS/nVision in Excel Automation Mode
- Installing Microsoft .NET Framework 4.6.1
- Installing Microsoft Open XML SDK for PS/nVision

Understanding the PS/nVision Setup

PS/nVision can operate in the following three modes for PS/nVision:

- OpenXML mode

  OpenXML is the default mode for PeopleSoft PeopleTools.
- Excel automation mode
- Cross-platform mode

  Cross Platform is the only supported mode on the UNIX platforms that are certified for executing PS/nVision Reports on the web.

  See "Setting Up Process Scheduler on UNIX," Using PS/nVision in Cross-Platform Mode on UNIX.

The different modes of executing PS/nVision are enabled by setting the UseExcelAutomation parameter in the Process Scheduler configuration file (psprcs.cfg) as follows:

- 0 - OpenXML mode
- 1 - Excel Automation mode
- 2 - Cross Platform mode

See Also

PeopleTools: PS/nVision

PeopleTools: Process Scheduler

Task 16A-8-1: Installing Products for PS/nVision in Excel Automation Mode

To set up PS/nVision in Excel automation mode:

- For all batch servers, install Microsoft Excel on the batch server. PeopleSoft PeopleTools supports 64-bit versions of Microsoft Excel 2010, Excel 2013, and Excel 2016.

  Note. The 32-bit version of Microsoft Excel should not be installed on the machine where PS/nVision needs to run in Excel Automation Mode, as that would cause issues with running PS/nVision with 64-bit Microsoft Excel.

- If the batch server is on a 64–bit Microsoft Windows machine, create an empty "Desktop" folder with this path:

  C:\Windows\System32\config\systemprofile\Desktop

Task 16A-8-2: Installing Microsoft .NET Framework 4.6.1

Before setting up PS/nVision in OpenXML mode, use these instructions to install Microsoft .NET Framework. Microsoft Open XML SDK 2.0 requires Microsoft .NET Framework versions 4.6.1.

Note. Microsoft .NET Framework 4.6.1 may be included as a feature on your operating system. SEe your operating system instructions to verify whether it is installed and enabled.

To install Microsoft .NET Framework 4.6.1:

1. If there is an existing installation of Microsoft .NET Framework 4.0 or 4.6 installed on your computer:

   a. Select Start, Programs, Control Panel, Add/Remove Programs
   b. Locate the existing Microsoft .NET Framework installation and remove it.
2. Go to *PS_HOME*\setup\dotnetredist.
3. Run the dotNetFx461_Full_x86_x64.exe.file.
4. Review the license agreement, select the option I have read and accept the license terms, and then click Install.

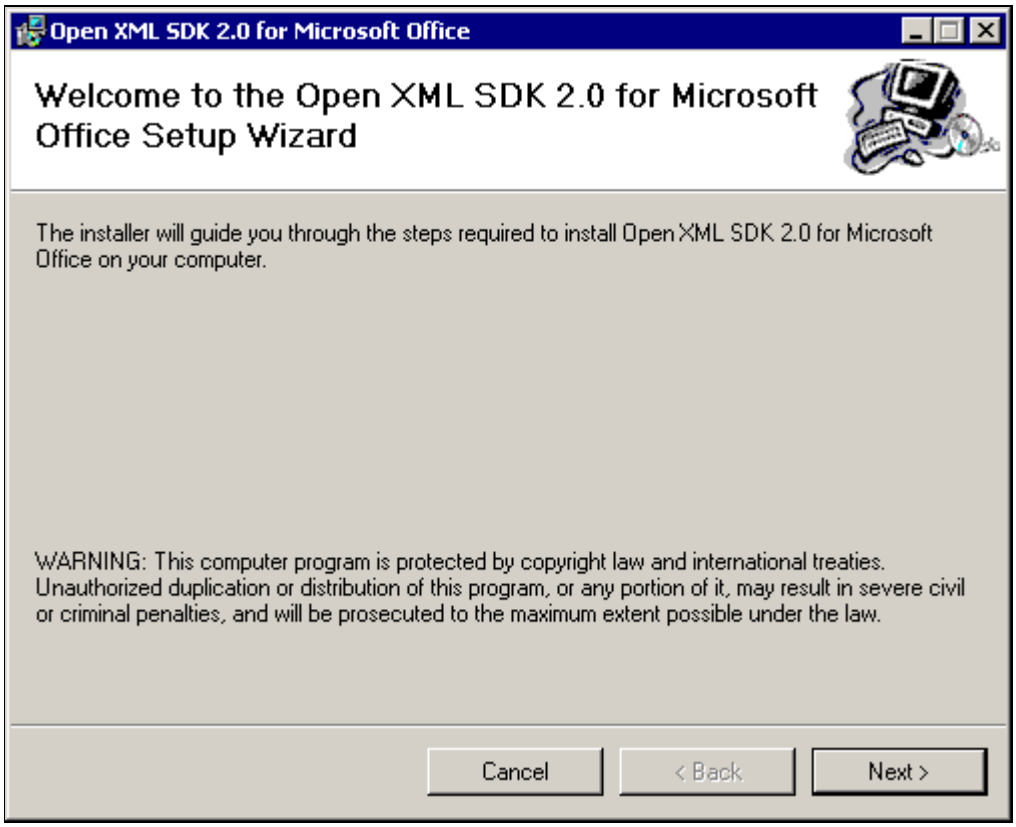
   A progress indicator appears.
5. Click Finish when the installation is complete.

Task 16A-8-3: Installing Microsoft Open XML SDK for PS/nVision

As described in the previous section, you must have installed Microsoft .NET Framework versions 4.6.1 before beginning this installation.

To install Microsoft Open XML SDK V2.0:

1. Go to *PS_HOME*\setup\OpenXmlSDK.
2. Run the OpenXMLSDKv2.msi file.
3. Click Next on the welcome window.

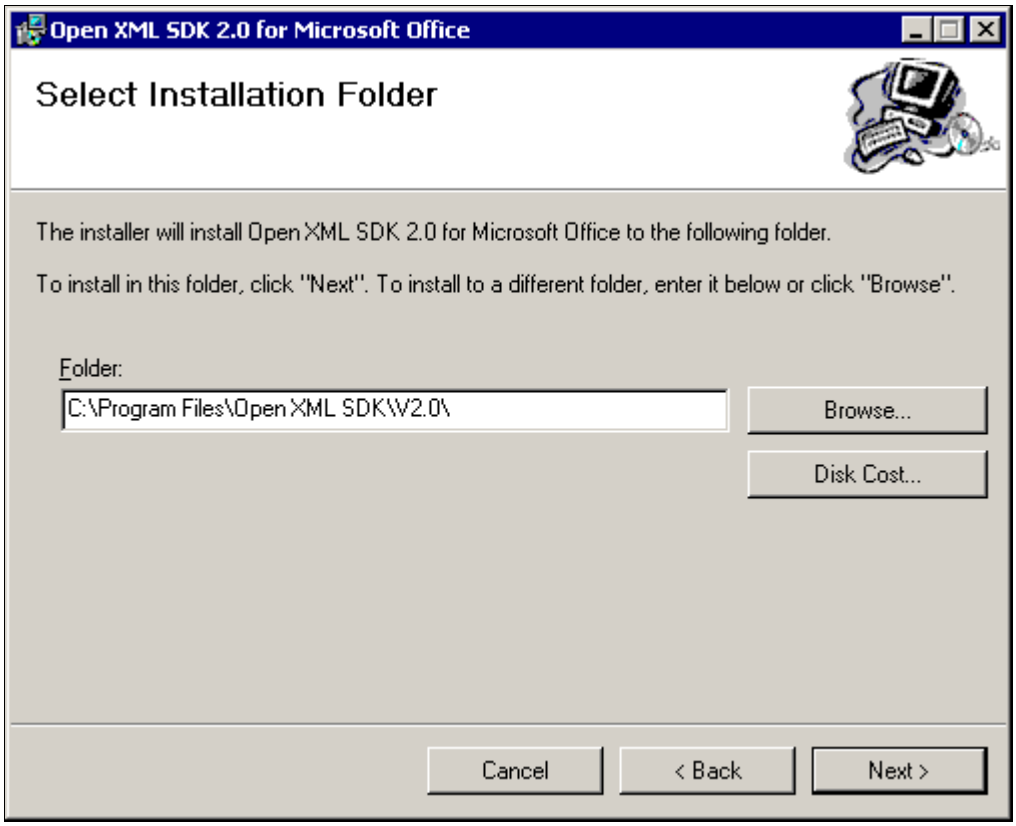


Microsoft Open XML SDK 2.0 welcome window

4. Review the license agreement, select the option I agree, and then click Next.

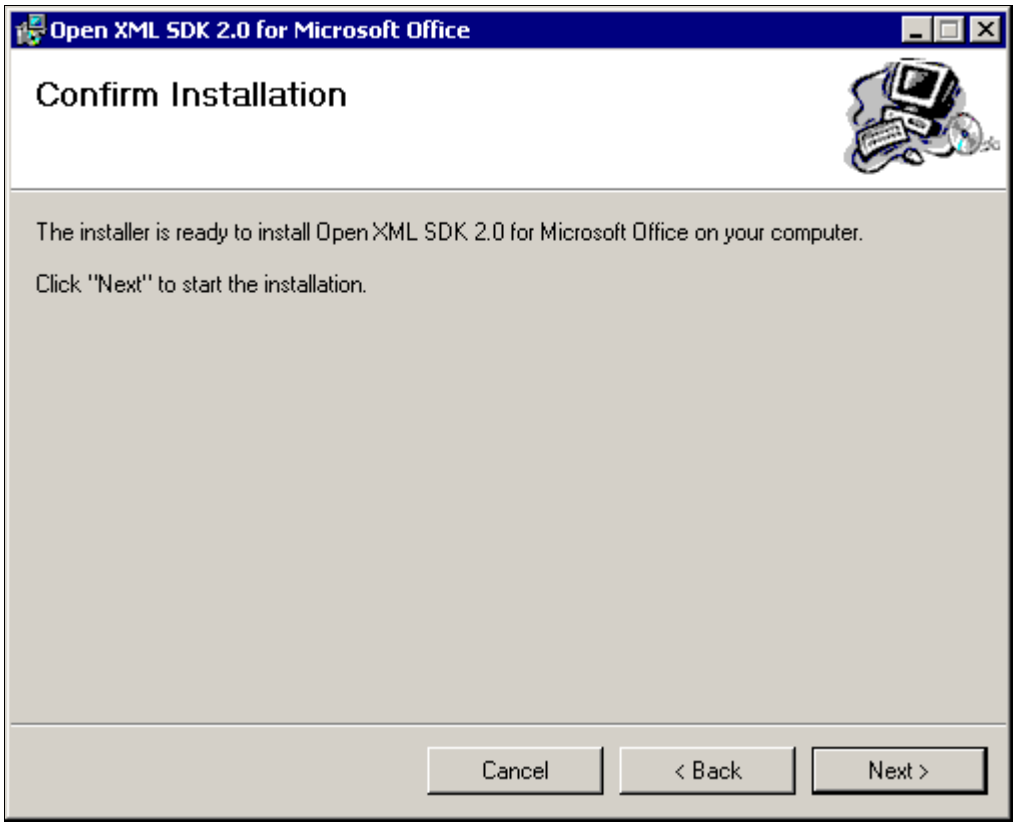
Microsoft Open XML SDK 2.0 License Agreement window

5. Accept the default location for the installation, C:\Program Files\Open XML SDK\V2.0, and then click Next.



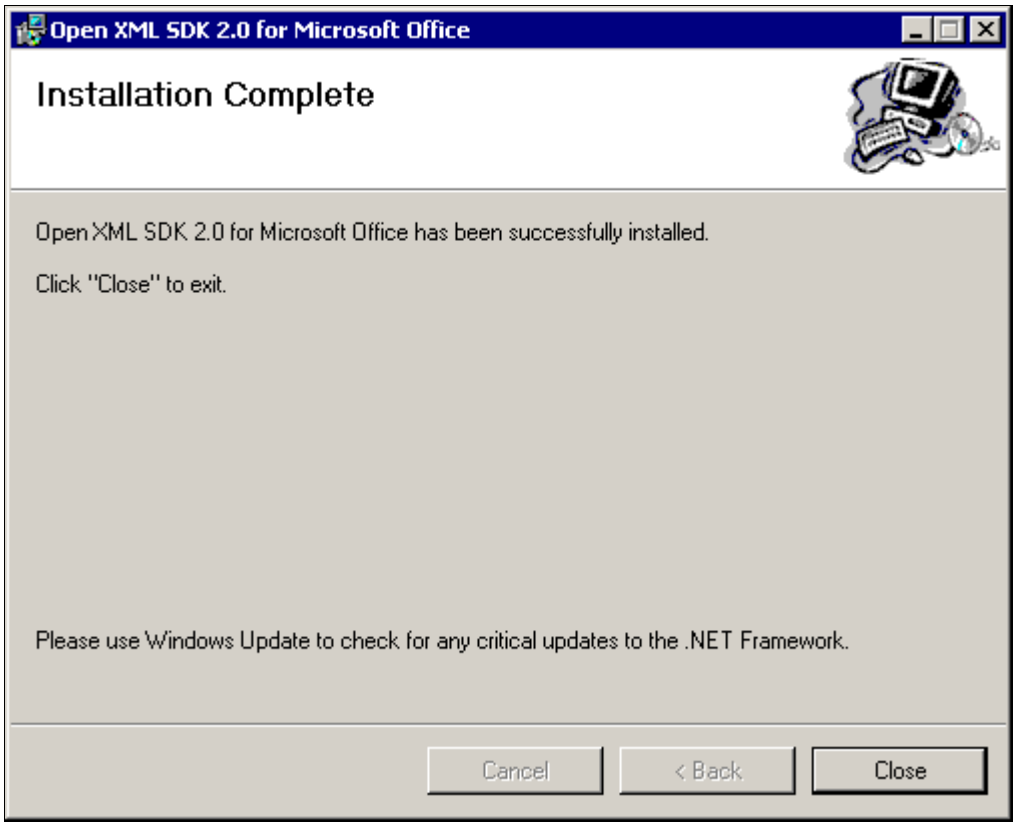
Microsoft Open XML SDK 2.0 Select Installation Folder window

6. Click Next on the Confirm Installation window to begin the installation.



Microsoft Open XML SDK 2.0 Confirm Installation window

7. Click Close when the installation is complete.



Microsoft Open XML SDK 2.0 Installation Complete window

Chapter 16B

Setting Up Process Scheduler on UNIX

This chapter discusses:

- Prerequisites
- Setting Up Process Scheduler Security
- Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository
- Setting Up Process Scheduler Server Agent

Prerequisites

If your database runs on UNIX, you need to set up a Microsoft Windows batch environment on a Microsoft Windows application server or on a dedicated Microsoft Windows workstation for Microsoft Windows-specific batch processes, such as nVision reports, Cube Builder, or Microsoft Word. These processes are Microsoft Windows-specific applications that cannot be executed by the Process Scheduler on UNIX.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is sometimes used to refer to all UNIX-like operating systems, including IBM AIX, Linux, HP-UX, and Oracle Solaris for SPARC. For the most up-to-date information on operating system support for your database platform, see the Certification information on My Oracle Support.

Before setting up your Process Scheduler, you must:

- Install Tuxedo.

  See "Installing Additional Components."
- Install database connectivity to be able to communicate with your database server (Process Scheduler requires a direct connection to the database).

  See "Preparing for Installation."
- Set up the web server with the PeopleSoft Pure Internet Architecture, as described in the previous chapter. This is required to set up the Process Scheduler to transfer reports or log files to the Report Repository.
- Set up your COBOL batch environment if you need to run COBOL processes through Process Scheduler. If the PeopleSoft modules purchased do not contain any COBOL modules, the COBOL run time libraries are not required. Also, COBOL is not required for applications that contain no COBOL programs. Consult My Oracle Support for the details on whether your application requires COBOL.

  See "Preparing for Installation," Planning Your Initial Configuration.
- Have both your application server and the PeopleSoft Pure Internet Architecture started. In this chapter, you must modify security options of the designated PeopleSoft user ID that will be used to boot up Process Scheduler. This requires that the user ID's profile be modified through the User Security component. Please refer to earlier chapters for the details on starting the application server and the PeopleSoft Pure Internet

Architecture.

In PeopleSoft PeopleTools 8.50 and later, the configuration and log files for Process Scheduler server domains reside in *PS_CFG_HOME*. If you do not set a PS_CFG_HOME environment variable before beginning the application server configuration, the system installs it in a default location based on the current user's settings, as follows:

```
$HOME/psft/pt/<peopletools_version>
```

See "Preparing for Installation," Defining Installation Locations.

See the product documentation *PeopleTools: System and Server Administration* for more information on the PS_CFG_HOME environment variable and working with server domain configuration.

See Also

PeopleTools: Process Scheduler

My Oracle Support, Certifications

Task 16B-1: Setting Up Process Scheduler Security

This section discusses:

- Understanding Process Scheduler Security
- Granting Process Scheduler Administrative Rights

Understanding Process Scheduler Security

This task—in which you set up the PeopleSoft User ID that will be used to boot Process Scheduler server so it has administrative rights to both Process Scheduler and Report Manager—guarantees that security is set up properly within your PeopleSoft database.

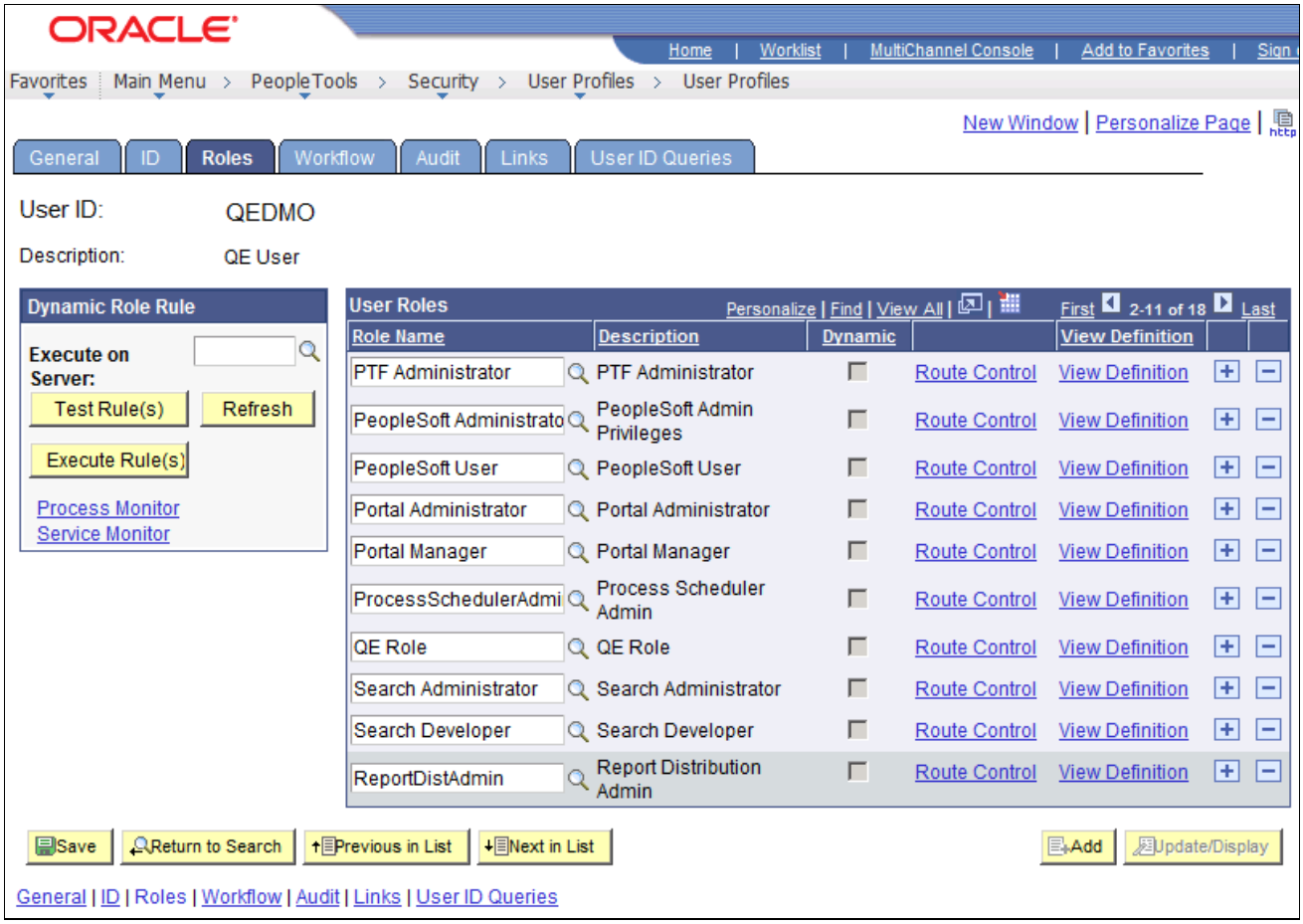
You must carry out this task to start Process Scheduler successfully.

Task 16B-1-1: Granting Process Scheduler Administrative Rights

To grant Process Scheduler administrative rights:

1. Log onto your PeopleSoft database through the PeopleSoft Pure Internet Architecture.
2. Select PeopleTools, Security, User Profiles.
3. Select the User Profiles component. Use the Search dialog to select the PeopleSoft User ID you plan to use to boot the Process Scheduler server.

4. Click the Roles tab, click the plus icon to insert a new row, and there enter the *ProcessSchedulerAdmin* role to grant the user ID with administrative rights in the Process Scheduler components.



Process Scheduler window: Roles tab

5. Repeat the instructions in step 4 to add the role *ReportDistAdmin*.

   This will grant the user ID administrative rights to the Report Manager component. Carry out this step only if the same user is also responsible for maintaining the content of Report Manager.
6. Click Save to save your changes.
7. Select the General tab and jot down the Permission List name assigned to the Process Profile field.
8. From the Portal menu, choose PeopleTools, Security, Permissions & Roles, Permission Lists.
9. In the Search dialog, enter the Permission List you noted in step 7.
10. Select the Can Start Application Server check box.
11. Click Save to save your changes.

Task 16B-2: Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository

This section discusses:

- Understanding Report Distribution

- Setting Up Single Signon to Navigate from PIA to Report Repository
- Determining the Transfer Protocol
- Starting the Distribution Agent
- Setting Up the Report Repository
- Setting Up the Distribution for Your Process Scheduler Server
- Setting Up Sending and Receiving of Report Folders in the Report Manager

Understanding Report Distribution

The PeopleSoft PeopleTools Report Distribution lets you access reports and log files generated from process requests run by a Process Scheduler Server Agent. Using the PeopleSoft Pure Internet Architecture, you can view reports and log files from the web browser through the Report Manager or Process Monitor Detail page. Report Distribution enables you to restrict access to these reports to authorized users based either on user ID or role ID.

This product also includes the Distribution Agent component, which runs on the same server as the Process Scheduler Server Agent. The Distribution Agent, a process that runs concurrently with the Process Scheduler Server Agent, transfers to the Report Repository files generated by process requests initiated by the Process Scheduler Server Agent.

The Distribution Agent transfers files to the Report Repository when one of these criteria is true:

- The Process Scheduler Server Agent is set up in the *Server Definition* to transfer all log files to the Report Repository.
- The process request output destination type is *Web/Window*.

In either case, the Process Scheduler Server Agent inserts a row in the Report List table (PS_CDM_LIST). The server agent then updates the distribution status for a process request to *Posting* upon completion of the program associated with the process request. The distribution status of Posting signals that the files for the process request are ready for transfer to the Report Repository. The Distribution Agent is notified by Process Scheduler for any process requests that are ready for transferring. As part of the process to transfer files to the Report Repository, the Distribution Agent performs the following steps:

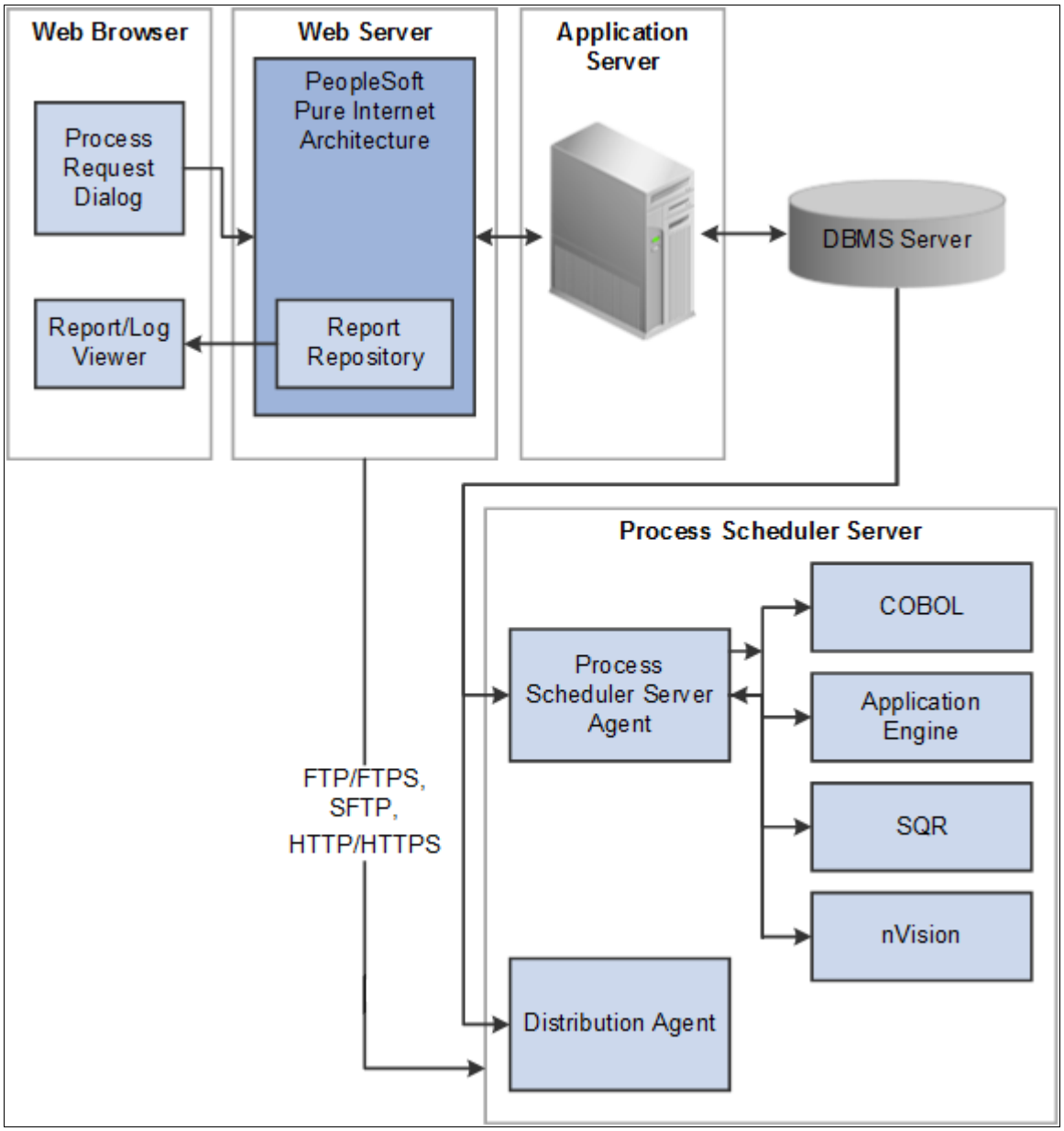
- *Transfer files to the Report Repository.* All the report and log files are transferred to the Report Repository. For each process request transferred, a directory is created in the Report Repository using the following format: \<database name\<date yyyymmdd>\<report id>. All the files for a process request are stored in this directory.
- *Delete the directory from the Process Scheduler Agent's Log/Output directory.* When the output destination type specified for a process request is Web/Window, all the files and directory associated with the process request are deleted from the Process Scheduler Log/Output directory after the files are transferred to the Report Repository.

The following diagram illustrates the Process Scheduler and Report Repository architecture. The diagram includes the following items:

- The web browser gives access to the Process Request dialog and the Report or Log Viewer.
- The Report Repository is part of the PeopleSoft Pure Internet Architecture.

Note. The PeopleSoft Pure Internet Architecture must be installed for Process Scheduler to be able to transfer reports to the Report Repository.

- The Process Scheduler Server includes the Process Scheduler Server Agent and the Distribution Agent.
- The transfer protocol between Process Scheduler and the Report Repository may be FTP/FTPS, HTTP/HTTPS, or SFTP.



Process Scheduler and Report Repository Architecture

Before users can view a report, they are authenticated against the PeopleSoft database.

You should set up single signon if you do not want users to have to log on an additional time to view reports in the Report Repository. For the details on setting up single signon, consult the security documentation.

See *PeopleTools: Security Administration.*

Beginning with PeopleSoft PeopleTools 8.53, you can use Oracle Database File System (DBFS) for your Report Repository.

See *PeopleTools: Data Management,* "Implementing the Oracle Database File System."

Task 16B-2-1: Setting Up Single Signon to Navigate from PIA to Report Repository

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PeopleSoft Pure Internet Architecture (PIA) to Report Repository, you need to set up single signon to avoid getting a prompt for a second signon. This section includes some considerations for setting up single signon to navigate from PIA to Report Repository.

If Report Repository resides on the same web server as PIA, make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.

If Report Repository resides on a different web server than PIA, do the following:

- Make sure your Local Message Node is set up to be a "trusted" node for single signon for your system.
- Use a fully qualified domain name when addressing the web server for both PIA and Report Repository. For example, enter http://*<machineName>*.peoplesoft.com/*<site_name>*/signon.html instead of http://*<machineName>*/*<site_name>*/signon.html.
- Specify the Authentication Domain for your application during installation. If you have multiple applications, and you want them to employ single signon, it is important to specify the same Authentication Domain for all applications.

  See the information on implementing single signon in the *PeopleTools: Security Administration* product documentation.
- Set up single signon with a password, like this:
  - Choose PeopleTools, Integration Broker, Integration Setup, Nodes.
  - Click Search and then select the node marked as Default Local Node.
  - Select *Password* for the Authentication Option.
  - Enter a password of your choice.
  - Enter the password again in the Confirm Password field.
  - Enter the user ID for which you are setting up single signon in the Default User ID field.
  - Save the Node Definition.
  - Sign out from the PeopleSoft application.
  - Reboot your application server.

See Also

PeopleTools: Security Administration

Task 16B-2-2: Determining the Transfer Protocol

We recommend using HTTP as your transfer protocol.

Before transferring the files to the Report Repository, you need to determine which transfer protocol to use. If you have a Microsoft Windows Process Scheduler and a Microsoft Windows web server, you can use either an XCOPY, FTP/FTPS, SFTP, or HTTP/HTTPS protocol. (If FTP information is not specified, Process Scheduler will perform an XCOPY.) If you have a PeopleSoft Process Scheduler on Microsoft Windows and a UNIX web server, you can use FTP/FTPS, SFTP, or HTTP/HTTPS. If you have a PeopleSoft Process Scheduler on UNIX , you can use FTP/FTPS, SFTP, or HTTP/HTTPS.

Note. If you are using FTP/FTPS or SFTP, the corresponding daemon must be set up in your web server.

Note. JRE is installed automatically on your Process Scheduler server.

Task 16B-2-3: Starting the Distribution Agent

The Distribution Agent is automatically started as another Oracle Tuxedo server when a Process Scheduler Server is booted. If a Process Scheduler Server was set up without specifying a Distribution Node in the *Server Definition* page, the Process Scheduler server will have a status in Process Monitor of "Running with No Report Node." After a node is defined for the Process Scheduler server, in the next cycle the Process Scheduler server checks the state of the system, and the Distribution Agent dynamically sets up its environment.

Task 16B-2-4: Setting Up the Report Repository

This section discusses:

- Defining ReportRepositoryPath
- Defining the Report Node to Use HTTP/HTTPS
- Defining the Report Node to Use FTP
- Defining the Report Node to Use FTPS
- Defining the Report Node to Use SFTP

Defining ReportRepositoryPath

The ReportRepositoryPath specifies the location of a directory for the Report Repository. You can specify the location for the Report Repository Path on the General page of the Web Profile during installation. If you do not set the location in the Web Profile, the location given by ReportRepositoryPath in the configuration.properties file is used for the default location. Note that the value entered for Report Repository Path in the Web Profile overrides any entry in the configuration.properties file.

See *PeopleTools: Portal Technology,* "Configuring Web Profiles."

Use the following formats to enter the name for the directory that you want to use for the ReportRepositoryPath. The examples below give the default values. Note that you must use a forward slash ('/') in both cases:

- *Microsoft Windows*: ReportRepositoryPath=c:/psreports
- *UNIX*: ReportRepositoryPath=<*user_home*>/PeopleSoft Internet Architecture/psreports

  For <user_home> substitute the home directory for the current user.

Defining the Report Node to Use HTTP/HTTPS

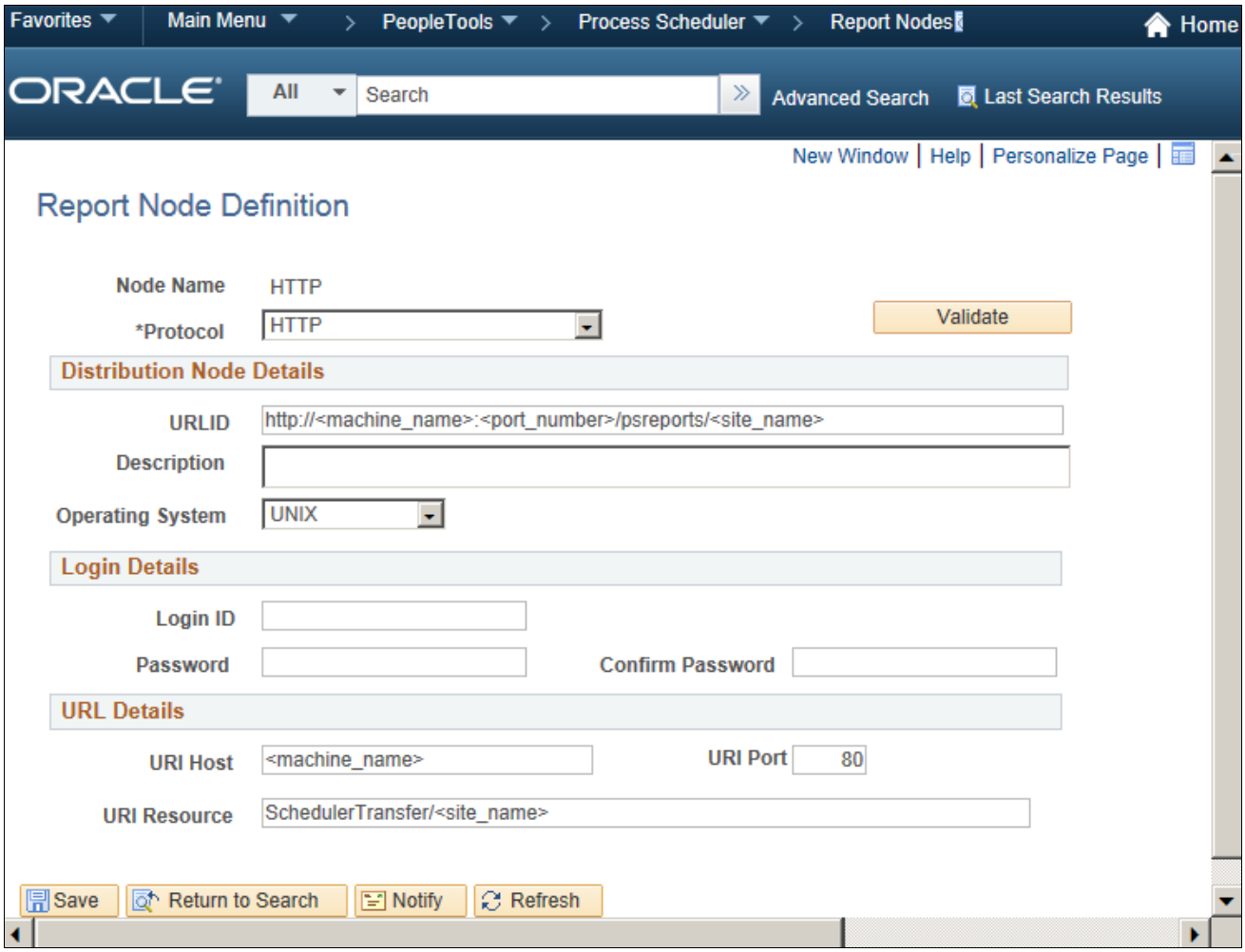
To define the report node to use HTTP/HTTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select the Add a New Value link and enter the Report node name.

3. On the Report Node Definition page, select HTTP or HTTPS from the Protocol drop-down list.

   Select the HTTP option if you are *not* using SSL. Select the HTTPS option if you are using SSL. The pages for HTTP and HTTPS have the same fields. These examples show HTTP.

   Note that if you are using SSL you need to have Client Certificates installed on your web server.



Report Node Definition page for the HTTP protocol

4. Enter the following information in the Distribution Node Details area:

   - *URLID*: Enter the URL of the web server using the following format:

     `http://<machine_name>:<port_number>/psreports/<site_name>`

     Replace *<machine_name>* with the name of your machine. Use the fully qualified host name for your web server. If you are using an HTTP or HTTPS port other than the defaults, you need to specify the port number.

     Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

   - *Description:* Enter a description of the server (optional).
   - *Operating System:* Select the web server operating system, Windows or UNIX.

5. Enter the following information in the Login Details area:

- *Login ID*: Enter the Login ID. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.
- *Password and Confirm Password*: Enter the password, and confirm it, for the user ID specified in the Login ID field. This is not required, unless basic authentication has been set up on the web server by the Web Administrator.

Note. The setup of authentication is optional, but is recommended for security of the Report Repository when using the HTTP to transfer files. For information on setting up authentication on the web server where the Report Repository resides, refer to the *PeopleTools: Security Administration* product documentation.

6. Enter the following information in the URI Details area:
   - *URI Host:* Enter the machine name for the report repository.

     Note. In a basic setup, the machine name for the report repository will match the machine name of the web server URL. However, under certain circumstances—for example, if you are using a reverse proxy server—the URL and URI Host may have different machine names.

   - *URI Port:* Enter the port number, which must match the port number of your web server (defaults are HTTP = 80, HTTPS = 443). If you change a port number you will lose the default values for both protocols.
   - *URI Resource:* Enter SchedulerTransfer/<*site name*>.
7. Click Save to save your entries.
8. Click Validate to confirm that your entries are complete and correct.

   The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
9. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTP

If you use the FTP report node protocol, note that:

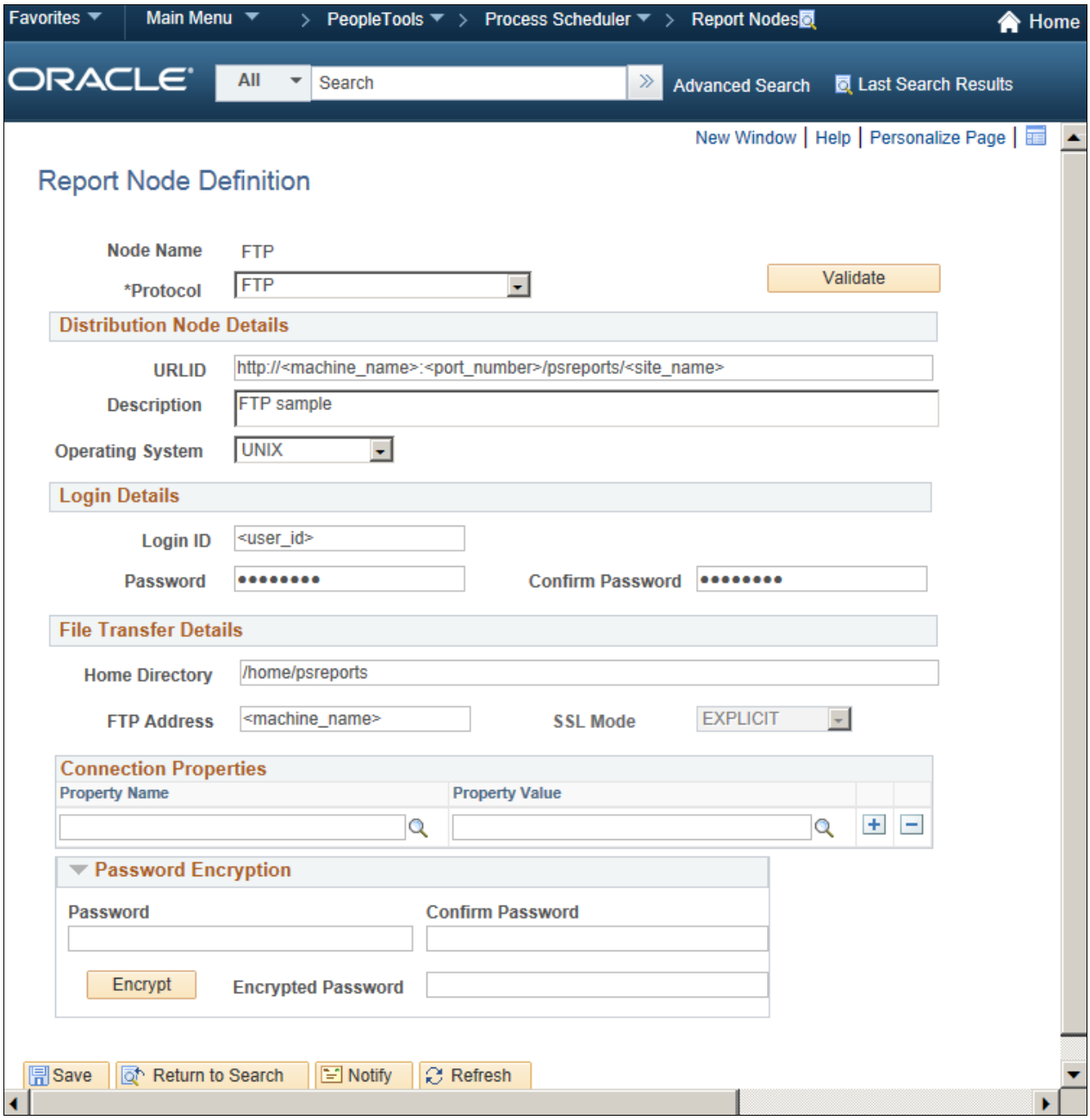
- If your FTP server is a Microsoft Windows server, you may have to set up the FTP service.
- The Distribution Agent will perform a validation after FTP has transferred files into the Report Repository by sending a query request to the web server. For this task to be completed, it is critical that the value entered in the URL is accurate. Verify that the machine name, port number, and site number that you specify are correct.

  If this setup is not completed, the process request will get a status of NOT POSTED in the Process Monitor Detail page and will log the message "Unable to verify files posted."

To define the report node to use FTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTP from the Protocol drop-down list.



Report Node Definition page for the FTP protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the FTP protocol

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the FTP User ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For UNIX, the default directory is <*user_home*>/PeopleSoft Internet Architecture/psreports/.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. If you need to specify additional properties, use the Connection Properties area. Specifying the Connection Properties is optional.

   Click the lookup button (magnifying glass) and select one of the properties in the following table. Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to *Y*. The default FTP connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: *10.176.147.111:10000-13000*
ENABLEEPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRT is set to *N*, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	• *0*: Disable EPSV • *1*: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) path.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
   a. In the Password field, enter a password.
   b. In the Confirm Password field, enter the password again.
   c. Click Encrypt.

      The encrypted password is displayed in the Encrypted Password field.
   d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

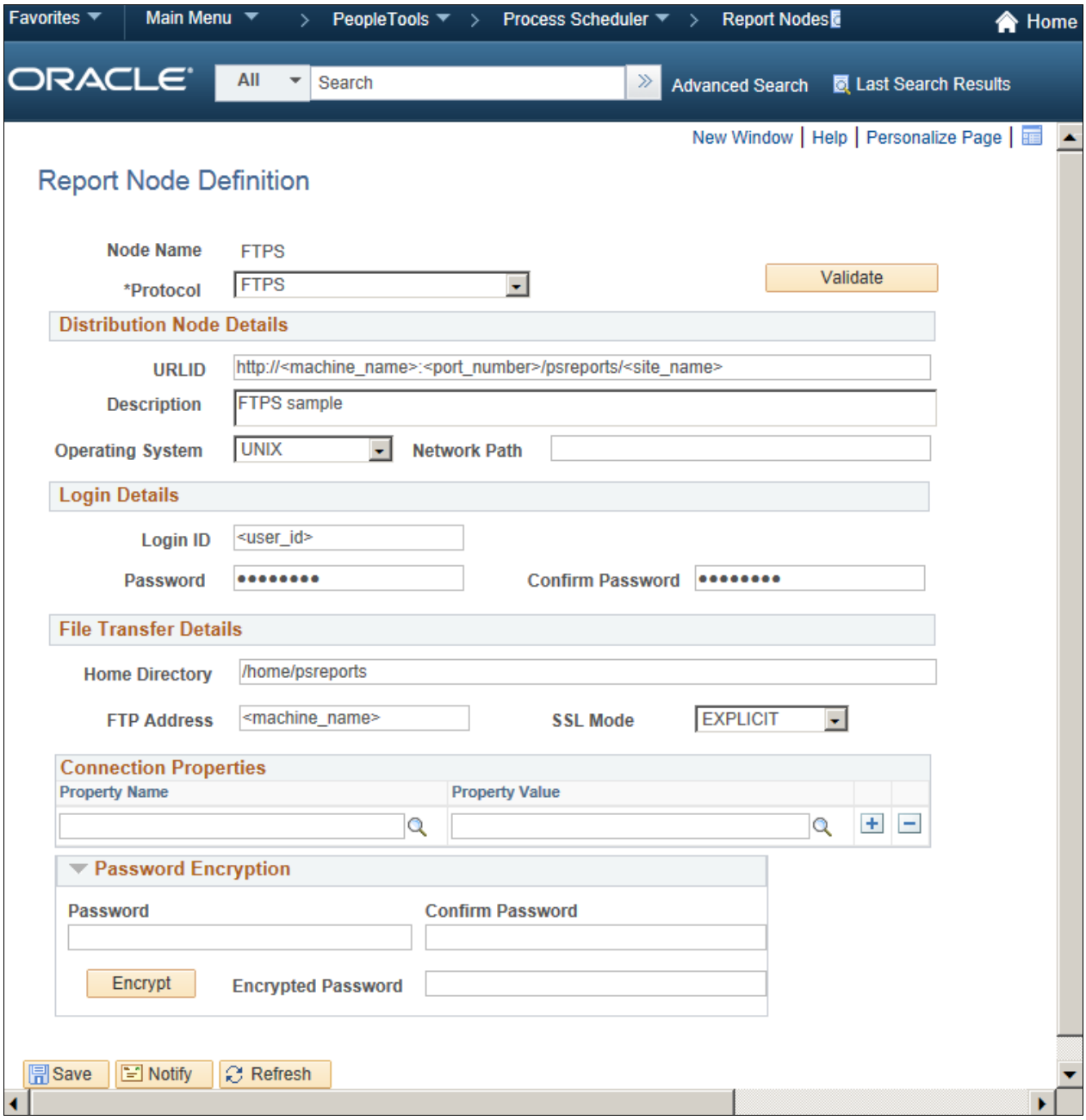
    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use FTPS

To define the report node to use FTPS:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select FTPS from the Protocol drop-down list.



Report Node Definition page for the FTPS protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the FTPS protocol.

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For UNIX, the default directory is <*user_home*>/PeopleSoft Internet Architecture/psreports/.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.
   - *SSL Mode*: Select Explicit or Implicit from the drop-down list.

     These are two separate methods developed to invoke the client security for use with FTP clients. With the explicit mode, FTPS-aware clients can invoke security with an FTPS-aware server without breaking overall FTP functionality with non-FTPS-aware clients. The implicit method requires that all clients of the FTPS server be aware that SSL is to be used on the session, and thus is incompatible with non-FTPS-aware clients.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table:

   Click the plus sign to add another connection property.

Property Name	Property Value
ACTIVEMODE	To enable active mode, add the ACTIVEMODE property to the URL and set it to *Y*. The default FTPS connection mode is extended passive mode.
ACTIVEPORTOPTION	This property can be used along with ACTIVEMODE. When active mode is enabled, you can use ACTIVEPORTOPTION to specify the IP address and port on which the FTP server can be accessed. This is useful when the server is behind a firewall. By default, ACTIVEPORTOPTION uses the default IP address of your system. If you want to use a particular IP address, set the ACTIVEPORTOPTION value to either the full IP address, a host name to resolve to an IP address, or a local network interface name. You can also specify a port range. For example: *10.176.147.111:10000-13000*
CERTALIAS	Certificate Alias: The Certificate Alias must be an alias name of a certificate stored in the database (using the PeopleSoft PeopleTools Digital Certificates page). **Note.** Currently, only PEM certificates are supported for FTPS.
ENABLEEPRT	This option can be used only with Active Mode. If Active Mode is enabled and ENABLEEPRT is set to *N*, then the system will use a PORT (IPv4) Active Mode connection. By default, ENABLEEPRT is Y, if Active Mode is set to Y.
EXTENDEDPASSIVEMODE	• *0*: Disable EPSV • *1*: Enable EPSV This property enables you to control whether extended passive mode (EPSV) will be used by FTP. EPSV is used by default. That is, by default, this value is considered to be 1. If the client fails to connect to the server with EPSV, then the system will try passive mode (PASV). To use PASV only, add EXTENDEDPASSIVEMODE to the URL Properties and set it to 0.
JKSPASSWORD	Specify the Java keystore (JKS) password.
JKSPATH	Specify the Java keystore (JKS) user.

Property Name	Property Value
KEYSTOREPASSWORD	This property is required for FTPS and HTTPS repositories. For attachments transferred from the PeopleSoft system to the FTPS or HTTPS repository, the system retrieves the key pair for the client certificate from the digital certificate store and writes the pair to a file in PKCS12 format with password protection. The value of this property will be used as the password for the PKCS12 file. The PKCS12 file enables connection and file transfer, and it exists only temporarily in <PS_SERVDIR>\files\<CERT ALIAS NAME> for the duration of the file transfer. The system deletes the file after the file transfer transaction. **Note.** If the system fails to delete the certificate alias file, a message will be written to the application server log. The maximum number of files that can exist at any time is equal to the total number of FTPS and HTTPS URL identifiers defined in the system. For information on setting the PS_SERVDIR environment variable, see the *PeopleTools: Integration Broker* product documentation.
PASSWORD	Specify the password associated with the USER property, which identifies the FTP User ID.
SSLUAGELEVEL	• *0 - No SSL*: No SSL will be used. • *1 - Try SSL*: Try using SSL, but proceed as normal otherwise. • *2 - Control*: Require SSL for the control connection. • *3 - SSL Only*: (Default) Require SSL for all communication.
USER	Specify the FTP User ID used for authentication when accessing the FTP site.
VERIFYHOST	• *0:* Do not verify the server for host name. • *1*: Check if there exists any value in the common name field in the server certificate. This check does not verify if it matches with what the client specifies. • *2*: (Default) Check for a match with the host name in the URL with the common name or Subject Alternate field in the server certificate.
VERIFYPEER	• *False*: Do not verify the peer. • *True*: (Default) Verify the peer by authenticating the certificate sent by the server.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:

   a. In the Password field, enter a password.
   b. In the Confirm Password field, enter the password again.
   c. Click Encrypt.

      The encrypted password is displayed in the Encrypted Password field.
   d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

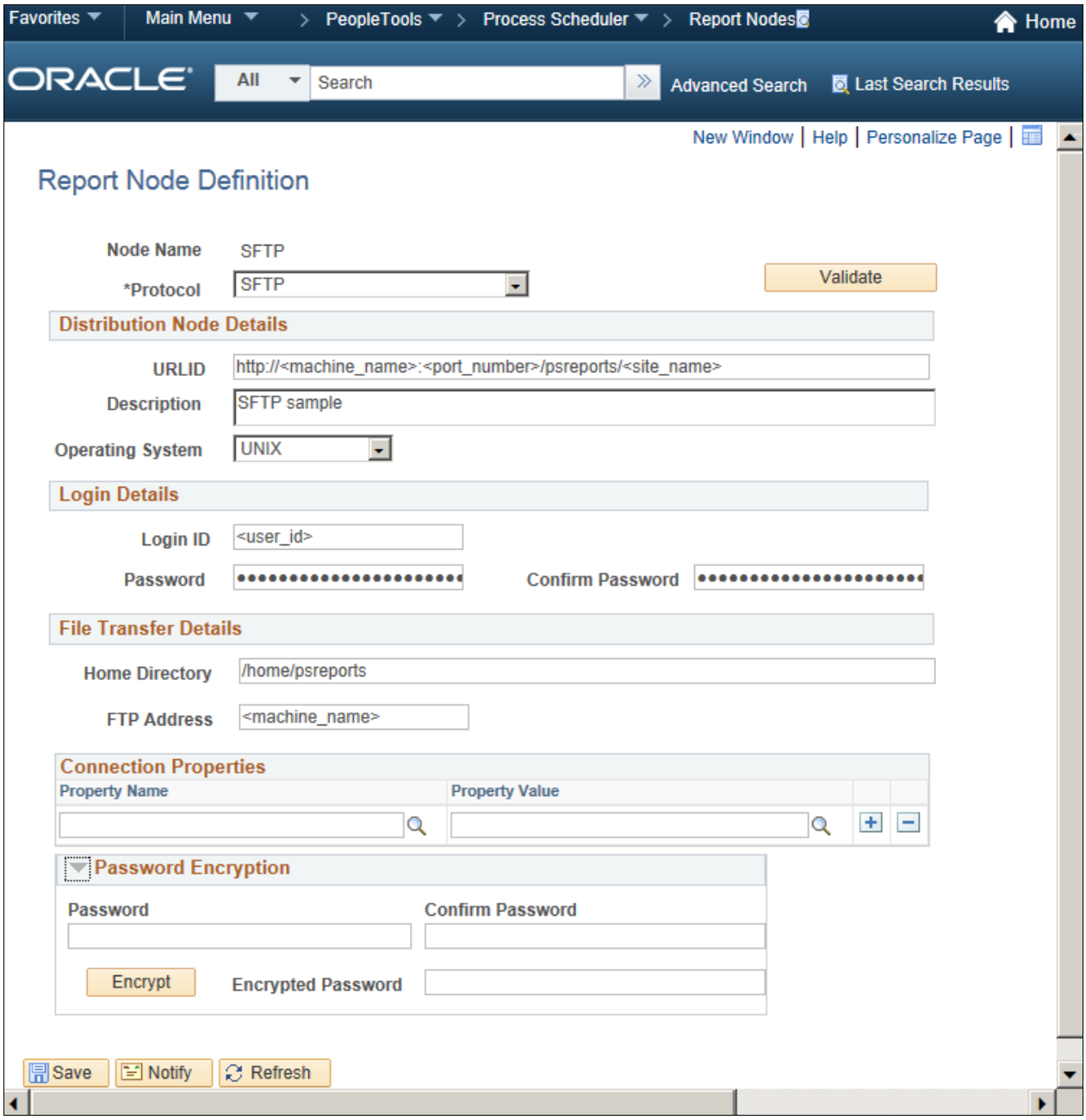
    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Defining the Report Node to Use SFTP

To define the report node to use SFTP:

1. Select PeopleTools, Process Scheduler, Report Nodes.
2. Select Add a New Value, enter the Report node name, and click Add.

3. On the Report Node Definition page, select SFTP from the Protocol drop-down list.



Report Node Definition page for the SFTP protocol

4. In the Distribution Node Details area, enter the following information:

- *URLID*: Enter the URL of the web server using this format:

  `http://<machine_name>:<port_number>/psreports/<site_name>`

  Replace *<machine name>* with the name of your web server. If you are using an HTTP port other than 80, you need to specify the port number. The variable *<site name>* refers to the directory where you installed the PIA files; this will default to ps for the first installation.

Note. If you specify the Authentication Token Domain name during the PIA installation, you must include a fully qualified domain name for the URL instead of the IP address.

Note. If you installed the web server software with the default TCP port of 80, you do not need to specify the port number in the URL path. However, if you installed the web server to some other port, you must specify the port number in the URL path.

- *Description*: Enter a description of the server (optional).
- *Operating System*: Select the operating system of the Report Repository, Windows or UNIX.
- *Network Path*: This information is not required for the SFTP protocol.

5. In the Login Details area, enter the following information:
   - *Login ID*: Enter the FTP User ID.
   - *Password and Confirm Password*: Enter the password, and enter it a second time, for the user ID specified in the Login ID field.
6. In the File Transfer Details area, enter the following information:
   - *Home Directory:* Enter the directory specified during the PIA installation as the Report Repository. The FTP User ID must have write access to this directory. Note that this is not a required field for FTP transfer, as the system uses the Report Repository directory specified at install time or the current directory assigned to ReportRepositoryPath in configuration.properties. Note that the value you enter for the Report Repository Path in the Web Profile at install time overrides any entry for ReportRepositoryPath in configuration.properties.

     For UNIX, the default directory is <*user_home*>/PeopleSoft Internet Architecture/psreports/.
   - *FTP Address:* Enter the machine name or the IP address of the Report Repository. If the name of the machine is used, it must be included on a DNS server.

7. In the Connection Properties area, click the lookup button (magnifying glass) and select one of the properties in the following table.

   Click the plus sign to add additional connection properties.

Property Name	Property Value
AUTHTYPE	Select one of the following the authentication types: • *PUBLICKEY* • *PASSWORD* • *ANY*
PASSWORD	Specify the user password. You can enter the password in the Password Encryption box, click Encrypt, and then copy the encrypted value to the Password property.
PASSWORDKEY	Enter the password for the private key.
PRIVATEKEY	Select the private key.
PUBLICKEY	Select the public key.
SSHKEYALIAS	Select the SSH certificate saved to the database using the PeopleTools Security, Digital Certificates page (select PeopleTools, Security, Security Objects, Digital Certificates). The SSH certificate added through the Digital Certificates page contains both the public and private key data, identified by the Alias column value on the Digital Certificates page. If using the SSHKEYALIAS URL property, the Property Value prompt displays only the list of SSH certificates that have been added to the Digital Certificates page. If you have added the SSH certificate using the Digital Certificates page, and you have assigned an SSH certificate to the SSHKEYALIAS URL property, the system ignores the PUBLICKEY and PRIVATEKEY properties, regardless of whether they refer to valid key files in the file system. If you provided a password (or passphrase) when generating your SSH certificate, specify that value using the PASSWORDKEY URL property. See *PeopleTools: Security Administration,* "Configuring Digital Certificates."
USER	Specify the user ID to be authenticated.

8. If you need to specify an encrypted password in any of the property fields, use the Password Encryption area to generate the encrypted password, as follows:
   a. In the Password field, enter a password.
   b. In the Confirm Password field, enter the password again.
   c. Click Encrypt.

The encrypted password is displayed in the Encrypted Password field.

d. From the Encrypted Password field, cut the encrypted password and then copy the encrypted value to the appropriate location.

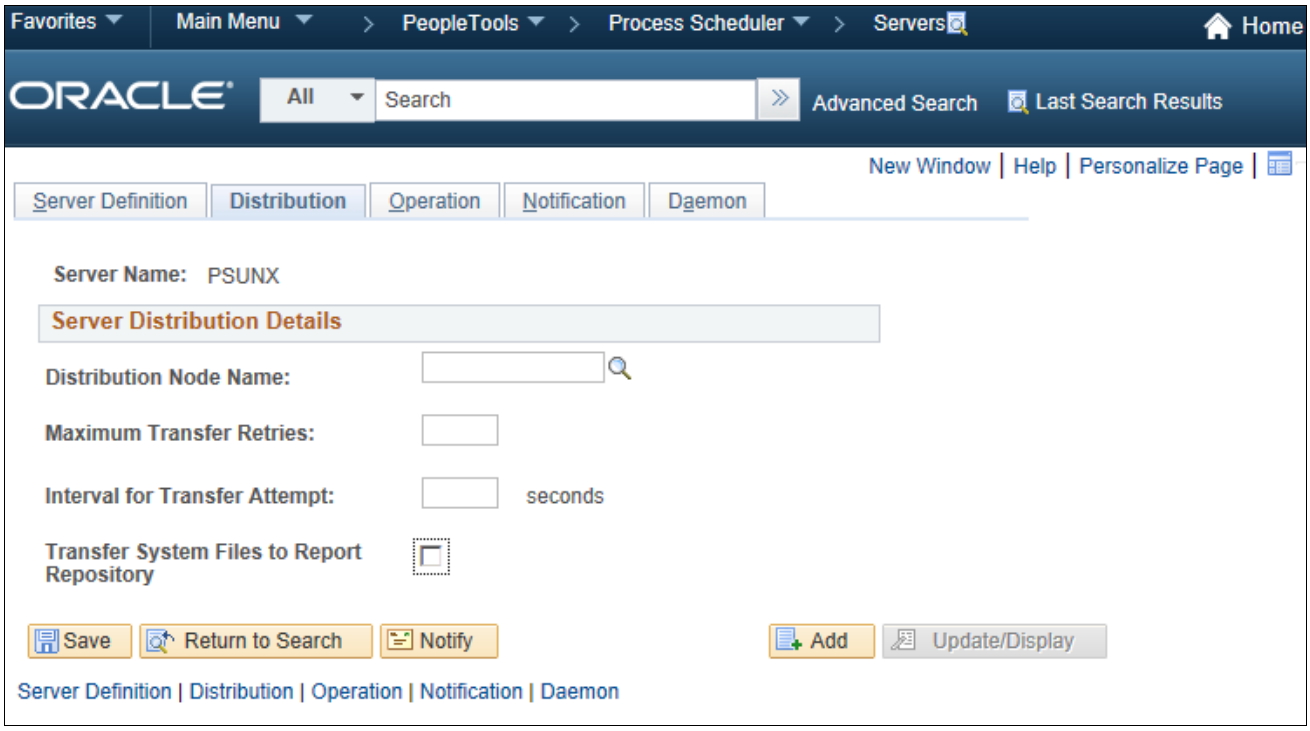
9. Select Save to save your entries.
10. Click Validate to confirm that your entries are correct.

    The validation confirms that the necessary parameters are present and correct, and simulates a file transfer with the entered information. You either see a message that confirms the success of the validation, or a message that displays an error for missing parameters or an unsuccessful transfer simulation.
11. To add additional report nodes, click Add to return to the Search page.

Task 16B-2-5: Setting Up the Distribution for Your Process Scheduler Server

To set up the Distribution Settings for your Process Scheduler Server:

1. Select PeopleTools, Process Scheduler, Servers.
2. Enter the Server Name (such as PSUNX). The Server Definition page appears.
3. Select the Distribution tab.



Server Definition page for PSUNX: Distribution tab

4. Click the lookup button for Distribution Node Name to display the report node names and select the name of the required report node.
5. Enter a number for the Maximum Transfer Retries. This is the maximum number of times the server can try to send a report before it errors out.
6. Enter the number of seconds for the Interval for Transfer Attempt field. This is the interval between attempts to send the report.

7. Select the check box Transfer Log Files to Report Repository if you want to transfer all log and trace files from processes that do not generate reports.
8. Click Save to save your entries.
9. If Process Scheduler is running, you must reboot for any new settings to take effect.

To view reports (log files or system files) from Report Repository, you need to pass the authentication. Report Repository should be treated as a separate PeopleSoft application. To navigate from PIA to Report Repository, you need to set up single signon in order to avoid getting a prompt for a second signon.

Task 16B-2-6: Setting Up Sending and Receiving of Report Folders in the Report Manager

To be able to view reports in the Report Manager Explorer and List pages, you need to set up the sending and receiving of report folders in the Report Manager by activating the domain on which a sending and receiving server resides. Consult the documentation covering the PeopleSoft Integration Broker to learn how to activate the sending and receiving server domain.

See *PeopleTools: Integration Broker.*

See *PeopleTools: Integration Broker Service Operations Monitor.*

Task 16B-3: Setting Up Process Scheduler Server Agent

This section discusses:

- Understanding Process Scheduler Server Agent
- Changing the Default Operating System
- Setting Up Your Environment
- Creating and Configuring a Process Scheduler Server
- Reconfiguring a Process Scheduler Server
- Verifying the Process Scheduler Server Status

Understanding Process Scheduler Server Agent

For installation purposes, you can use predefined server names and other definitions. The predefined name that you might use is as follows:

Server Name	Operating System
PSUNX	UNIX

To test this, use processes already defined in your PeopleSoft database. To set up a new server definition in your PeopleSoft database, refer to the *PeopleTools: Process Scheduler* product documentation.

Note. When creating multiple Process Scheduler Servers for the same database, each server must have a unique server name. For example, two Process Scheduler Servers, both named PSNT, cannot run against the same database.

Task 16B-3-1: Changing the Default Operating System

By default, Process Scheduler is set up to run a process request from a Process Scheduler Server Agent started in a Microsoft Windows server when the value of the *ServerName* field in the Process Request Dialog page is left blank. If you plan to run all processes other than Microsoft Windows-based programs (such as nVision) from UNIX, you must change the default operating system.

Note. If you do not change the default operating system from Windows to UNIX and you do not plan to set up a Process Scheduler Server Agent in Microsoft Windows, process requests that are created will be directed to a Microsoft Windows-based operating system and will remain in the "Queued" status.

To change the default operating system for process requests that were not assigned a Process Scheduler Server Name:

1. Select PeopleTools, Process Scheduler, System Settings.
2. Under *Primary Operating System*, choose *UNIX* from the drop-down list.
3. Click on the *System Purge Options* tab. Enter the date for the next purge of process requests in the *Next Purge Date* field.
4. Enter the time for the next purge of process requests in the *Next Purge Time* field. The default time is 12:00:00AM.
5. Enter a *Recurrence* if you want to set a regular purging basis.
6. Choose *Save*.

Task 16B-3-2: Setting Up Your Environment

Telnet to your UNIX system. Log in and ensure the following environment variables are set appropriately:

Note. The environment variables for Tuxedo must be set explicitly; they are not set by running psconfig.sh. These can be also set using the .profile file in the user's home directory.

- $TUXDIR must be set to the correct Oracle Tuxedo installation directory; for example:

  ```
  TUXDIR=/home/user/Oracle/tuxedo12cR1; export TUXDIR
  ```

- $TUXDIR/lib must be prepended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform; for example:

  ```
  LD_LIBRARY_PATH=$TUXDIR/lib:$LD_LIBRARY_PATH; export  LD_LIBRARY_PATH
  ```

- $TUXDIR/bin must be prepended to PATH; for example:

  ```
  PATH=$TUXDIR/bin:$PATH; export PATH
  ```

Alternatively, make sure the following environment variables are set in the profile file in the user's home directory:

If your application does not contain COBOL programs, you do not need to set the $COBDIR environment variables.

See "Preparing for Installation," Installing Supporting Applications.

- $ORACLE_HOME must point to the correct Oracle installation; for example:

  ```
  ORACLE_HOME=/products/oracle/11.2.0;export ORACLE_HOME
  ```

- $ORACLE_HOME/bin must be added to PATH; for example:

```
PATH=$PATH:$ORACLE_HOME/bin;export PATH
```

- $ORACLE_HOME/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform.
- $ORACLE_SID must be set to the correct Oracle instance; for example:

  ```
  ORACLE_SID=hdmo;export ORACLE_SID
  ```

- $COBDIR must be set to the Micro Focus Server Express installation; for example:

  ```
  COBDIR=/cobol/prod/svrexp-5.1_wp6;export COBDIR
  ```

- $COBDIR/lib must be appended to LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH, whichever is appropriate for your platform.

  ```
  LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$COBDIR/lib; export LD_LIBRARY_PATH
  LIBPATH=$LIBPATH:$COBDIR/lib; export LIBPATH
  SHLIB_PATH=$SHLIB_PATH:$COBDIR/lib; export SHLIB_PATH
  ```

- $COBDIR/bin must be appended to the PATH; for example:

  ```
  PATH=$PATH:$COBDIR/bin;export PATH
  ```

To set the required PeopleSoft environment variables, run psconfig.sh. Go to the *PS_HOME* directory and enter the following command:

```
. ./psconfig.sh
```

Note. After running psconfig.sh, you can invoke the PSADMIN utility from any location.

Task 16B-3-3: Creating and Configuring a Process Scheduler Server

This section describes how to create and configure a Process Scheduler server.

You can set Process Scheduler configuration parameters either by using PSADMIN, which provides an interactive dialog, or by editing the configuration file psprcs.cfg located in the *PS_CFG_HOME*/appserv/prcs/*database name* directory. The following steps assume you are using PSADMIN to specify parameter settings.

Note. If you use the configuration file psprcs.cfg, be aware that in the PeopleSoft PeopleTools 8.49 release and later, the section [Output Dest Exceptions] has been modified to trap metastring exceptions not only in the output destination but in other process parameters as well. In this section the entry `OUTDEST_EXCEPT01=%ANYMETASTRING%` has been changed to `PARAMETER_EXCEPT01=%ANYMETASTRING%`.

To create and configure a Process Scheduler Server:

1. Run the `psadmin` command.

   You see the PeopleSoft Server Administration menu, as in this example:

   ```
   ------------------------------------------
   PeopleSoft Server Administration
   ---------------------------------
   PS_CONFIG_HOME       /home/JSMITH/psft/pt/8.56
   PS_HOME              /home/PT856
   PS_APP_HOME          /home/HC9.2

   1) Application Server
   ```

```
2) Process Scheduler
3) Search Server
4) Web (PIA) Server
5) Switch Config Home
6) Replicate Config Home
7) Refresh Config Home
q) Quit

Command to execute (1-7 q):
```

2. Depending on your environment, you may see a message after the menu selection, which indicates that PSADMIN has modified the *PS_CFG_HOME/*peopletools.properties file with the current *PS_HOME* location:

```
************************************************************
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
************************************************************
```

   This indicates that one of these situations exists:

   - The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
   - You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.
3. Select *2* to access the Process Scheduler submenus.
4. Select *2* for Create a domain from the PeopleSoft Process Scheduler Administration menu.

```
-------------------------------------------
PeopleSoft Process Scheduler Administration
-------------------------------------------
1) Administer a domain
2) Create a domain
3) Delete a domain
4) Import domain configuration

q) Quit

Command to execute (1-4, q) : 2
```

5. Enter the name of the domain at the following prompt, such as HRDMO in this example, and press ENTER:

```
Please enter name of domain to create : HRDMO
```

6. After the system creates the domain, the Quick-configure menu appears:

```
------------------------------------------------------------
Quick-configure menu -- domain: HRDMO
------------------------------------------------------------
      Features                      Settings
     ==========                    ==========
```

```
  1) App Engine        : Yes     9) DBNAME     :[HRDMO]
  2) Master Scheduler  : Yes    10) DBTYPE     :[ORACLE]
  3) Perf Collator     : No     11) PrcsServer :[PSUNX]
  4) Domains Gateway   : No     12) UserId     :[QEDMO]
  5) Push Notifications: No     13) UserPswd   :[]
                                14) ConnectID  :[people]
                                15) ConnectPswd:[]
                                16) Log/Output Dir:[%PS_SERVDIR%/log_⇒
output]
                                17) SQRBIN     :[%PS_HOME%/bin/sqr/ORA⇒
/bin]
                                18) AddToPATH  :[%PS_HOME%/cblbin]
                                19) DomainConnectPswd: []

     Actions
    =========
  6) Load config as shown
  7) Custom configuration
  8) Edit environment settings
  h) Help for this menu
  q) Return to previous menu

HINT: Enter 9 to edit DBNAME, then 6 to load

Enter selection (1-18, h, or q):
```

7. If you need to modify any of these settings, enter the number next to the parameter name, type the new value, and press ENTER. This table lists the parameters and gives brief descriptions.

Parameter	Description
Master Scheduler	Select this option to enable the Master Scheduler Server (PSMSTPRC). The default is to enable the server. See *PeopleTools: Process Scheduler.*
App Engine	Select this option to initiate Application Engine programs through the AE Tuxedo Server (PSAESRV). The default is set to run AE using PSAESRV. See *PeopleTools: Process Scheduler.*
Perf Collator	Select this option to enable the PSPPMSRV server process. See *PeopleTools: Performance Monitor,* "Enabling the Required Elements on the Monitoring System."
Domain Gateways	Select this option to enables inter domain communication, for example between Application Server and Process Scheduler domains. See *PeopleTools: Fluid User Interface Developer's Guide,* "Setting Up Push Notification Configurations."
Push Notifications	Select this option to enables pushing server events from PeopleSoft PeopleTools server runtime, such as Application Server and Process Scheduler, to browser clients and other PeopleSoft PeopleTools server runtime components. See *PeopleTools: Fluid User Interface Developer's Guide,* "Setting Up Push Notification Configurations."
Load config as shown	Load the selections you made in the Quick Configure menu.
Custom configuration	Make custom selections in PSADMIN, using options that are not available in the Quick Configure menu.
Edit environment settings	Edit, add, remove, comment out, and review domain-level environment variables.
DBNAME	Specify the database name that is associated with a PeopleSoft Process Scheduler Server Agent, such as HRDMO, FSDMO, SADMO, and so on.
DBTYPE	Specify the database type: ORACLE.
PrcsServer	Specify the process server name. This must match the name defined in the Server Definition table, such as *PSNT* or *PSUNX*.

Parameter	Description
UserId	Enter the user ID, such as VP1 or PS.
UserPswd	Enter the password for the user ID, as you specified during the database configuration. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
ConnectID	Enter the connect ID. This value is required.
ConnectPswd	Enter the connect password, as you specified during the database configuration. This value is required. The password is hidden by masking characters as you type, in the Quick-configure menu after entry.
Log/Output Dir	Specify the directory in which files that are generated by the program are written. When PeopleSoft Process Scheduler initiates a process request, it creates a subdirectory in the format <Process Type ID>_<Program Name>_<Process Instance> that contains the generated files. For instance, the SQR program XRFWIN that ran with process instance 20 has all reports, trace, and log files in the subdirectory SQR_XRFWIN_20. It is also the optional directory used with the Output Destination field when scheduling a request. This variable (%%OutputDirectory%%) can be used in the File/Printer field of the Process Scheduler Request dialog box.
SQRBIN	Enter the path to the SQR executables.
AddToPATH	(Optional for Tuxedo) Specify an additional directory that is appended to the PATH environment variable.
DomainConnectPswd	If you configured your Application Server domain to require a Domain Connection password, enter it here. Otherwise, leave it blank. The password is hidden by masking characters as you type, and in the Quick-configure menu after entry. See the information on setting Application Server Domain Parameters in the *PeopleTools: System and Server Administration* product documentation.

For descriptions of the PSADMIN options that do not appear in the Quick-configure menu, see the information on using PSADMIN in the *PeopleTools: Process Scheduler* product documentation. For a basic installation, in most cases you can accept the defaults.

8. When you have updated the settings as needed, choose *5, Load config as shown,* from the Quick-Configure menu to save your settings to the Process Scheduler configuration file, pstuxcfg.
9. To start Process Scheduler, choose *1,* for Administer Domain.
10. On the PeopleSoft Process Scheduler Administration menu, choose *1* for Boot this domain.

```
---------------------------------
PeopleSoft Process Scheduler Administration
---------------------------------

Domain Name: HRDMO

1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit

Command to execute (1-7, q) :
```

11. Choose *1*, Boot (Serial Boot), or *2*, Parallel Boot, from the PeopleSoft Domain Boot Menu.

Note. The messages you see and the number of processes started will depend on the options you chose during configuration.

12. If you want to stop Process Scheduler Server, from the PeopleSoft Domain Administration menu, choose *2*, for Domain Shutdown menu, and then enter the number corresponding to the name of the appropriate database.

Note. If you see the following message, then the server is already down:

```
Command to execute (1-2, q) [q]: 1 Loading command line administration
utility ... tmadmin - Copyright (c) 2007-2008, Oracle. Portions *
Copyright 1986-1997 RSA Data Security, Inc. All Rights Reserved.
Distributed under license by Oracle. Tuxedo is a registered trademark. No
bulletin board exists. Entering boot mode. > TMADMIN_CAT:111: ERROR: No
such command.
```

Task 16B-3-4: Reconfiguring a Process Scheduler Server

If you create and then immediately configure a Process Scheduler server, you can use the Quick-configure menu. Alternatively, you can use PSADMIN as described in this section. Feel free to skip this procedure if you have already created and configured your Process Scheduler Server using the Quick-configure menu and want to move forward with your installation.

Note. If you want to configure the Process Scheduler Server while it is running, you need to stop and restart the server to load the new settings.

To reconfigure a Process Scheduler Server:

1. Run the command:

   ```
   psadmin
   ```

2. Depending on your environment, you may see a message after the initial menu, which indicates that PSADMIN has modified the *PS_CFG_HOME/*peopletools.properties file with the current *PS_HOME* location:

```
************************************************************
PS_CFG_HOME/peopletools.properties file has been updated.
You should use the Config Home Refresh feature in PSAdmin
to ensure that all of your domains are current.
Alternatively, you may recreate all of your domains.
Please press any key to continue...
************************************************************
```

This indicates that one of these situations exists:

- The *PS_CFG_HOME* that you are working with was used previously from a different *PS_HOME*. In this case, you should recreate any existing Application Server, Process Scheduler, Search, or PIA domains in this *PS_CFG_HOME*.
- You configured your environment such that *PS_CFG_HOME* is the same as *PS_HOME*. The first time you use PSADMIN to create a domain, it updates the *PS_CFG_HOME/*peopletools.properties file. Continue with the next step.

3. Select *2* for Process Scheduler in the PeopleSoft Server Administration menu.
4. In the PeopleSoft Process Scheduler Administration menu, select *1* for Administer a domain.
5. Select the database for which the Process Scheduler needs to be configured.
6. You see the following prompt:

   ```
   Do you want to change any config values (y/n)? [n]:
   ```

   Specify *y* to start an interactive dialog that lets you examine or change parameter values.
7. Specify the configuration parameters one by one.

   Configuration parameters are grouped into sections. At each section, you are asked whether to change any parameters—for example:

   ```
   Values for config section - Startup
     DBName=
     DBType=
     UserId=
     UserPswd=
     ConnectId=
     ConnectPswd=
     ServerName=
     StandbyDBName=
     StandbyDBType=
     StandbyUserId=
     StandbyUserPswd=
     InMemoryDBName=
     InMemoryDBType=
   Do you want to change any values (y/n)? [n]:
   ```

   - Specify *y* to change any parameter values for the current section. You are prompted for each parameter value. Either specify a new value or press ENTER to accept the default. After you press ENTER, you are positioned at the next parameter in that section. When you are done with that section, you are again asked whether you want to re-edit any of the values you changed.
   - The parameters StandbyDBName, StandbyDBType, StandbyUserID, and StandbyUserPswd are used for a standby database in an Oracle database environment.

     See the information on implementing Oracle Active Data Guard in the *PeopleTools: Data Management*, product documentation.

- The parameters InMemoryDBName and InMemoryDBType are reserved for internal use.
- If you do not want to change any values, specify *n* and you are prompted for the next configuration section.

8. After you have selected all your parameters, you see this message:

```
You will need to shut down and start up the server to read the new⇒
 settings.
```

For descriptions of the Process Scheduler options in the PSADMIN, see the *PeopleTools: Process Scheduler* product documentation. In most cases you can accept the defaults.

Task 16B-3-5: Verifying the Process Scheduler Server Status

At this stage it is a good idea to verify the Process Scheduler Server status.

To verify the Process Scheduler Server status:

1. From the PeopleSoft Process Scheduler Administration menu, choose option *3*, for Domain status menu.

```
--------------------------------
PeopleSoft Process Scheduler Administration
--------------------------------

Domain Name: HRDMO

1) Boot this domain
2) Domain shutdown menu
3) Domain status menu
4) Configure this domain
5) TUXEDO command line (tmadmin)
6) Edit configuration/log files menu
7) Clean IPC resources of this domain
q) Quit

Command to execute (1-7, q) : 3
```

2. To verify the status of the Process Scheduler Server for a specific database, type the number corresponding to the appropriate database.

   For example:

```
Database list:

  1)  HRDMO

Select item number to start: 1

Loading command line administration utility ...
tmadmin - Copyright (c) 2007-2008 Oracle.
Portions * Copyright 1986-1997 RSA Data Security, Inc.
All Rights Reserved.
Distributed under license by Oracle.
Tuxedo is a registered trademark.

> Prog Name      Queue Name  Grp Name      ID RqDone Load Done Current⇒
```

```
 Service
---------      ----------  --------      -- ------ --------- -----------⇒
----
DDL            46845       pt-ibm20       0      9       450 (  IDLE )
PSMONITORSRV   MONITOR     MONITOR        1      0         0 (  IDLE )
PSAESRV        00101.00001 AESRV          1      0         0 (  IDLE )
PSAESRV        00101.00002 AESRV          2      0         0 (  IDLE )
PSAESRV        00101.00003 AESRV          3      0         0 (  IDLE )
PSPRCSRV       SCHEDQ      BASE         101      0         0 (  IDLE )
PSMSTPRC       MSTRSCHQ    BASE         102      0         0 (  IDLE )
PSDSTSRV       DSTQ        BASE         103      0         0 (  IDLE )
>
```

Note. You can also do this using the following command line argument:

```
psadmin -p status -d <DBNAME>
```

Note. You can also verify the status of the Process Scheduler Server from Process Monitor in PeopleSoft Pure Internet Architecture. To verify the Process Scheduler Server status from the Process Monitor page, go to PeopleTools, Process Scheduler, Process Monitor, and select *Server List.*

Chapter 17

Installing PeopleSoft Change Assistant

This chapter discusses:

- Understanding PeopleSoft Change Assistant
- Installing PeopleSoft Change Assistant in Silent Mode
- Configuring and Using PeopleSoft Change Assistant
- Validating Change Assistant Settings

Understanding PeopleSoft Change Assistant

Oracle's PeopleSoft Change Assistant is a standalone tool, provided with PeopleSoft PeopleTools, that enables you to assemble and organize the steps necessary to apply patches and fixes for maintenance updates as well as perform PeopleSoft upgrades. You use different modes of PeopleSoft Change Assistant to carry out maintenance both for PeopleSoft applications using the PeopleSoft Update Manager, and those using the classic patching method. PeopleSoft Change Assistant is a Java-based tool that runs only on Microsoft Windows-based operating systems.

For the current PeopleSoft PeopleTools release, the PeopleSoft Change Assistant installation includes the following features:

- You can install multiple instances of PeopleSoft Change Assistant from the current release on one physical machine.

  Note. Beginning with PeopleSoft PeopleTools 8.56, multiple instances of Change Assistant can run in parallel. However, you can not run multiple instances against the same target database.

  See *PeopleTools: Change Assistant and Update Manager,* "Running Multiple Instances of Change Assistant."

- You must remove installations of PeopleSoft Change Assistant from PeopleSoft PeopleTools 8.55 or earlier before installing from the current release. PeopleSoft Change Assistant from PeopleSoft PeopleTools 8.56 cannot co-exist with that from earlier releases.
- You must install each PeopleSoft Change Assistant instance in a separate installation location.
- You can remove or upgrade each PeopleSoft Change Assistant instance separately.
- When you remove an installation instance, you have the option to save the existing configuration information in a group of files gathered in a zip archive. You can configure Change Assistant at a later time by importing the zip file.

For more information on using PeopleSoft Change Assistant for updates and for software upgrades, see the PeopleSoft product documentation.

See Also

PeopleTools: Change Assistant and Update Manager

PeopleTools: Application Designer Lifecycle Management Guide

"Using the PeopleSoft Installer," Verifying Necessary Files for Installation on Windows

Task 17-1: Installing PeopleSoft Change Assistant in Silent Mode

This section discusses:

- Understanding Silent Mode for PeopleSoft Change Assistant
- Using the Silent Mode Script

Understanding Silent Mode for PeopleSoft Change Assistant

You can carry out a silent installation of PeopleSoft Change Assistant by supplying command-line parameters to a script. With silent installation there is no user interaction after you begin the installation.

You can use install and upgrade PeopleSoft Change Assistant instances in silent mode for the current PeopleSoft PeopleTools release. In addition, you can use silent mode to remove installations from the current or earlier PeopleSoft PeopleTools releases. For example, running the silent mode installation from PeopleSoft PeopleTools 8.56 will remove a Change Assistant installation from PeopleSoft PeopleTools 8.54 or earlier, and also install the 8.56 version of Change Assistant.

The PeopleSoft Change Assistant installer includes the following files in the directory *PS_HOME*\setup\PsCA:

- silentInstall.bat — Use this script to upgrade or remove an existing PeopleSoft Change Assistant instance or install a new instance.

  Do not edit this file. The file includes instructions in the header portion.

  See Using the Silent Mode Script.
- CA-silentInstall-ResultCodes.rtf — Review this file to interpret the results seen in the *PS_HOME*\setup\psCA\setup.log file after installation.

  The file is in Rich Text Format (RTF), and is most easily read if you open it with word processing software such as Microsoft Word.

Task 17-1-1: Using the Silent Mode Script

The PeopleSoft Change Assistant silent mode script requires the following command-line parameters:

- Install Home

  Specify the installation location for the PeopleSoft Change Assistant instance. If the location includes spaces, surround it with double quotes, such as "C:\Program Files\PeopleSoft\Change Assistant".

  As mentioned earlier in this chapter, for PeopleSoft PeopleTools 8.56 you can install multiple instances of PeopleSoft Change Assistant. You must specify a different installation location for each instance.
- Install Type
  - Specify *NEW* to create a new PeopleSoft Change Assistant instance.
  - Specify *UPGRADE* to upgrade an existing instance that was installed from the current PeopleSoft

PeopleTools release.

  - Specify *UNINSTALL* to remove an existing PeopleSoft Change Assistant instance.
- Backup Config
  - Specify *BACKUP* to create a zip file containing files with configuration information. The backup file, changeassistantcfgbak.zip, is saved in the installation location.
  - Specify *NOBACKUP* if you do not want to create a backup file with the configuration information.

To use the PeopleSoft Change Assistant silent installation script:

1. In a command prompt, go to *PS_HOME*\setup\PsCA.

   Note. Do not move the file to another location.

2. Run the following command:

   ```
   silentInstall.bat [Install Home] [Install Type] [Backup Config]
   ```

   You must include all three parameters. For example:

   - To install a new instance without retaining a configuration file

     ```
     silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant" NEW⇒
      NOBACKUP
     ```

   - To upgrade an existing instance, and retain a configuration file:

     ```
     silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant 3"⇒
      UPGRADE BACKUP
     ```

   - To remove an existing instance, and retain a configuration file:

     ```
     silentInstall.bat D:\CA UNINSTALL BACKUP
     ```

Task 17-2: Configuring and Using PeopleSoft Change Assistant

This section discusses:

- Verifying the Path Variable
- Specifying Options
- Scanning the Workstation
- Exporting Jobs to XML, HTML, or Microsoft Excel Format

Task 17-2-1: Verifying the Path Variable

After installing PeopleSoft Change Assistant, verify that the following values are the first entries in the PATH environment variable:

- *PS_HOME*\bin\client\winx86
- *PS_HOME*\jre\bin

See *PeopleTools: Change Assistant and Update Manager,* "Setting Up Change Assistant."

Task 17-2-2: Specifying Options

You can configure PeopleSoft Change Assistant modes to carry out updates, upgrades, work with upgrade templates, or access PeopleSoft Update Manager. The mode selection determines which menu options you see when you use PeopleSoft Change Assistant.

See Also

PeopleTools: Change Assistant and Update Manager

PeopleSoft Update Manager Home Page, My Oracle Support, Doc ID 1641843.2

Task 17-2-3: Scanning the Workstation

The first time you use PeopleSoft Change Assistant, it automatically scans your workstation for applications that it will use in order to automate the steps. For example, it automatically finds the SQL Query tool and uses it to run SQL commands or scripts.

If you add a new application or update an existing application, PeopleSoft Change Assistant must perform a scan of the system in order to discover the changes. To perform this scan, select Tools, Scan Configuration.

Task 17-2-4: Exporting Jobs to XML, HTML, or Microsoft Excel Format

Change Assistant allows users to export jobs to XML, HTML, or Microsoft Excel file formats. Do this by selecting File, Export Job in Change Assistant. Then, enter the desired exported filename and select the desired file type format.

Task 17-3: Validating Change Assistant Settings

After you have set up and configured PeopleSoft Change Assistant and the Environment Management components, you should validate your PeopleSoft Change Assistant and environment settings.

PeopleSoft Change Assistant validates settings by:

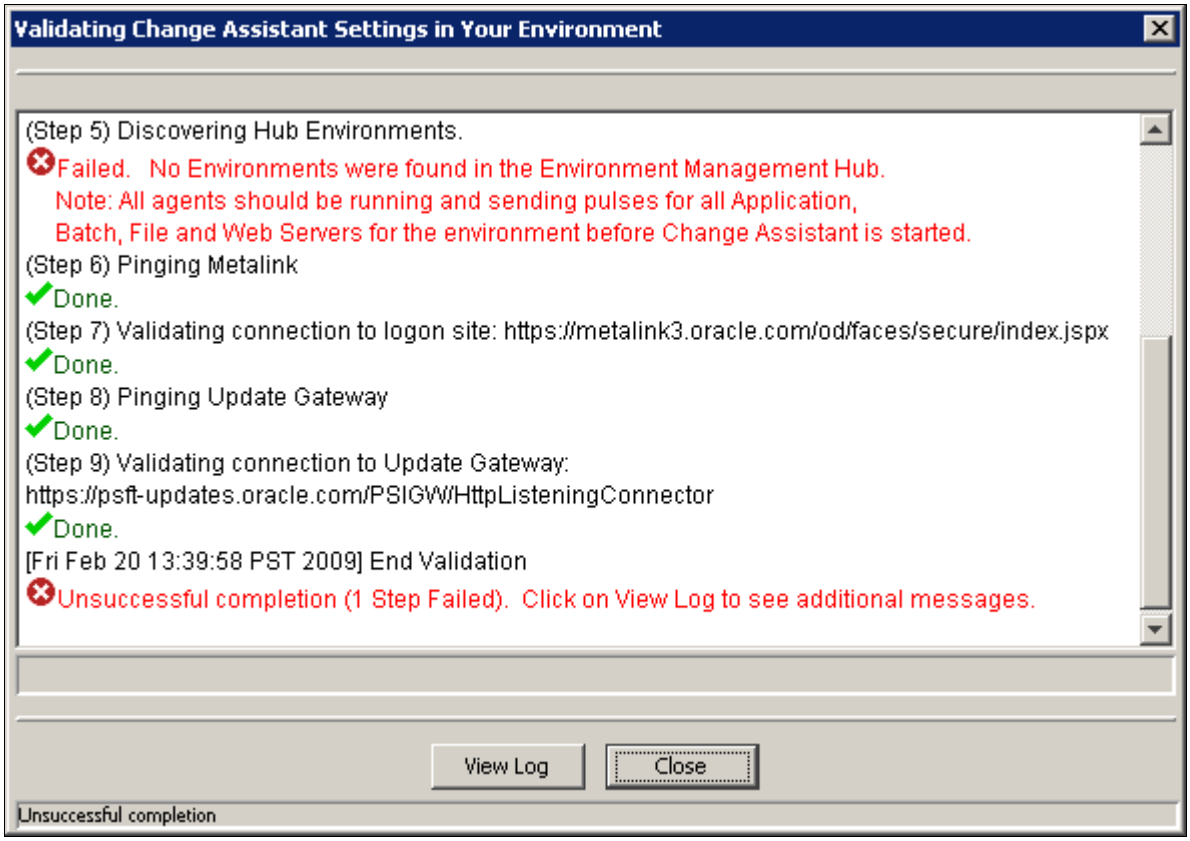
- Locating valid SQL query tools required to run SQL scripts.
- Testing the Environment Management hub and ensuring that PeopleSoft Change Assistant can communicate with it.
- Testing My Oracle Support and ensuring that PeopleSoft Change Assistant can communicate with it.

  PeopleSoft Change Assistant sends a ping to My Oracle Support and then tests the connection. In order for the validation to succeed, the machine where you have PeopleSoft Change Assistant installed must have the ping feature enabled.

You can also print a summary of your environment, which can facilitate the diagnosis of problems by OracleSoftware Support.

To validate your environment, select Tools, Options, Validate. Click Start Validation.

If any of the steps were unable to complete successfully, open the log file to determine the cause. This example shows a summary with both successful messages ("Done") and unsuccessful ("Failed" or "Unsuccessful completion"):



Validating Change Assistant Settings in Your Environment

Note. If you use proxy servers, the system will ping those and prompt for proxy server user ID and password. In this case, the validation step numbers would be different from the example.

To review the log file, click the View Log button at the bottom of the screen. This example shows the first several lines of a log file:

validate_2009_2_20_13_39.log - Notepad

File Edit Format View Help

```
[Fri Feb 20 13:39:46 PST 2009] Begin Validation
output written to: C:\Program Files\PeopleSoft\Change
Assistant\validate\validate_2009_2_20_13_39.log
(Step 1) Creating a Summary of Your Environment
PS_HOME: C:\pt850\
Output Directory: C:\pt850_Output\
Staging Directory: C:\pt850_Staging\
Path: C:\Program Files\PeopleSoft\Change
Assistant\jre\bin;.;C:\WINDOWS\Sun\Java\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\pt850
\bin\client\winx86;C:\oracle\product\10.2.0\db_1
\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C:\apps\db\oracle102\bin;C:\Program
Files\Microsoft SQL Server\80\Tools\BINN;C:\bea\tuxedo9.1_VS2005_v2\bin
CLASSPATH: C:\Program Files\PeopleSoft\Change Assistant\changeassistant.jar;C:\Program
Files\PeopleSoft\Change Assistant\mx4j-jmx.jar;C:\Program Files\PeopleSoft\Change
Assistant\xercesImpl.jar;C:\Program Files\PeopleSoft\Change Assistant\xml-apis.jar;C:\Program
Files\PeopleSoft\Change Assistant\xalan_2_7_0.jar;C:\Program Files\PeopleSoft\Change
Assistant\serializer.jar;C:\Program Files\PeopleSoft\Change Assistant\commons-logging-
1.0.1.jar;C:\Program Files\PeopleSoft\Change Assistant\commons-httpclient-2.0-rc1.jar;C:\Program
Files\PeopleSoft\Change Assistant\commons-codec-1.1.jar;C:\Program Files\PeopleSoft\Change
Assistant\xmldb-api-20021118.jar;C:\Program Files\PeopleSoft\Change Assistant\xmldb-
common.jar;C:\Program Files\PeopleSoft\Change Assistant\xmldb-xupdate-20040205.jar;C:\Program
Files\PeopleSoft\Change Assistant\xindice-1.1b5-dev.jar;C:\Program Files\PeopleSoft\Change
Assistant\psemf.jar;C:\Program Files\PeopleSoft\Change Assistant\AbsoluteLayout.jar;C:\Program
Files\PeopleSoft\Change Assistant\log4j-1.2.8.jar;C:\Program Files\PeopleSoft\Change
Assistant\jxl.jar;C:\Program Files\PeopleSoft\Change Assistant\j2ee.jar
Current Working Directory: C:\Program Files\PeopleSoft\Change Assistant
Done.
(Step 2) Validating your SQL Query Tools
Found Microsoft SQL Query Tool at c:\Program Files\Microsoft SQL Server\80\Tools\Binn\OSQL.exe
Found Oracle SQL Query Tool at c:\Apps\db\oracle102\bin\sqlplus.exe
Done.  2 SQL Query Tools found.
(Step 3) Pinging Environment Management Hub
Pinging SERVER-11
Done.
(Step 4) Connecting to Hub: http:/SERVER-11:80/PSEMBUG/hub
Done.
(Step 5) Discovering Hub Environments.
Failed.   No Environments were found in the Environment Management Hub.
```

Validation log

Chapter 18

Installing PeopleSoft Change Impact Analyzer

This chapter discusses:

- Prerequisites
- Installing and Removing PeopleSoft Change Impact Analyzer in Silent Mode

Prerequisites

Oracle's PeopleSoft Change Impact Analyzer is a tool you can use to evaluate the effect of changes you make on your installation. PeopleSoft Change Impact Analyzer can help you monitor the impact a Change Package has on your system, as well as monitor the impact from other changes such as customizations.

Ensure that your system meets the following requirements before you begin this installation:

- PeopleSoft Change Impact Analyzer runs on Microsoft Windows platforms. For database platforms that do not run on Microsoft Windows, install PeopleSoft Change Impact Analyzer on the Windows client.
- You can install PeopleSoft Change Impact Analyzer from downloaded files as a standalone application, or as a part of your PeopleSoft PeopleTools installation. These instructions assume you have installed PeopleSoft PeopleTools on the machine on which you want to run PeopleSoft Change Impact Analyzer, and have completed the PeopleSoft Change Assistant installation.
- PeopleSoft Change Impact Analyzer uses Type 4 JDBC drivers by default. These drivers are automatically installed for you.

See Also

PeopleTools: Change Impact Analyzer

Task 18-1: Installing and Removing PeopleSoft Change Impact Analyzer in Silent Mode

This section discusses:

- Understanding Silent Mode for PeopleSoft Change Impact Analyzer
- Installing PeopleSoft Change Impact Analyzer in Silent Mode
- Removing the PeopleSoft Change Impact Analyzer Installation in Silent Mode
- Removing and Installing PeopleSoft Change Impact Analyzer in Silent Mode

Understanding Silent Mode for PeopleSoft Change Impact Analyzer

You can carry out a silent installation or removal of PeopleSoft Change Impact Analyzer by editing a response file to correspond to your installation requirement. When you work in silent mode there is no user interaction after you begin the installation or removal.

The PeopleSoft Change Impact Analyzer installer includes the following files in the directory *PS_HOME*\setup\PsCIA:

- CIA-silent-install-response-file.txt — Use this response file to install PeopleSoft Change Impact Analyzer.
- CIA-silent-uninstall-response-file.txt — Use this response file to remove PeopleSoft Change Impact Analyzer installations.
- silentInstall.bat — Use this script to remove an existing PeopleSoft Change Impact Analyzer installation, and install a new instance.
- silentInstall-ResultCodes.rtf — Review this file to interpret the results seen in the setup.log file after installation.

  The file is in Rich Text Format (RTF), and is most easily read if you open it with an authoring tool, such as Microsoft Word.

Task 18-1-1: Installing PeopleSoft Change Impact Analyzer in Silent Mode

This section discusses:

- Editing the Response File
- Running the Silent Mode Installation

Editing the Response File

Review the header portion at the top of the response file for instructions on running the silent installation. Modify the response file according to your installation requirement. The sections labelled NOTE TO USER include items to be modified.

Open the file *PS_HOME*\setup\PsCIA\CIA-silent-install-response-file.txt for editing, modify the following items, and then save the file:

- JDBC driver type

  Enter 1 to specify your RDBMS platform, and 0 for the other selections. The options are: Oracle (default), MSS (Microsoft SQL Server), or DB2 (DB2 z/OS or DB2/LUW).

  ```
  ################# NOTE TO USER ##############################
  # the following option is for DB type for JDBC driver
  # the default is Sel-0=1, for Oracle
  # set the Sel-1=1 for MSS
  # set the Sel-2=1 for DB2
  # NOTE: the options are mutually exclusive
  Sel-0=1
  Sel-1=0
  Sel-2=0
  ```

- Path to JDBC driver

  This information is not required for Oracle RDBMS, because the JDBC drivers are automatically installed.

```
################## NOTE TO USER ################################
# For MSS & DB2 please enter the path to JDBC driver for "szPath" below
szPath=c:\jdbcDrivers
```

- Installation location

  The default location is C:\Program Files\PeopleSoft\Change Impact Analyzer. If you want to install to a different location, enter the location for szDir.

  ```
  ################## NOTE TO USER ################################
  # For "szDir" enter the path where you want to install the Change Impact⇒
   Analyzer
  szDir=C:\Program Files\PeopleSoft\Change Impact Analyzer
  ```

Running the Silent Mode Installation

To run the silent mode installation with the modified response file:

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command, substituting your *PS_HOME* location for %PS_HOME% in the command:

   ```
   installCIA.exe /s /f1"%PS_HOME%\setup\PsCIA\CIA-silent-install-response-⇒
   file.txt"
   ```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log.

   Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Task 18-1-2: Removing the PeopleSoft Change Impact Analyzer Installation in Silent Mode

Review the header portion at the top of the response file for instructions. The process will search for and remove an existing installation of PeopleSoft Change Impact Analyzer. You do not need to edit the file before running. The file must be located in *PS_HOME*\setup\PsCIA.

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command, substituting your *PS_HOME* location for %PS_HOME% in the command

   ```
   installCIA.exe /s /f1"%PS_HOME%\setup\PsCIA\CIA-silent-uninstall-⇒
   response-file.txt"
   ```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log.

   Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Task 18-1-3: Removing and Installing PeopleSoft Change Impact Analyzer in Silent Mode

Use the silentInstall.bat script to remove an existing installation of PeopleSoft Change Impact Analyzer and install a new installation. This script runs commands using CIA-silent-uninstall-response-file.txt followed by CIA-silent-install-response-file.txt. Refer to the previous sections for information on those response files.

To remove an existing installation and reinstall:

1. In a command prompt, go to *PS_HOME*\setup\PsCIA.
2. Run the following command:

   ```
   silentInstall.bat
   ```

3. After the installation is complete, review the result status in the file *PS_HOME*\setup\PsCIA\setup.log.

   Result code 0 means a successful installation. The result codes are described in the file *PS_HOME*\setup\PsCIA\silentInstall-ResultCodes.rtf.

Chapter 19

Adding New Product Modules

Task 19-1: Adding New Modules to PeopleSoft Installations

This task explains how to add new application modules to an existing PeopleSoft installation. Follow this procedure if, for example, you already installed HCM Benefits Administration and now you need to install Pension Administration.

When you add new application modules to an existing installation, you may overwrite files that were included as part of a patch or fixes, or customizations that you applied. For example, suppose you customize a report that is updated in a subsequent PeopleSoft release. If you install the update into your current working directory, your customized report will be overwritten with the newly installed, updated report.

The PeopleSoft system does not currently provide an automated way to notify you before overwriting customized modules or patch files. You can make preparations to protect important files from being overwritten. For your customized modules, you need to maintain a backup of any customizations. It is also a good idea to make a copy of your *PS_HOME* directory before beginning this process, so that you can find and restore necessary patch files. Check My Oracle Support to identify any patches or fixes required for your installation.

See My Oracle Support, Patches & Updates.

To add new module(s) to PeopleSoft installations:

1. Back up the database, file server, application server, Process Scheduler Server, and web server components of your current system.
2. Install the PeopleSoft Application software on the file server.
3. Launch Data Mover in bootstrap mode by logging on with the access ID and password.

   Data Mover is located in *PS_HOME*\bin\client\winx86\psdmt.exe.

   See Checking the Log Files and Troubleshooting, Running Data Mover, in the chapters on creating a database.
4. Select File, Database Setup and choose your database type in the resulting dialog.
5. Select Next and select add new product.
6. Select Finish and a Data Mover script will be generated in Data Mover.
7. Select File, Run script and your database updates are complete.
8. Install software to your batch server.

   See the chapters on setting up Process Scheduler in this documentation.
9. Reapply all code customizations if needed.

   Note. Remember to maintain backup copies of your customizations.

10. Compile and link COBOL.

    See the chapters on installing and compiling COBOL in this documentation.

11. Verify that the appropriate Installation Records are selected.

    If they are not checked, check them and save the page. To open the page, select Set Up <*apptype*>, Install, Installation Options, where <*apptype*> is CRM, Financials/Supply Chain Management, and so on. For example, Set Up CRM, Install, Installation Options. (For HCM the navigation is Set Up HCM, Install, Installation Table.)

12. Run the dddaudit and sysaudit SQR reports.

    If you are swapping the base language, also run swpaudit.sqr.

    See "Completing the Database Setup," Checking the Database.

13. Shut down all application servers.
14. Install software to your application server.

    See the chapters on configuring the Application Server in this documentation.

15. Restart all required application servers.
16. Shut down all web servers.
17. Install software to your web server.

    See the chapters on setting up the PeopleSoft Pure Internet Architecture in this documentation.

Chapter 20

Installing PeopleSoft Online Help

This chapter discusses:

- Understanding PeopleSoft Online Help (PeopleBooks)
- Using the PeopleSoft Online Help Web Site for Context-Sensitive Help
- Configuring Context-Sensitive Help with Local Installations
- Installing PeopleSoft Online Help Locally

Understanding PeopleSoft Online Help (PeopleBooks)

The documentation for PeopleSoft PeopleTools and PeopleSoft software applications, formerly known as PeopleBooks, is now available in a dynamic, interactive, accessible HTML version, the hosted PeopleSoft Online Help Web site. The PeopleSoft Online Help documentation that is accessed with the Help link in the PeopleSoft navigation bar, and the Oracle's PeopleSoft Online Help Web site, are developed for advanced users, administrators, and implementers of the application. End users should utilize embedded help or licensed UPK content for more specific help assistance.

PeopleSoft software applications will include translated embedded help. With the PeopleSoft 9.2 release, PeopleSoft documentation aligned with the other Oracle applications by focusing on embedded help. We offer very direct translated help at crucial spots within our application through our embedded help widgets. Additionally, we have a one-to-one mapping of application and help translations. This means that the software and embedded help translation footprint are identical, something we were never able to accomplish in the past.

The PeopleSoft Online Help is delivered with PeopleSoft PeopleTools and every PeopleSoft application. You have several options for deploying PeopleSoft Online Help to benefit your organization. This chapter describes the methods for accessing, installing, and configuring PeopleSoft Online Help.

- *Hosted PeopleSoft Online Help Web site:* Use PeopleSoft Online Help over the Internet with the hosted content on the hosted PeopleSoft Online Help Web site.
- *Context-sensitive help:* Configure PeopleSoft PeopleTools to call PeopleSoft Online Help as context-sensitive help from both Internet applications and Microsoft Windows-based programs. For instance, when a user clicks the Help link in a browser or presses F1 in Windows, the appropriate documentation appears. You can set up context-sensitive help for both local installations and to access the hosted content on the PeopleSoft Online Help Web site.

  Note. The F1 button accesses PeopleSoft Online Help only for the PeopleTools Development Environment (the Windows-based client). If you press F1 while using the portal, you invoke the help for your current browser. For context-sensitive help in the portal, users need to click the Help link to call PeopleSoft Online Help.

- *PDF format*: You can download a PDF version of PeopleSoft Online Help, organized in the traditional PeopleBooks format, from the Oracle Technology Network (OTN).

- *Local installation*: Install and configure PeopleSoft Online Help so you can deploy the documentation at your site.

See Also

Oracle Documentation, Oracle Technology Network, http://www.oracle.com/technetwork/documentation/index.html

"Preparing for Installation," Planning Multilingual Strategy

PeopleTools: Applications User's Guide, "Accessing Embedded Help"

Task 20-1: Using the PeopleSoft Online Help Web Site for Context-Sensitive Help

This section discusses:

- Understanding the PeopleSoft Online Help Web Site
- Setting Up Context-Sensitive Help with the PeopleSoft Online Help Web Site
- Setting Up F1 Help with the PeopleSoft Online Help Web Site

Understanding the PeopleSoft Online Help Web Site

PeopleSoft Online Help is immediately available for use over the Internet at the PeopleSoft Online Help Web site. To configure context-sensitive help with the PeopleSoft Online Help web site, you must have an Internet connection available to your server where PeopleSoft PeopleTools is installed.

See PeopleSoft Online Help, www.peoplesoftonlinehelp.com.

Alternatively, you can install PeopleSoft Online Help to a file server hosting web server software, as described in the section Installing the PeopleSoft Online Help Locally.

Task 20-1-1: Setting Up Context-Sensitive Help with the PeopleSoft Online Help Web Site

You can configure your PeopleSoft server to use the hosted documentation from the PeopleSoft Online Help Web site for context-sensitive help. Each page in your PeopleSoft applications includes a Help icon that, when clicked, opens a new browser window displaying help topics that discuss that page. To enable the Help link from application pages:

1. Log in to your PeopleSoft application in a browser.
2. Select PeopleTools, Web Profile, Web Profile Configuration.
3. Click Search and select the Profile Name you specified during your PeopleSoft Pure Internet Architecture installation, for example, PROD.

4. On the General page in the Help URL field, enter the URL for one or more products.

   You can access the URLs from the PeopleSoft Online Help Web site. Under Setting Up Context-Sensitive Help, select the link Enabling the Help Link from the Application Pages.

   See PeopleSoft Online Help, http://docs.oracle.com/cd/E17566_01/epm91pbr0/eng/psbooks/pdfs/EnablingtheHelpLinkfromApplicationPages.pdf.

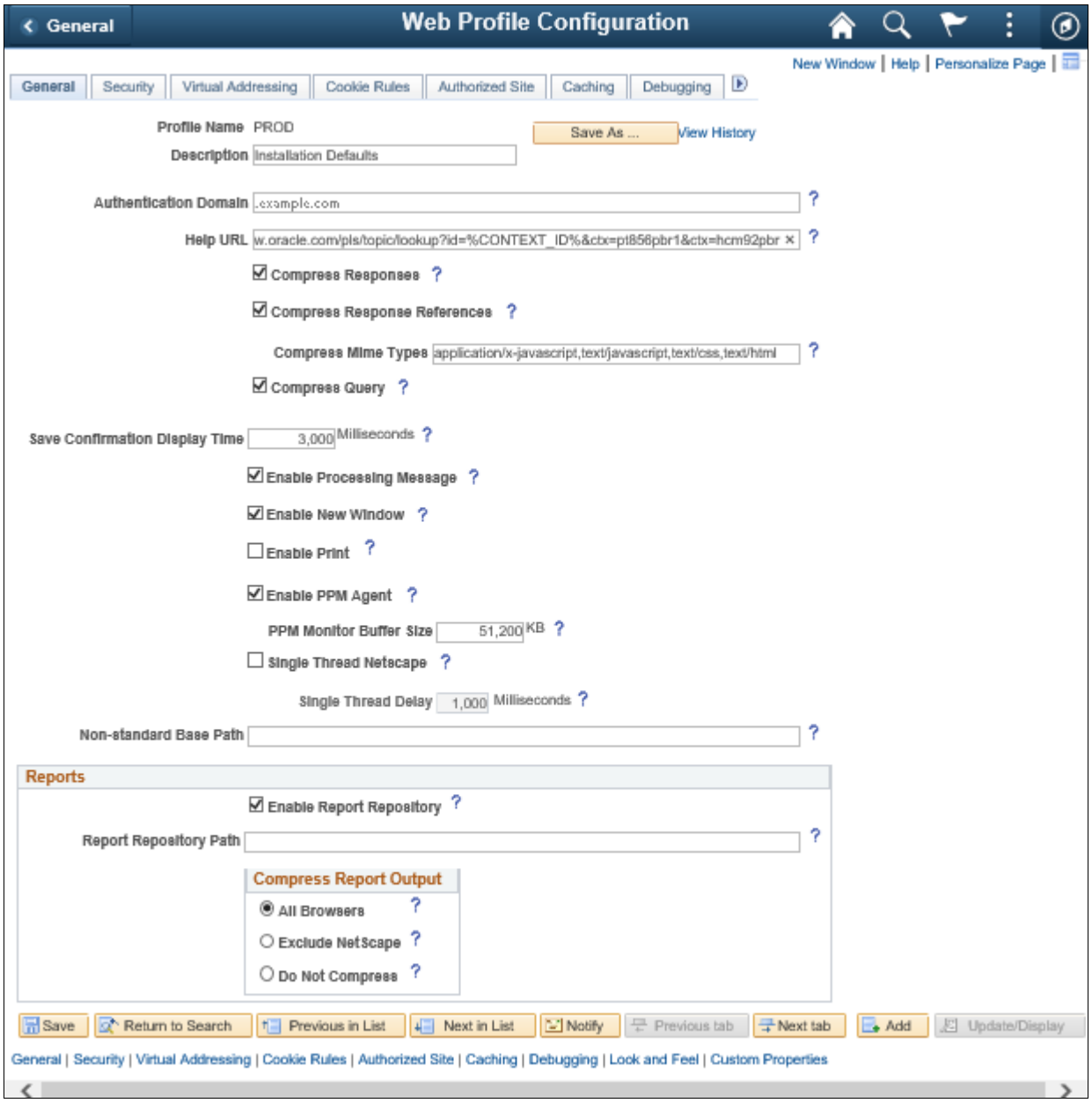
   The URLs have the following format, where UlinkID1, UlinkID2, ...UlinkID*n* refer to universal linking product line codes:

   http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=UlinkID1&ctx=UlinkID2....&ctx=UlinkID*n*

   The URL for the PeopleTools documentation must come before the URLs for PeopleSoft application documentation, as in this example:

   http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=pt856pbr1&ctx=hcm92pbr14

   This example shows the Web Profile Configuration page with a sample help URL for PeopleSoft PeopleTools 8.56 and PeopleSoft HCM 9.2:



Web Profile Configuration General page with a sample PeopleSoft Hosted Documentation URL

5. Save and exit the Web Profile Configuration page.
6. Restart the following servers:
   - If your PeopleSoft Pure Internet Architecture (PIA) is running on Oracle WebLogic, restart the PIA and admin web servers.
   - If your PIA is running on IBM WebSphere, restart the PIA server.
   - If the Help link does not appear in the next step, it may be necessary to also stop and restart the application server.
7. Test the help functionality by clicking the Help icon on a PeopleSoft application page.

Task 20-1-2: Setting Up F1 Help with the PeopleSoft Online Help Web Site

PeopleTools Application Designer also has context-sensitive help available through the user's F1 key. To enable this help functionality, the PeopleTools Options must be configured to access the hosted content on the PeopleSoft Online Help Web site as follows:

1. In your PeopleSoft application, select PeopleTools, Utilities, Administration, PeopleTools Options.
2. Scroll down to the Help Options group.
3. Enter the value for the F1 URL field.

   Specify the URL for the PeopleSoft PeopleTools online help for your release. The URL should be similar to the following:

   http://www.oracle.com/pls/topic/lookup?id=%CONTEXT_ID%&ctx=pt856pbr1

   You can access the URL from the PeopleSoft Online Help Web site. Under Setting Up Context-Sensitive Help, select the link Enabling the Help Link from the Application Pages.

   See PeopleSoft Online Help, http://docs.oracle.com/cd/E17566_01/epm91pbr0/eng/psbooks/pdfs/EnablingtheHelpLinkfromApplicationPages.pdf.
4. Save and exit the PeopleTools Options page.
5. Stop and restart the application server each time you update the help URL.
6. Open Application Designer. Press F1 to display the online help content.
7. For context-sensitive help, open an object, such as a panel or PeopleCode, then press F1.

Task 20-2: Configuring Context-Sensitive Help with Local Installations

This section discusses:

- Enabling the Help Link from the Application Pages with Local Installations
- Enabling F1 Help with Local Installations
- Creating the Help Index for Multi-Product Installations

Task 20-2-1: Enabling the Help Link from the Application Pages with Local Installations

You can configure your PeopleSoft installation so that each page in your PeopleSoft software applications includes a Help link. Clicking the Help link opens a new browser window displaying help topics that discuss that page. Use the instructions in this section to enable the Help link for locally-installed PeopleSoft Online Help only.

To enable the Help link from application pages:

1. In your PeopleSoft application, navigate to the PeopleTools, Web Profile, Web Profile Configuration page.
2. Click Search and select the Profile Name you specified during your PeopleSoft Pure Internet Architecture installation.
3. Specify the value for the Help URL field as follows:

```
http://<server_name>:<port_number>/<help_folder>/help.html?ContextID=⇒
%CONTEXT_ID%&LangCD=%LANG_CD%
```

Note. If you do not want the Help icon to display in your applications, clear the Help URL field value.

For example, if your web server is called myserver, you are using port 5080, and your *help_folder* is pt855pbr0, the Help URL value would be:

```
http://myserver:5080/pt855pbr0/help.html?ContextID=%CONTEXT_ID%&LangCD=⇒
%LANG_CD%
```

- Enter your web server name for <*server_name*>.
- Enter the web server port for <*port_number*>.
- Enter the folder where you installed the help system files for <*help_folder*>.
- The system resolves %CONTEXT_ID% to the page name from which you called help. The system resolves %LANG_CD% to the signon language of the user.

4. Save and exit the Web Profile Configuration page.
5. Before testing help functionality, purge the browser cache on the client and close all web browsers.

   Restart the application server and web server for PIA.
6. Test the help functionality by clicking the Help link on a PeopleSoft application page.

Task 20-2-2: Enabling F1 Help with Local Installations

This procedure describes how to enable F1 help for Application Designer, PeopleCode Editor, and other Microsoft Windows-based PeopleSoft programs.

To enable F1 help:

1. Sign on to your PeopleSoft application using your browser.
2. Select the PeopleTools, Utilities, Administration, PeopleTools Options page.
3. Enter the same URL as in the previous procedure (where <*server_name*>, <*port_number*>, and <*help_folder*> reflect your installation) into the F1 Help URL field:

   ```
   http://<server_name>:<port_number>/<help_folder>/help.html?ContextID=⇒
   %CONTEXT_ID%&LangCD=%LANG_CD%
   ```

   For example:

   ```
   http://myserver:5080/pt855pbr0/help.html?ContextID=%CONTEXT_ID%&LangCD=⇒
   %LANG_CD%
   ```
4. Save the page.

Task 20-2-3: Creating the Help Index for Multi-Product Installations

The PeopleSoft Online Help site contains a precompiled context-sensitive help index containing all context IDs for the product family. To have the help processor deliver help pages from other product families, you need to re-create this help index to include the context IDs for all applicable product families.

Note that this procedure does not support help sites for PeopleSoft 9.1 and PeopleTools 8.52 and earlier. To include help sites for those releases, select About This help in the PeopleSoft PeopleTools product documentation.

See *Managing Locally Installed PeopleSoft Online Help,* "Including Multiple Online Help Sites for PeopleSoft 9.1 and PeopleTools 8.52 and Earlier."

To re-create the context-sensitive help index follow the instructions "Creating Index for multi-domain online help site" described in the README.txt file included with the downloaded zip files.

See *Managing Locally Installed PeopleSoft Online Help,* "Including Multiple Online Help Sites for PeopleSoft 9.2 and PeopleTools 8.53 and Later."

Task 20-3: Installing PeopleSoft Online Help Locally

This section discusses:

- Prerequisites
- Obtaining the PeopleSoft Documentation Files from Oracle Software Delivery Cloud
- Deploying PeopleSoft Documentation Library on a WebLogic Server
- Removing the PeopleSoft Online Help Deployment
- Setting Up Help for Multiple Product Lines on the Same Machine

Prerequisites

Before installing the PeopleSoft online help:

- Obtain the installation file for the PeopleSoft Online Help from Oracle Software Delivery Cloud, as described in the next section.
- Install a supported web server and verify that it is up and running.

  This task describes the steps for Oracle WebLogic on Microsoft Windows. However, you can use other web server software, such as IBM WebSphere.
- Install the Elasticsearch search utility and verify that it is up and running.

  The "Search Utility for locally installed PeopleSoft Documentation" contains a customized version of Elasticsearch for PeopleSoft Online Help that is independent of the Elasticsearch that is used for the PeopleSoft search framework. The utility is available on Oracle Software Delivery Cloud in the same delivery package as the PeopleSoft online help documentation. The downloaded zip file includes a text file with instructions.

  Note. For the sake of brevity, this task refers to the "Search Utility for locally installed PeopleSoft Documentation" as the "search utility."

- The PeopleSoft Online Help installation requires Java 8.

Task 20-3-1: Obtaining the PeopleSoft Documentation Files from Oracle Software Delivery Cloud

This section explains locating and using the installation files for PeopleSoft Online Help and the search utility, if you have not already done so. The files are included in the installation files for PeopleSoft applications and PeopleSoft PeopleTools.

See Oracle Software Delivery Cloud, https://edelivery.oracle.com.

To obtain files for the PeopleSoft Online Help installation from Oracle:

1. After logging in to Oracle Software Delivery Cloud, read the information about export restrictions, and then click Accept.
2. Enter *PeopleSoft PeopleTools* in the type-ahead Product field, and select PeopleSoft PeopleTools 8.56 for PSFT Application Products from the drop-down list.
3. If you want to obtain the PeopleSoft Online Help installation files for a PeopleSoft application, enter the name of a specific PeopleSoft application product in the type-ahead Product field.

   For example, for PeopleSoft Human Capital Management, enter and select PeopleSoft Enterprise Human Resources. For PeopleSoft Financials and Supply Chain Management, enter and select PeopleSoft Enterprise Financials.
4. Click Select Platform, select the operating system you are running on, and then click Select.

   Note that you must unzip the zip files on the platform for which they are intended. For example, if you download the file for Oracle Solaris, you must unzip the file on an Oracle Solaris operating system. If you unzip the file on a Microsoft Windows machine into a staging directory, and then move the directory to an Oracle Solaris machine, the staging area files may be corrupted.
5. Click Continue two times.
6. Read the license agreement, select the check box to acknowledge that you accept the agreement, and then click Continue.
7. On the File Download window, select the links for the online help zip file and the search utility.
8. Download the zip files into a convenient local directory.

Task 20-3-2: Deploying PeopleSoft Documentation Library on a WebLogic Server

This task uses the PeopleSoft PeopleTools 8.56 documentation library as an example.

1. Create folder C:\PeopleBooks to serve as the documentation root.
2. Install and set up the search utility.

   This section refers to the installation location as *SRCH_UTILITY_INSTALL*. Follow the instructions in the INSTALL.txt file included with the downloaded zip file to:

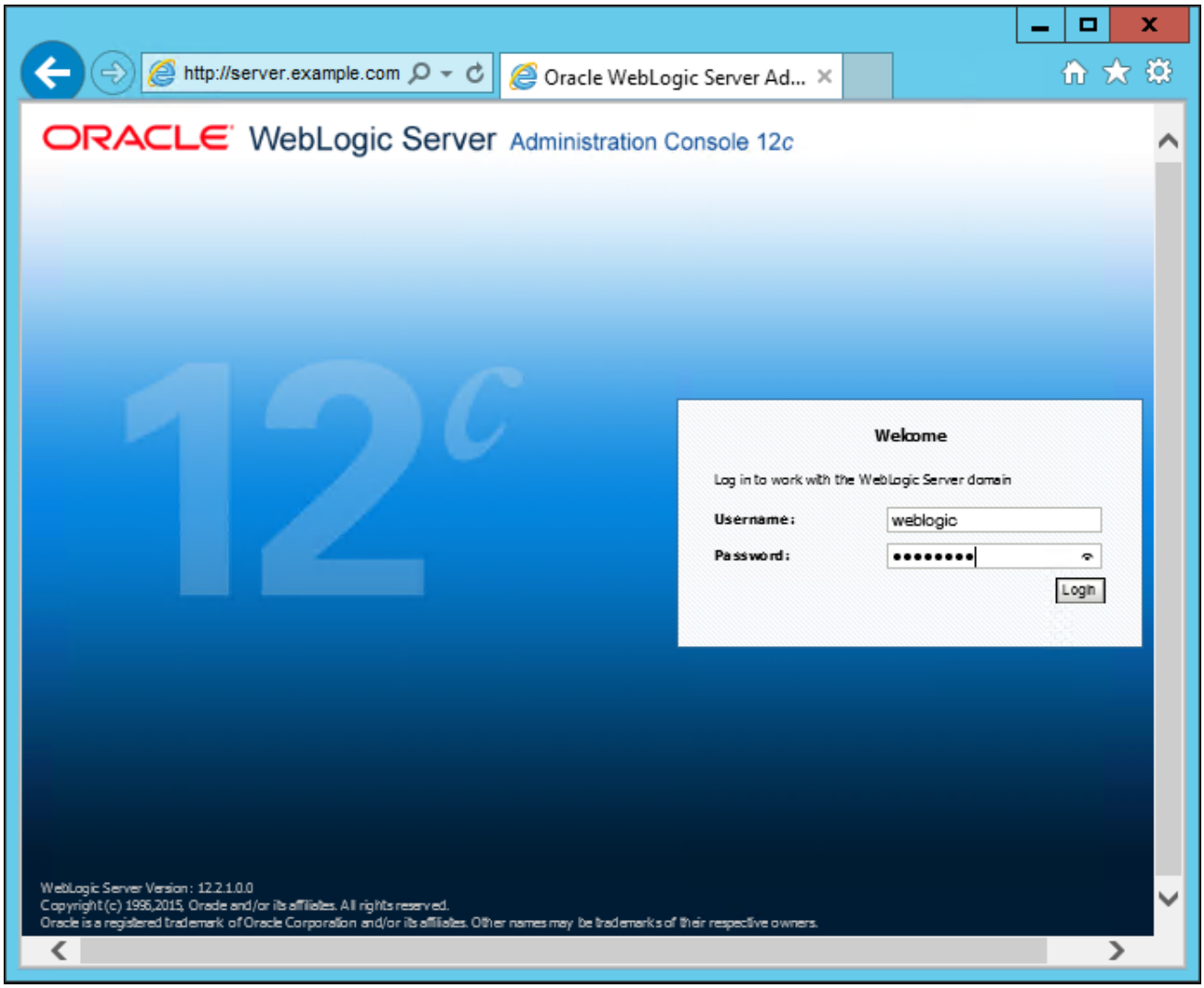
   - Set up Elasticsearch for PeopleSoft Online Help
   - Deploy Elasticsearch for PeopleSoft Online help search page

     These instructions assume that you copy the psessearch folder to C:\PeopleBooks.
3. Copy the zip file containing the PeopleSoft Online Help to C:\PeopleBooks, and extract into the same folder.
4. Create a folder WEB-INF under the C:\PeopleBooks folder.
5. In the WEB-INF folder create a file named "web.xml" that has the following content:

```
<?xml version="1.0" encoding="UTF-8"?>

<!DOCTYPE web-app PUBLIC

"-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"

"http://java.sun.com/j2ee/dtds/web-app_2_3.dtd">

<web-app>

</web-app>
```

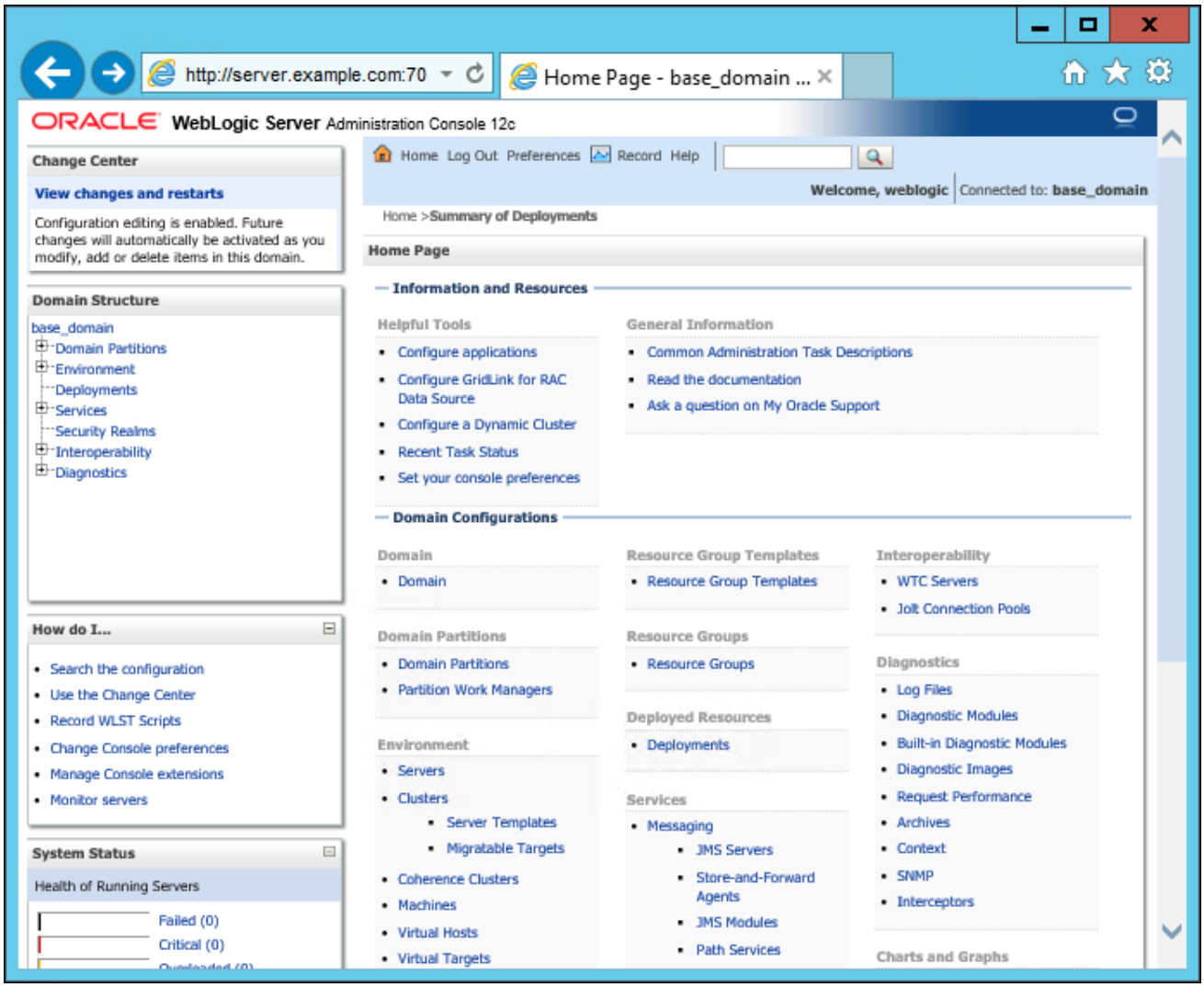
This allows Oracle WebLogic to recognize the C:\PeopleBooks folder as a valid deployment.

6. Open the Oracle WebLogic administration console by entering the following URL in a browser:
   http://<*hostname*>:7001/console
7. Log in using Oracle WebLogic administrator credentials.



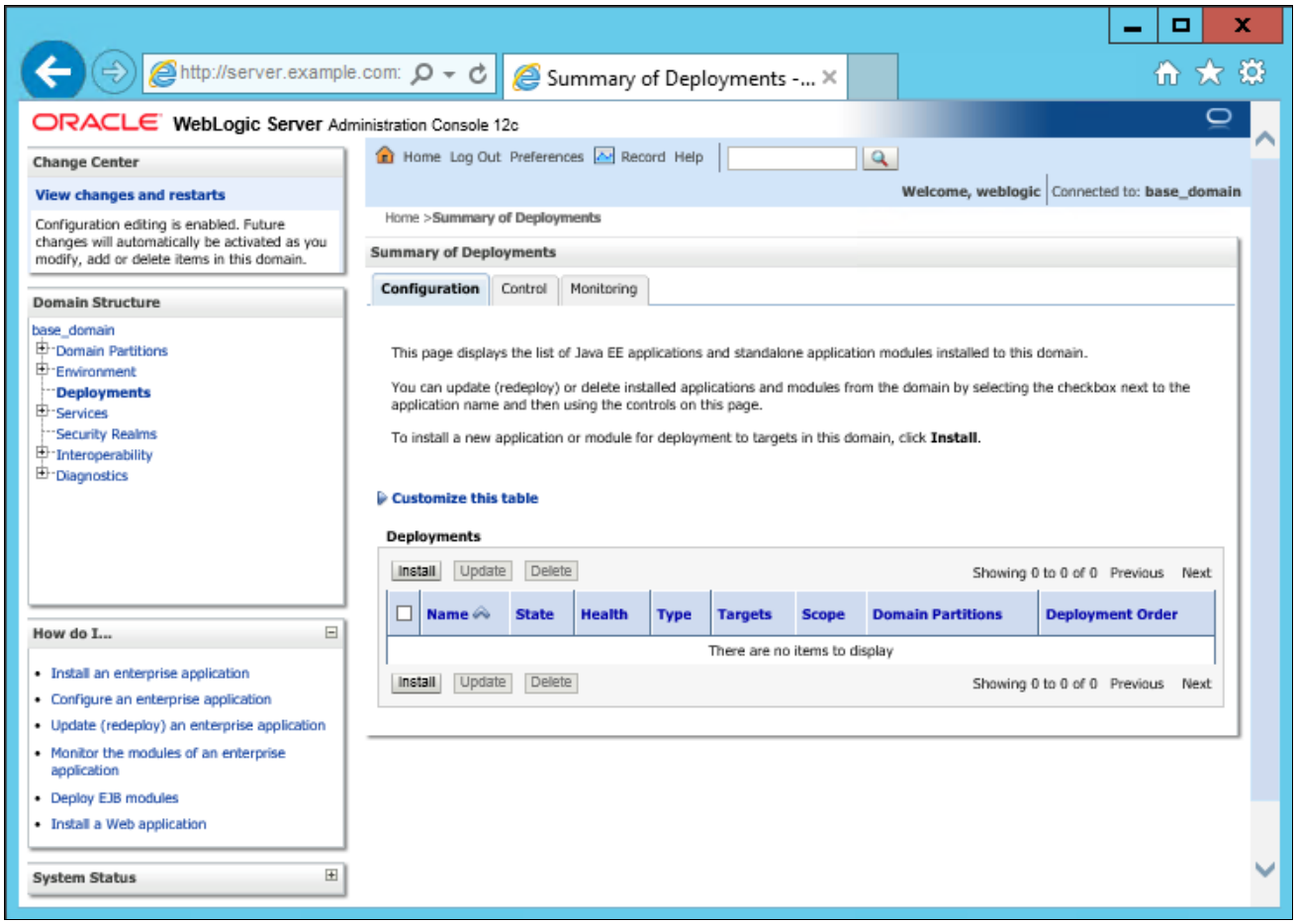
Oracle WebLogic Server Administration Console 12c

8. Select Deployments from the Domain Structure section on the left side of the window:



Oracle WebLogic Administration Console Home Page

9. Click Install on the Deployments section of the Configuration tab under Summary of Deployments.

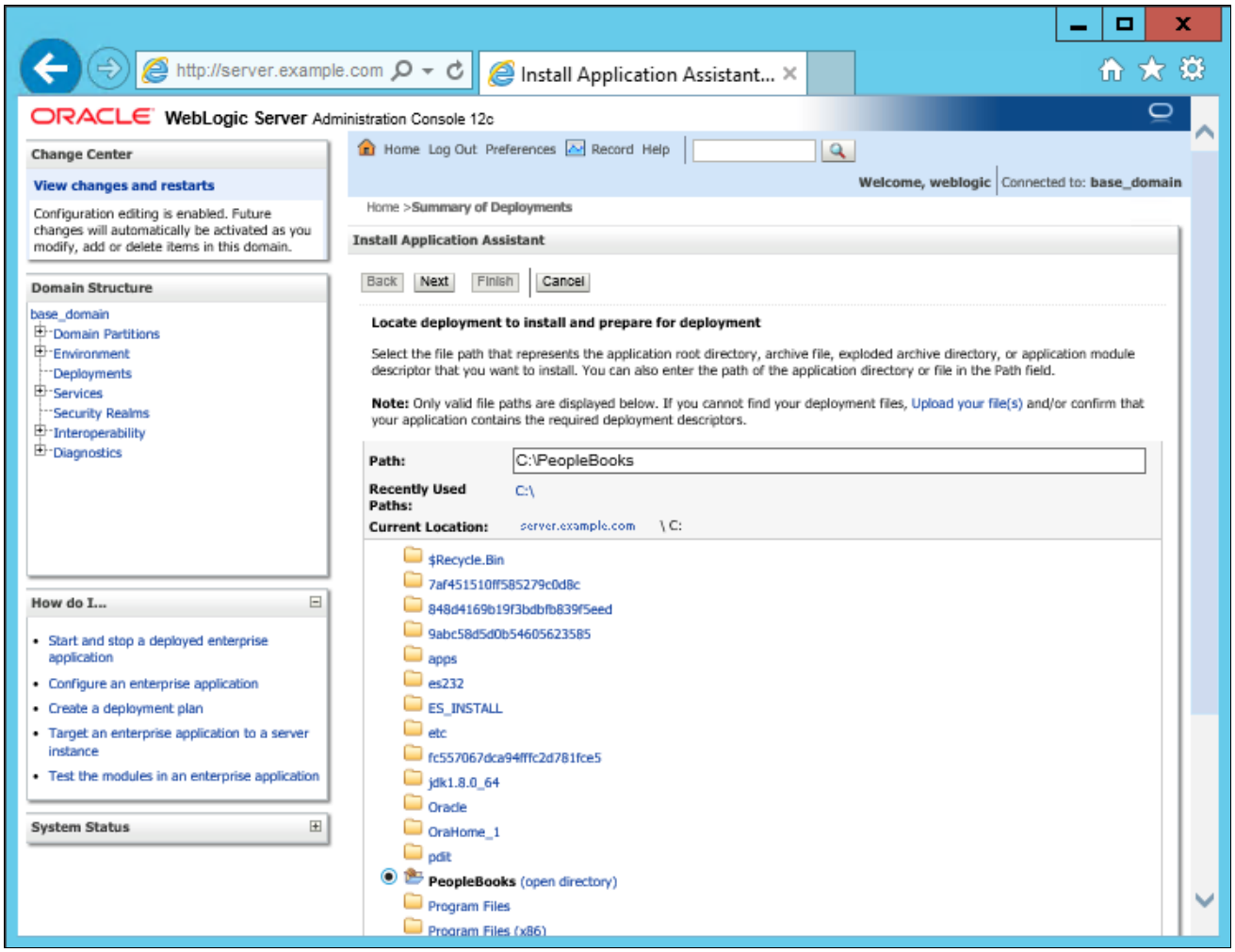


Configuration tab on the Summary of Deployments page

10. If necessary, enter C:\ for the path.

    You see the computer directory structure. The entry for PeopleBooks includes a radio button indicating that this folder can be deployed as an application.

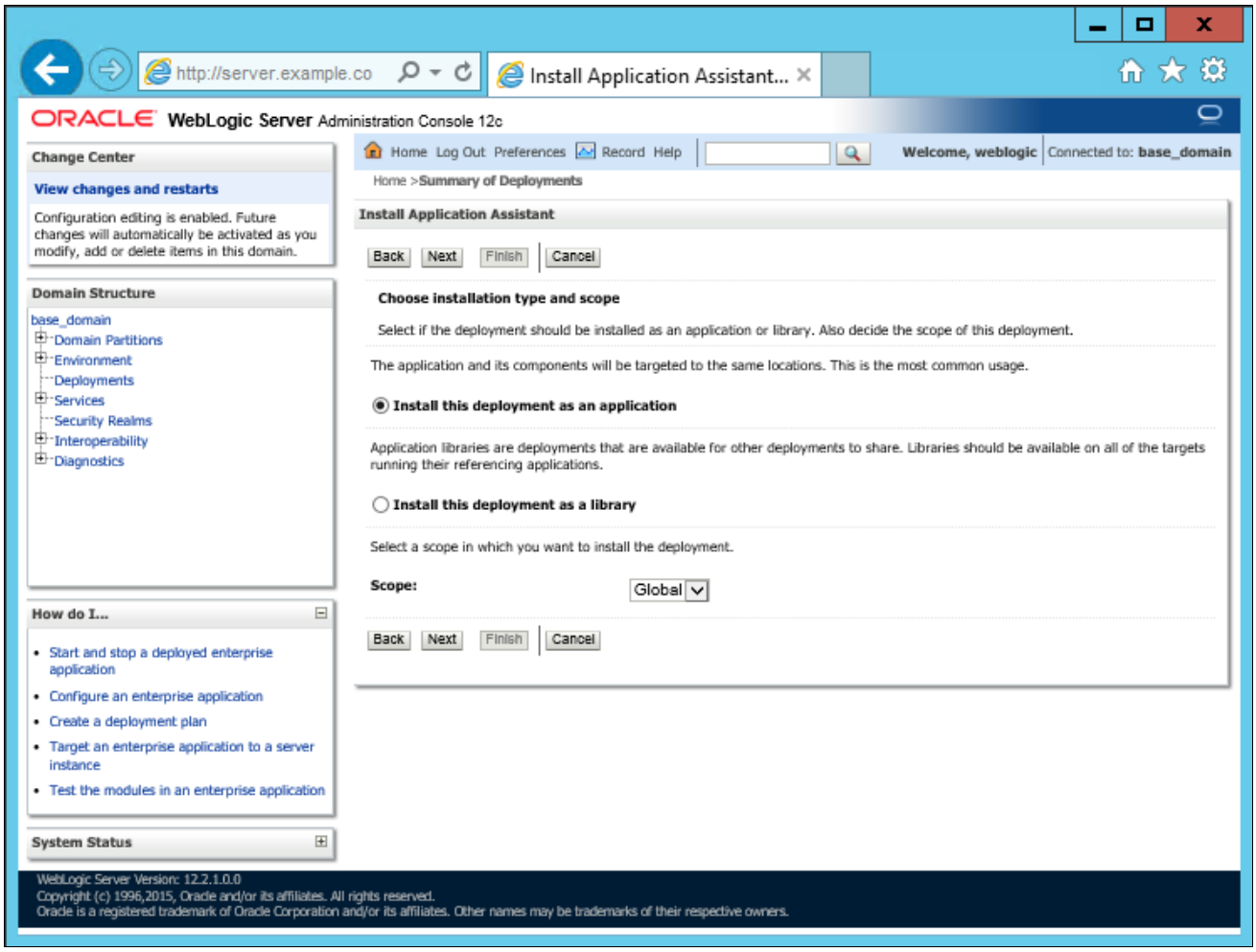
11. Select PeopleBooks (open directory) and then click Next.



Locate deployment to install and prepare for deployment page

12. On the Choose installation type and scope window, select Installation type as an application and Scope Global.

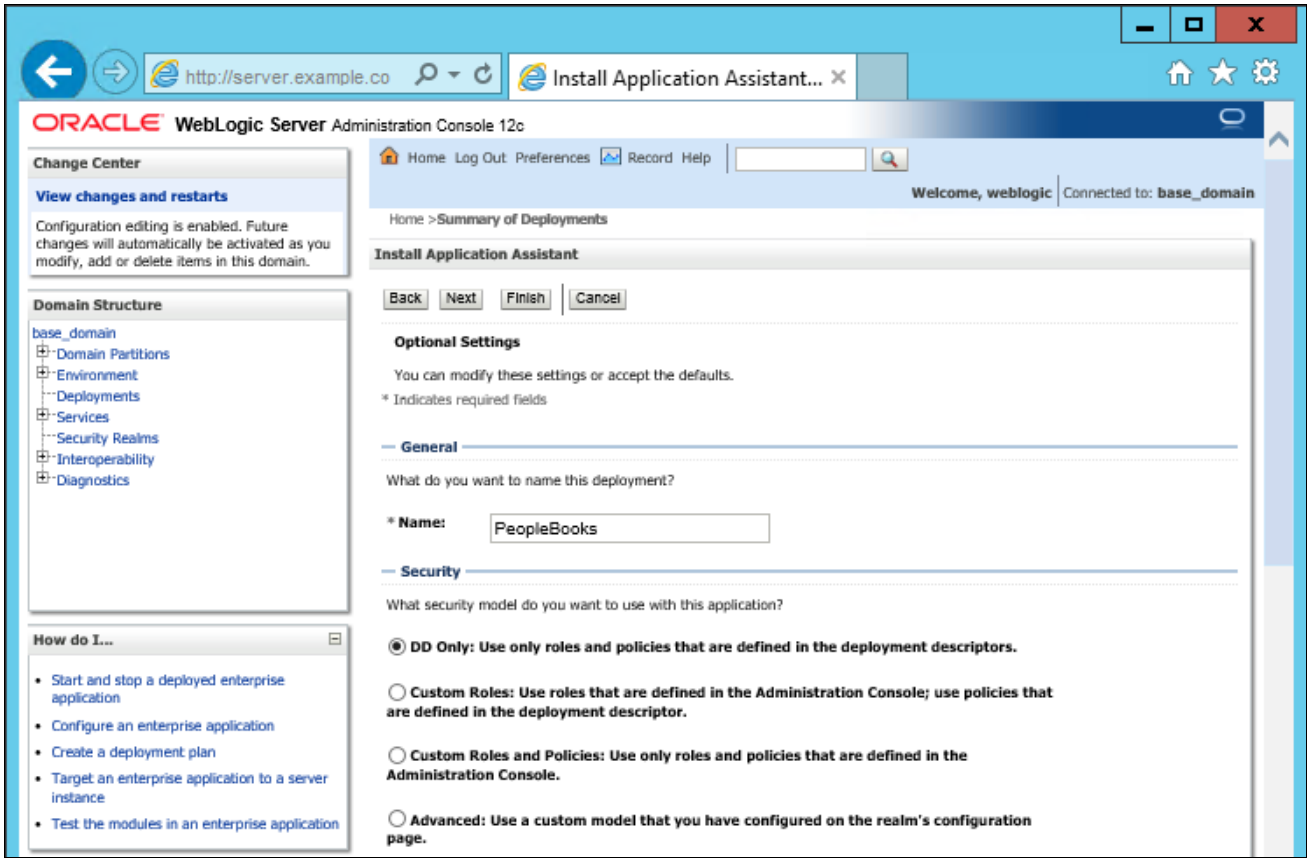
    Click Next.



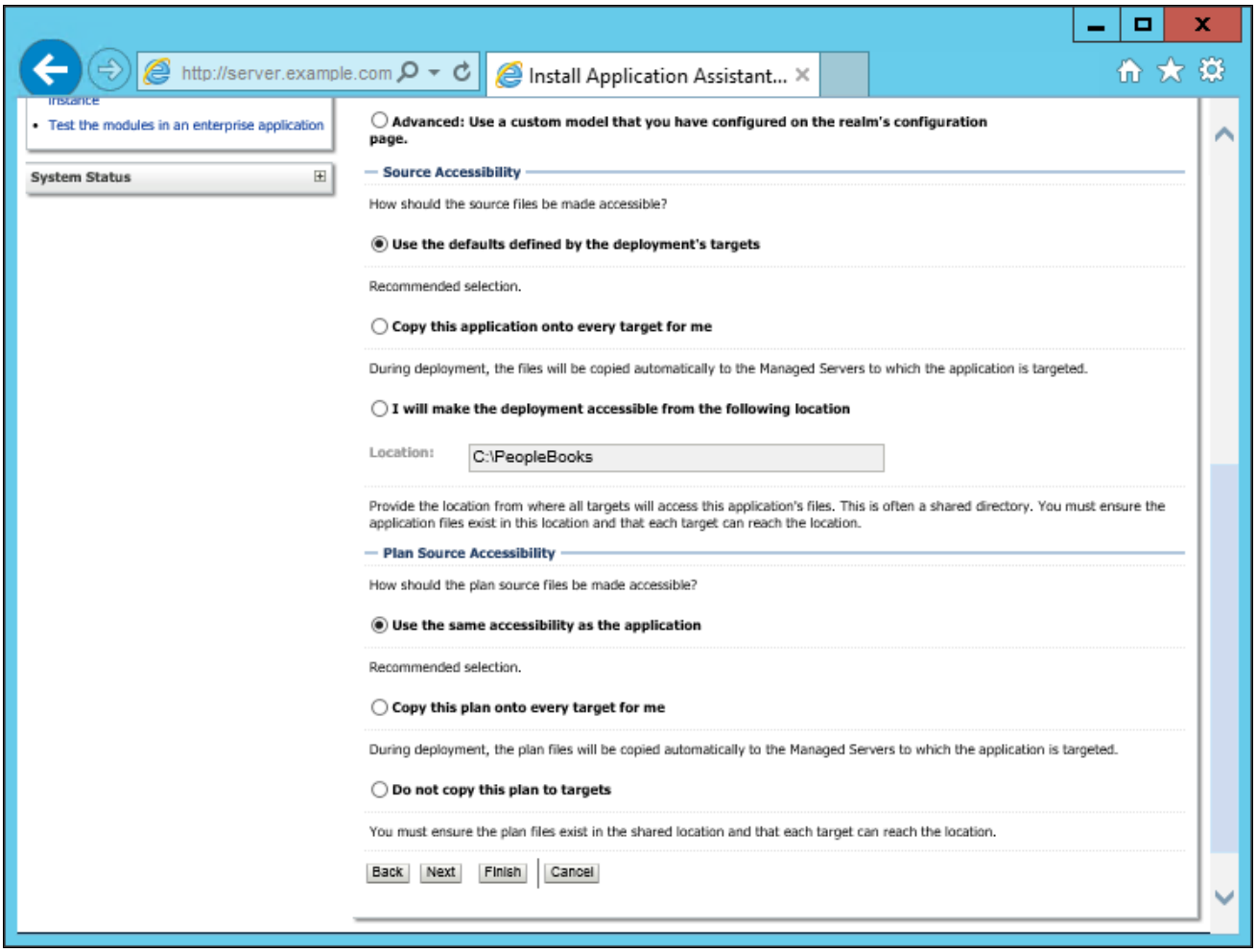
Choose installation type and scope page

13. Accept the default entries on the Optional Settings page, and click Next.

    The page includes sections General, Security, Source Accessibility, and Plan Source Accessibility.

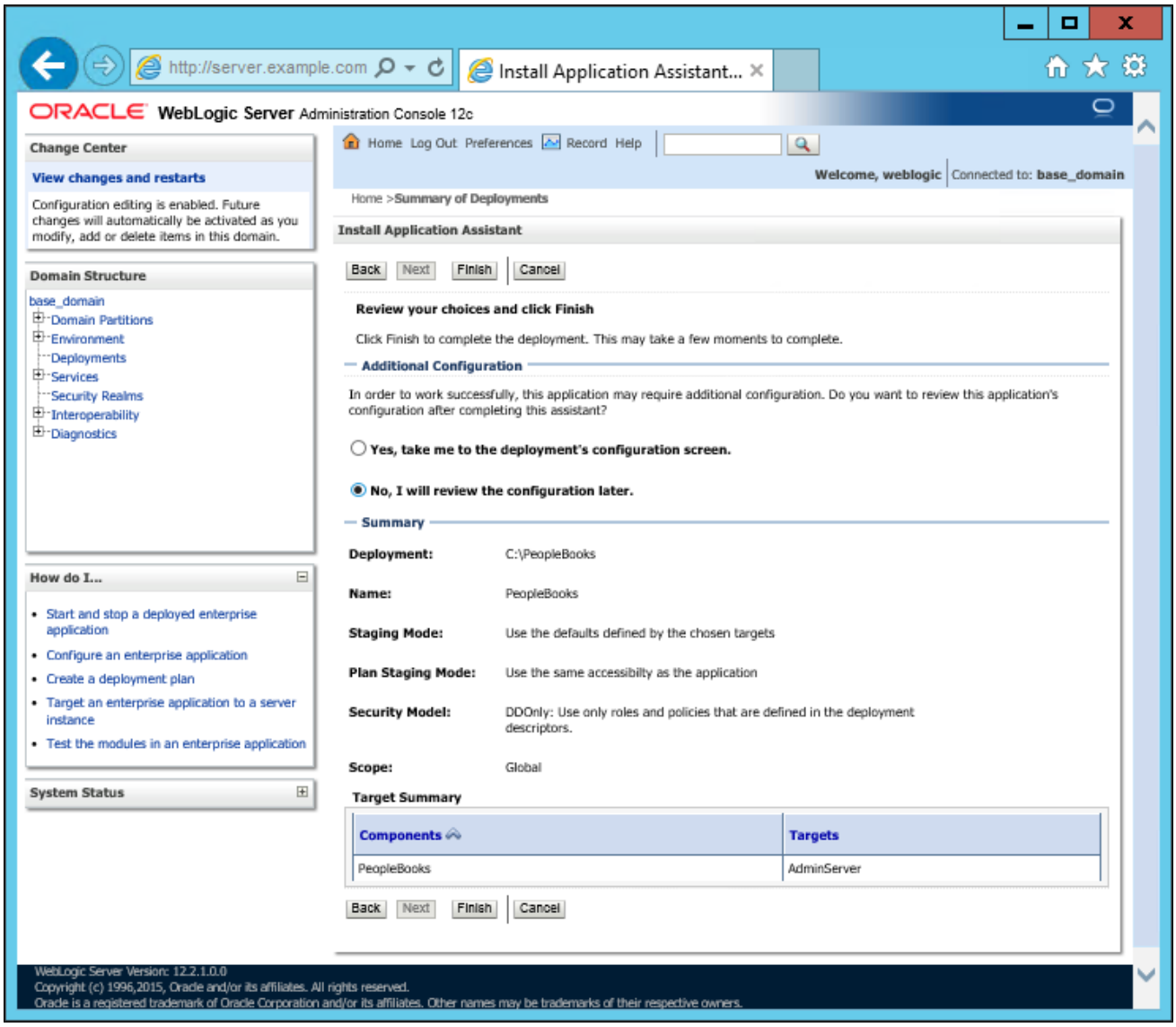


Top section of the Optional Settings page



Bottom section of the Optional Settings page

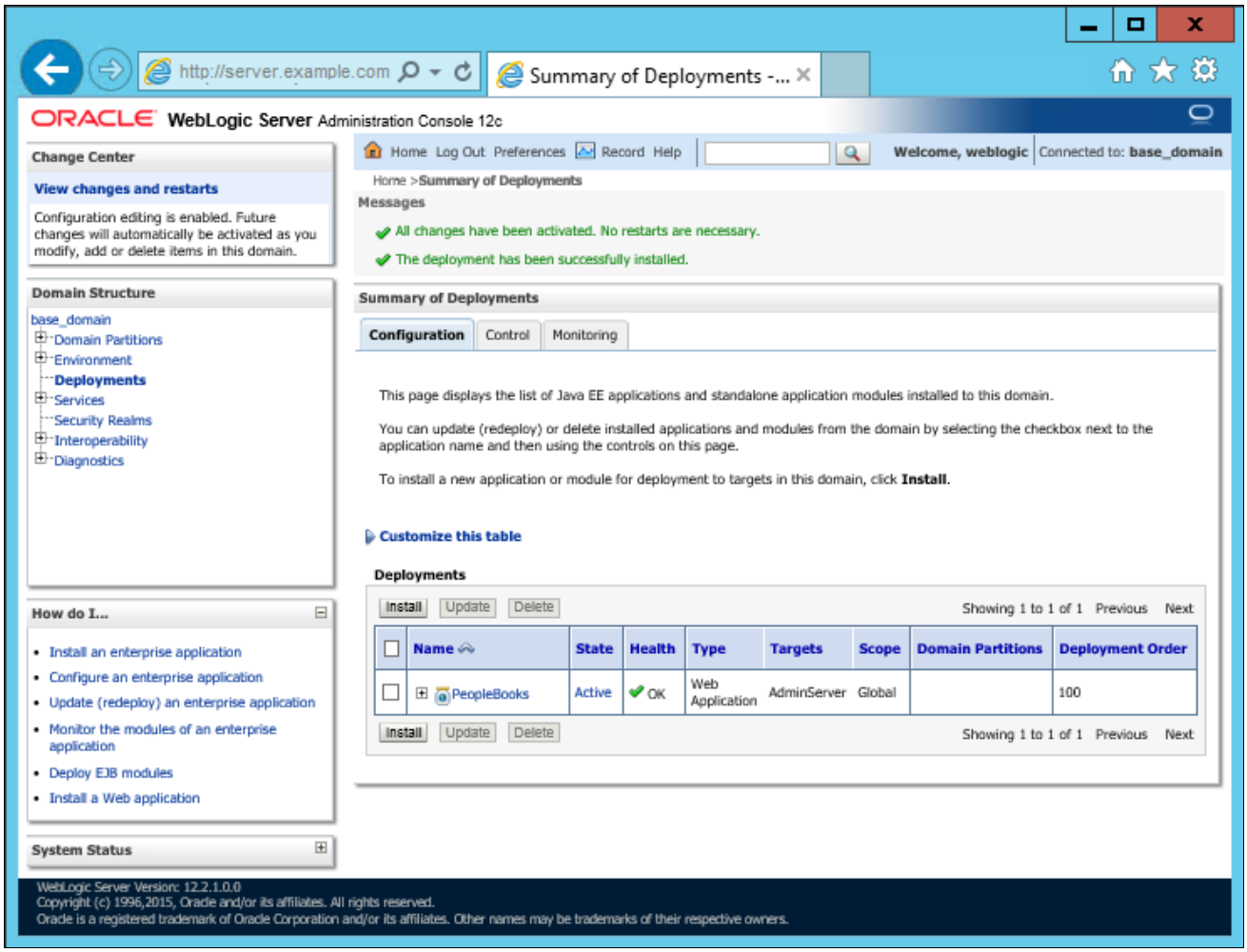
14. Review the summary, select No, I will review the configuration later, and then click Finish.



Review your choices and click Finish page

15. Verify that PeopleBooks appears in the Deployments list on the Summary of Deployments page.

    The page includes messages indicating that all changes have been activated and the deployment has been successfully deployed.



Summary of Deployment page

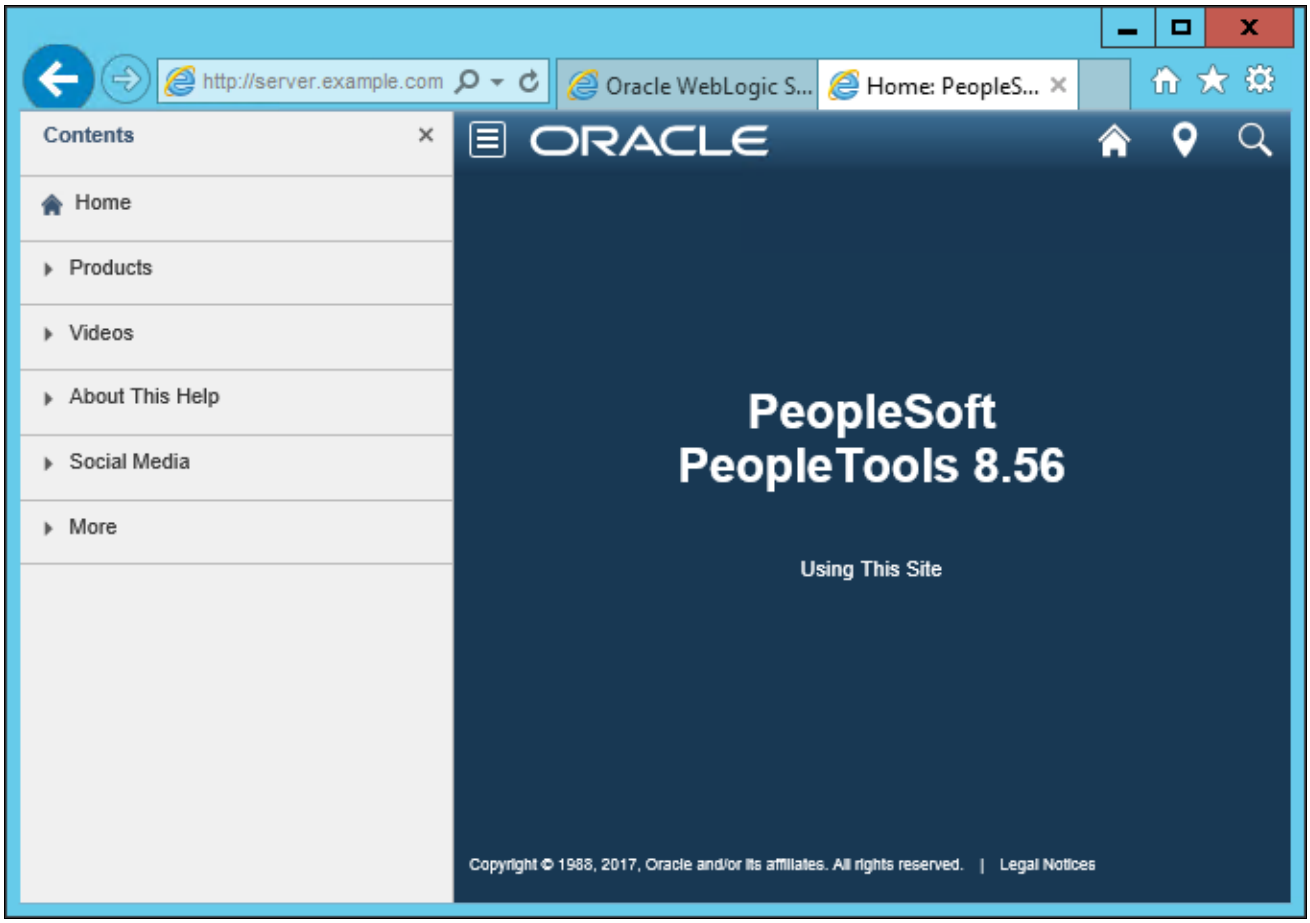
16. Log out of the Oracle WebLogic Administration console.

17. Verify that you can access the PeopleSoft Online Help by entering this URL in a browser:

    http://*<hostname>*:*<weblogic port>*/PeopleBooks/*<library name>*/eng/*<product family>*/index.html

    Enter the fully qualified machine name for *<hostname>*, the Oracle WebLogic port for *<weblogic port>*. Enter the PeopleSoft documentation library name (that is, the name of the folder extracted from the downloaded zip file) for *<library name>*. The *<product family>* is an abbreviation for the PeopleSoft product, such as pt for PeopleSoft PeopleTools. For example, this URL displays the PeopleSoft PeopleTools 8.56 documentation home page:

    http://server.example.com:7001/PeopleBooks/pt856pbr1/eng/pt/index.html



PeopleSoft PeopleTools 8.56 Online Help Home Page

18. Crawl the online help site.

    See the instructions in INSTALL.txt.

    a. In a command prompt, change directory to *SRCH_UTILITY_INSTALL*/pscrawler.

    b. Run this command:

    ```
    crawler.<ext>  <elasticsearch host>  <elasticsearch port> index ⇒
    <online help URL>
    ```

    For example, on Microsoft Windows:

    ```
    crawler.bat hostname.example.com 9260 index http:⇒
    //hostname.example.com:7001/PeopleBooks/pt856pbr1/eng/pt/index.html
    ```

For example, on UNIX:

```
./crawler.sh hostname.example.com 9260 index http:⇒
//hostname.example.com:7001/PeopleBooks/pt856pbr1/eng/pt/index.html
```

19. To enable search capability on the PeopleSoft Online Help pages so that when you click the search icon, the PeopleSoft Online Help Search Console appears:
    a. Locate the common.js file and open it for editing.

       Using the folder structure used in this task as an example, the common.js file is located in C:\PeopleBooks\<*library name*>\js.

    b. Edit the variables searchURL, searchOpt and queryTextParamName.

       For example:

```
var searchURL = "/PeopleBooks/psessearch/index.html";
var altHelpURL = "";
var searchOpt = "product=PeopleSoft PeopleTools 8.56";
var queryTextParamName = "query"; //q
```

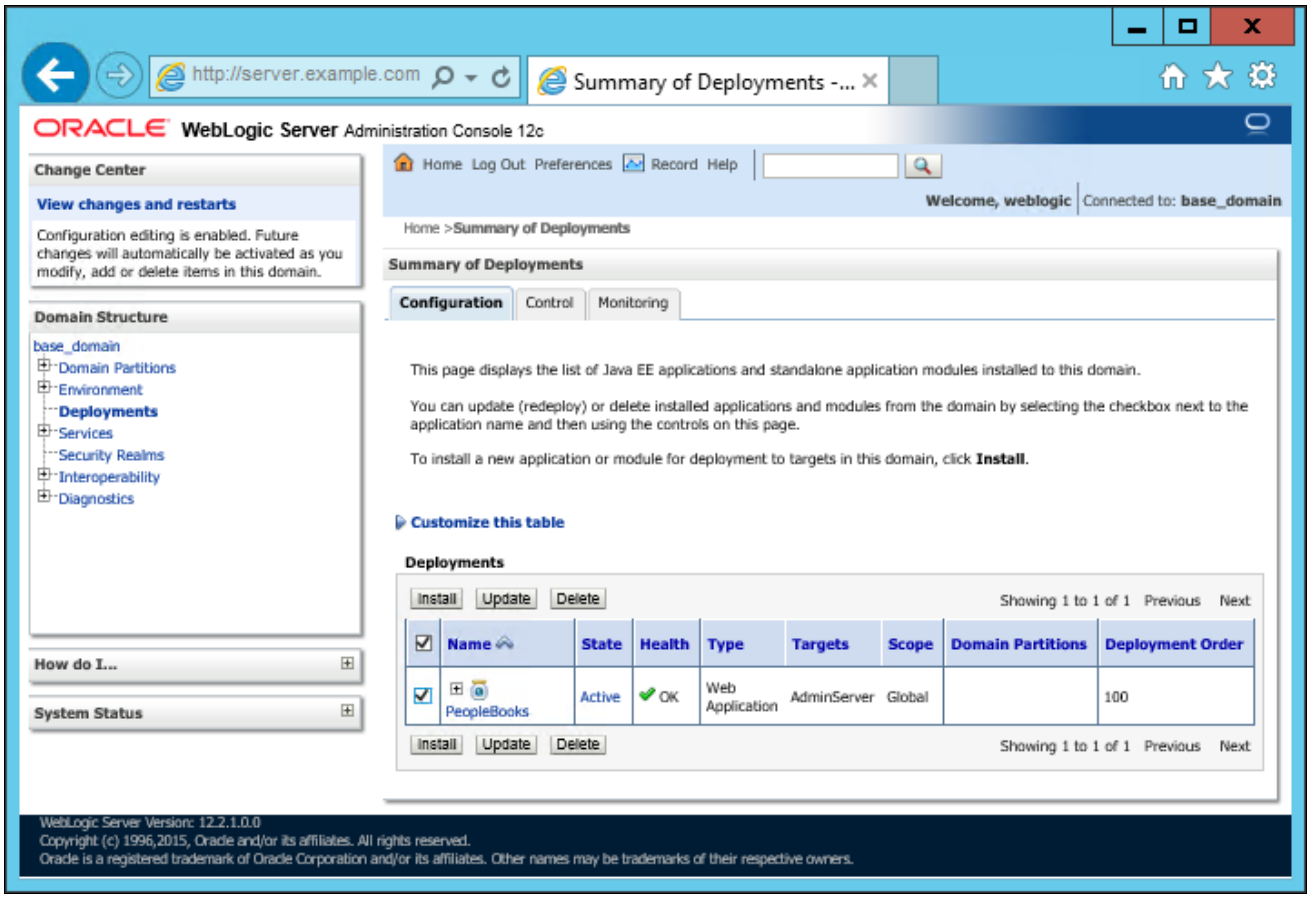
For more information on using locally installed online help, see About This Help. From the PeopleSoft PeopleTools Online Help site, select About This Help from the Contents frame. Then select Managing Locally Installed PeopleSoft Online Help, Enabling the Search Button and Field.

Task 20-3-3: Removing the PeopleSoft Online Help Deployment

Use this procedure if you need to remove the deployed PeopleSoft Online Help to redeploy or upgrade. You must first remove the deployment from the Oracle WebLogic administration console, and then remove the index in the search crawler.

1. If the PeopleSoft Online Help or the search console are open, close them.
2. Log in to the Oracle WebLogic administration console using Oracle WebLogic administrator credentials.
3. Select Deployments from the Domain Structure section on the left side of the window:

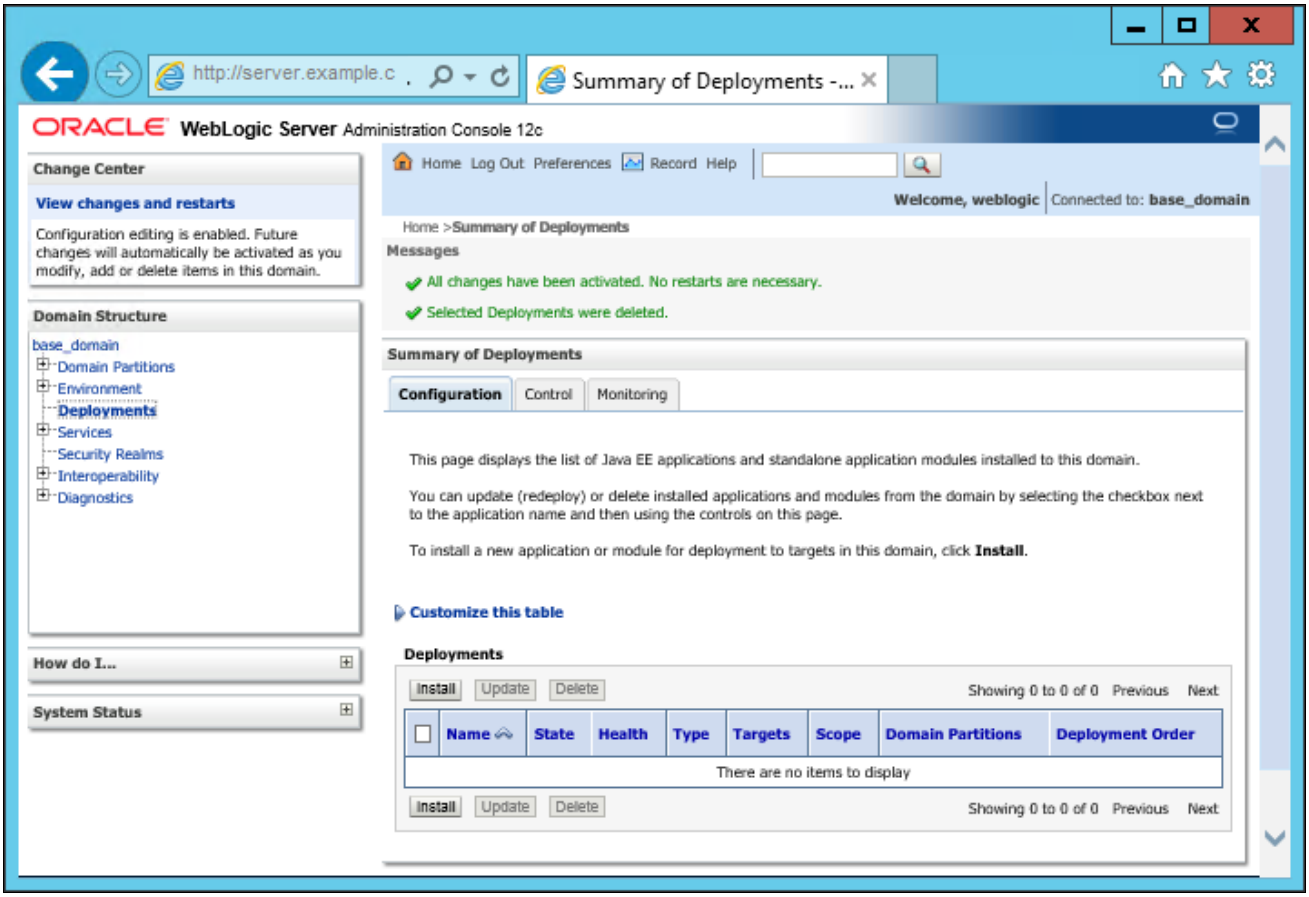
4. Select the check box beside the PeopleBooks deployment, and click Delete.



Summary of Deployment page with PeopleBooks deployment selected

5. Wait until you see messages saying the deployment was removed.

   Verify that PeopleBooks does not appear in the Deployments section.



Summary of Deployments page after PeopleBooks deployment was removed

6. Log out of the Oracle WebLogic administration console.
7. Open a command prompt and change directory to the location where the search utility was installed; for example:

   ```
   cd SRCH_UTILITY_HOME\pscrawler
   ```

8. Run this command to remove the search index:

   ```
   crawler.bat <elasticsearch host>  <elasticsearch port> delete <product>
   ```

   Enter the fully qualified machine name for *<elasticsearch host>*, the search engine port for *<elasticsearch port>*, and the PeopleSoft product name for *<product>*. For example:

   ```
   crawler.bat server.example.com 9260 delete "PeopleSoft PeopleTools 8.56"
   ```

9. Wait until the process is complete, as indicated by "Deletion completed"

   ```
   SUCCESS: Specified value was saved.
   Checking for running Elasticsearch instance
   Starting deletion of product-PeopleSoft PeopleTools 8.56
   Deletion completed
   ```

Task 20-3-4: Setting Up Help for Multiple Product Lines on the Same Machine

Use these steps if you want to deploy multiple product line online help sites, such as PeopleSoft PeopleTools and Financials/Supply Chain Management (FSCM) on a single server.

This section assumes that you have set up a web server and the search utility as previously mentioned.

1. Extract the contents of the documentation library zip file for product line 1 (for example, pt856pbr1.zip) to the web server folder where the psessearch folder resides, for example, C:\PeopleBooks.
2. Extract the contents of the documentation library zip file for product line 2 (for example, fscm92pbr13.zip) to the same folder where the product line 1 was extracted.
3. Repeat step 2 for other product lines as needed. The contents of the Web server folder includes these folders (plus others depending upon your web server):

   ```
   C:\PeopleBooks\fscm92pbr13
   C:\PeopleBooks\psessearch
   C:\PeopleBooks\pt856pbr1
   ```

4. Open a command prompt and change directory to the location where the search utility was installed.

   For example, on Microsoft Windows:

   ```
   cd SRCH_UTILITY_HOME\pscrawler
   ```

   For example, on UNIX:

   ```
   cd SRCH_UTILITY_HOME/pscrawler
   ```

5. Run this command for each product line:

   ```
   crawler.<ext>  <elasticsearch host>  <elasticsearch port> index <online⇒
    help URL>
   ```

   For example, to crawl FSCM and PT on Microsoft Windows:

   ```
   crawler.bat server.example.com 9260 index http://server.example.com⇒
   /PeopleBooks/pt856pbr1/eng/pt/index.html
   crawler.bat server.example.com 9260 index http://server.example.com⇒
   /PeopleBooks/fscm92pbr13/eng/fscm/index.html
   ```

   - Use .bat for <*ext*> on Microsoft Windows, and .sh on UNIX.
   - Enter the fully qualified machine name for the online help web server <*elasticsearch host*>
   - Enter the search engine port for <*elasticsearch port*>.
   - The <*online help URL*> is the URL used to view the documentation home page.
6. Locate the common.js file and open it for editing.

   Using the folder structure used in this task as an example, the common.js file is located in C:\PeopleBooks\<*library name*>\js.
7. For all product lines, edit the variables searchURL, searchOpt and queryTextParamName.

   For example, for product line 1, pt856pbr1:

   ```
   var searchURL = "/PeopleBooks/psessearch/index.html";  //"http://host:⇒
   port/search/query";
   ```

```
var altHelpURL = "";//"http://www.oracle.com/pls/topic/lookup?id=⇒
%CONTEXT_ID%&ctx=hcm92pbr6"
                      //"http://host/path/help.html?ContextID=%CONTEXT_⇒
ID%&LangCD=%Lang%
var searchOpt = "product=PeopleSoft PeopleTools 8.56";          //group=⇒
pt853
var queryTextParamName = "query"; //q
```

For product line 2, fscm92pbr13:

```
var searchURL = "/PeopleBooks/psessearch/index.html";  //"http://host:⇒
port/search/query";
var altHelpURL = "";//"http://www.oracle.com/pls/topic/lookup?id=⇒
%CONTEXT_ID%&ctx=hcm92pbr6"
                      //"http://host/path/help.html?ContextID=%CONTEXT_⇒
ID%&LangCD=%Lang%
var searchOpt = "product=PeopleSoft Financials and Supply Chain⇒
 Management 9.2";          //group=pt853
var queryTextParamName = "query"; //q
```

Chapter 21

Installing Software for PS/nVision Drilldowns

This chapter discusses:

- Understanding PS/nVision DrillDown Add-ins
- Installing the DrillToPIA Add-In
- Installing the nVisionDrill Add-In
- Installing the nVisionDrill Add-Ins for Multi-Language Installations
- Setting Up PeopleSoft Integration Broker for Using Web Service Capability with nVisionDrill Add-in

Understanding PS/nVision DrillDown Add-ins

When you use PS/nVision to view reports, you can use the DrillDown feature to select a cell in your report and expand it according to criteria contained in a special DrillDown layout.

See *PeopleTools: PS/nVision,* "Using DrillDown."

To use the PS/nVision DrillDown feature with Microsoft Excel reports, you need to install one of the following add-ins, as described in this chapter:

Note. DrillToPIA and nVisionDrill VSTO add-ins do not coexist. You can use only one add-in at a time.

- DrillToPIA add-in
- nVisionDrill VSTO add-in (Visual Studio tools for Microsoft Office SE Runtime).

See *PeopleTools: PS/nVision,* "Understanding PS/nVision Reporting on the Web."

Here is the way the two drilldown add-ins work with the supported version of Microsoft Excel:

If the nVisionDrill VSTO add-in was installed, the nVisionDrill add-in runs and the nVisionDrill VSTO drilldown menu is available when Microsoft Excel opens.

Optionally, you can disable the nVisionDrill VSTO add-in and run the DrillToPIA add-in.

Note. To disable the nVisionDrill VSTO add-in and use the DrillToPIA add-in, access the Add-Ins dialog box and select the DrillToPIA check box. This selection replaces the nVisionDrill VSTO add-in with the DrillToPIA add-in, and the DrillToPIA drilldown menu appears until you reinstall the nVisionDrill VSTO add-in.

To reinstall the nVisionDrill VSTO, double-click the setup.exe file and select the Repair option.

Task 21-1: Installing the DrillToPIA Add-In

This section discusses:

- Understanding Drilldown with DrillToPIA Add-in
- Installing the DrillToPIA Add-in on the Microsoft Excel Environment

Understanding Drilldown with DrillToPIA Add-in

DrillDowns are run on the PS/nVision report server – like Report Requests and Report Books – and are accessible through Report Manager. You can also select to run the DrillDown using the output type of *Window,* which automatically delivers the results to a new browser window. A copy of the results will also be accessible through Report Manager.

You can drill down on individual cells within the report by selecting the cell and using Drill from the nVisionDrill menu for a Microsoft Excel report.

Note. A drilldown result report inherits the output format of its parent report. So, if the parent instance is in Excel format, then the drilldown result is in Excel format.

DrillDown in a web browser does not include the AutoDrill, Drill-to-Query, and Drill-to-Panel options.

Task 21-1-1: Installing the DrillToPIA Add-in on the Microsoft Excel Environment

To drill down on Microsoft Excel reports, the Microsoft Visual Basic Application (VBA) add-in DrillToPIA.xla file needs to be installed on the Microsoft Excel environment. This file is stored in the *PS_HOME*\Excel directory on the Application Server. Your System Administrator needs to distribute a copy of this file to all users who need to drill down on Microsoft Excel reports on the Web.

Note. If a non-English version of Microsoft Excel is used, translated versions of DrillToPIA.xla can be found in the <*PS_HOME*>\Excel\<*Language*> directory on the Application Server.

In Apple Macintosh systems, PS/nVision DrillToPIA add-in launches Microsoft Internet Explorer for the drilldown page when drilling is performed on a Microsoft Excel report, regardless of the browser from which the original report is opened.

To install the add-in DrillToPIA.xla file into the Microsoft Excel environment:

1. Copy the *PS_HOME*\Excel\DrillToPIA.xla file, and paste it into the Excel add-in directory.

   If Microsoft Office is installed in the directory *MS_OFFICE,* the Excel add-ins directory is *MS_OFFICE*\Office\Library.
2. Launch Microsoft Excel and select Tools, Add-ins from Excel toolbar.
3. Select the DrillToPIA option in the Add-ins dialog box.

   The nVisionDrill menu appears in the Excel menu bar.

Note. To remove the add-in from the Excel menu, clear the DrillToPIA option from the Add-Ins dialog box.

Task 21-2: Installing the nVisionDrill Add-In

This section discusses:

- Understanding PS/nVision DrillDown Using Web Services
- Understanding Security for DrillDown Using nVisionDrill VSTO Add-in
- Installing the nVisionDrill Add-in for Microsoft Excel

Understanding PS/nVision DrillDown Using Web Services

For PeopleSoft PeopleTools 8.50 and later releases, you are able to use the web service capability when drilling from summarized to detailed PS/nVision reports using the nVisionDrill VSTO add-in.

PeopleSoft PeopleTools supports 64-bit Microsoft Excel 2010 and Excel 2013 for the nVisionDrill VSTO add-in.

Note. During the installation for the nVisionDrill VSTO add-in, if there is a message that pre-requisites are not found, run PIARedist.exe and vstor_redist.exe available in the *PS_HOME*\setup\nVisionDrill folder.

In addition, take note of the following requirements:

- You must set up and configure Integration Broker to use the nVision Drilldown feature as a web service.

  See Setting Up Integration Broker for Using Web Service Capability with nVisionDrill Add-in.
- The web servers should be SSL enabled.

  This is because all the web service calls happen through secure channels.

  When you create the SSL-enabled web server domain, you need to provide the optional parameter Authentication Token Domain with the appropriate domain name.

Note. The new nVisionDrill VSTO add-in is mainly designed for remote standalone file drilldown (where the end user doesn't have access to the PeopleSoft Pure Internet Architecture system). For all other purposes and Web drilldown, the nVision users are still encouraged to use the DrillToPIA add-in.

Understanding Security for DrillDown Using nVisionDrill VSTO Add-in

The nVisionDrill VSTO Add-in allows users to perform drilldown without having to access the PeopleSoft Pure Internet Architecture pages. This necessitates that the end users of nVisionDrill must sign in to the PeopleSoft system to be able to submit the drilldown process and access the subreports. The users of nVisionDrill VSTO add-in will be prompted to enter a user ID and password for the first time. This user ID and password are validated. If the users have access, they are taken to the menu with the list of DrillDown layouts for further drilldown operation.

When the users attempt another drilldown using the same parent report instance which is already open, the system does not prompt for the credentials, and the credentials of the first login are re-used. But for each new report instance or new drilldown report instance, the credentials must be entered again.

Note. All web service calls between the Microsoft Excel and PeopleSoft applications are SSL-enabled.

Task 21-2-1: Installing the nVisionDrill Add-in for Microsoft Excel

To install the nVisionDrill VSTO add-in for Microsoft Excel:

1. Go to *PS_HOME*\setup\nVisionDrill.
2. Run the nVisionDrillSetup.msi file.

   If all required software items have been installed, the nVisionDrill add-in installation will run to success.

   During the installation, if you see a message that pre-requisites are not found, run PIARedist.exe and vstor_redist.exe available in the *PS_HOME*\setup\nVisionDrill folder.
3. Ensure that the web server domain's SSL Root certificate is installed on the machine where the nVisionDrill VSTO add-in is installed.

   The Root Certificate should be installed correctly on the default browser of the machine. For example, on Microsoft Internet Explorer 8 the SSL Root Certificate should be installed under Trusted Root Certification Authorities.

Task 21-3: Installing the nVisionDrill Add-Ins for Multi-Language Installations

If you have a multi-language installation, first install NVisionDrillSetup.msi for English, as described above, and then install the NVisionDrillSetup_*xxx*.msi for the desired languages, where the extension *xxx* is the three-letter language code.

See *PeopleTools: Global Technology.*

Task 21-4: Setting Up PeopleSoft Integration Broker for Using Web Service Capability with nVisionDrill Add-in

To set up Integration Broker for using web service capability with PS/nVision DrillDown:

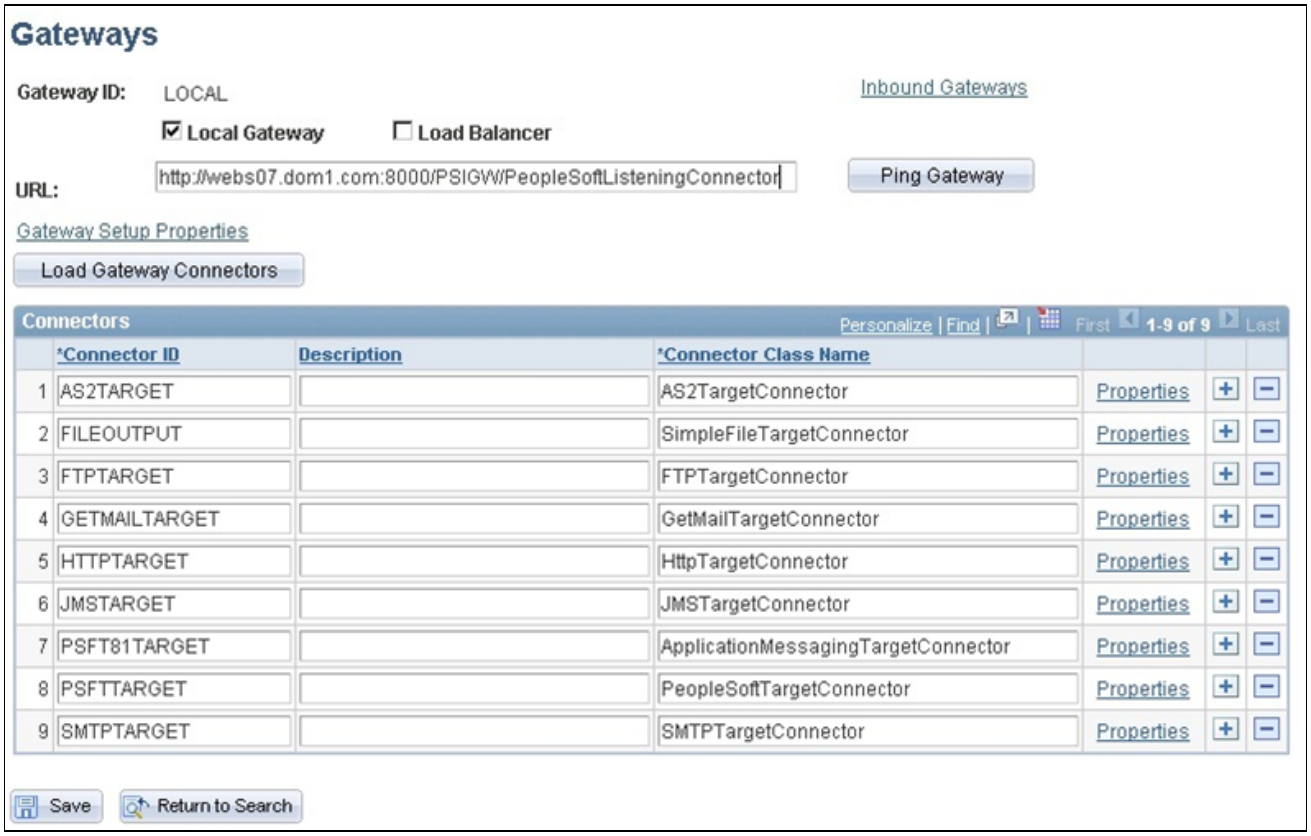
1. Select PeopleTools, Integration Broker, Configuration, Gateways.
2. Select the Integration Gateway ID for which the Local Gateway is enabled from the search results.

   An enabled Local Gateway is marked as "Y" in the search results.

3. In the URL field, enter the following value, where <machine_name> is the Web server machine name, including the domain name, and <port> is the HTTP port number of the PeopleSoft web server:

   http://*<machine_name>*:*<port>*/PSIGW/PeopleSoftListeningConnector

   This example shows the Integration Broker Gateways page with the URL http://webs07.dom1.com:8000/PSIGW/PeopleSoftListeningConnector, where webs07.dom1.com is the combined machine name and domain name, and 8000 is the HTTP port:



Integration Broker Gateways page

4. Click Ping Gateway.

   A message appears saying "Gateway URL has changed. Existing connector information will be cleared". Click OK on this message.

   You should see a message with the status ACTIVE, indicating a successful connection. Close this message.

5. On the Gateways page, click the Load Gateway Connectors button to load the list of connectors, and then click Save.

   If the ping is unsuccessful, check the Web server URL entered, and also make sure Pub/Sub servers are enabled in the Application Server configuration.

6. Select PeopleTools, Integration Broker, Service Operations Monitor, Administration, Domain Status.

7. Purge the unnecessary domains and enable the required domain.

   You should be able to see at least three dispatchers under Dispatcher Status. This is required for running asynchronous requests through Integration Broker.

Note. PeopleSoft Integration Broker must process all nVision web service requests that are sent from nVisionDrill VSTO add-in, so the Local PeopleSoft Node of PeopleSoft Integration Broker gateway must include at least three dispatchers.

8. Select PeopleTools, Integration Broker, Configuration, Gateways.

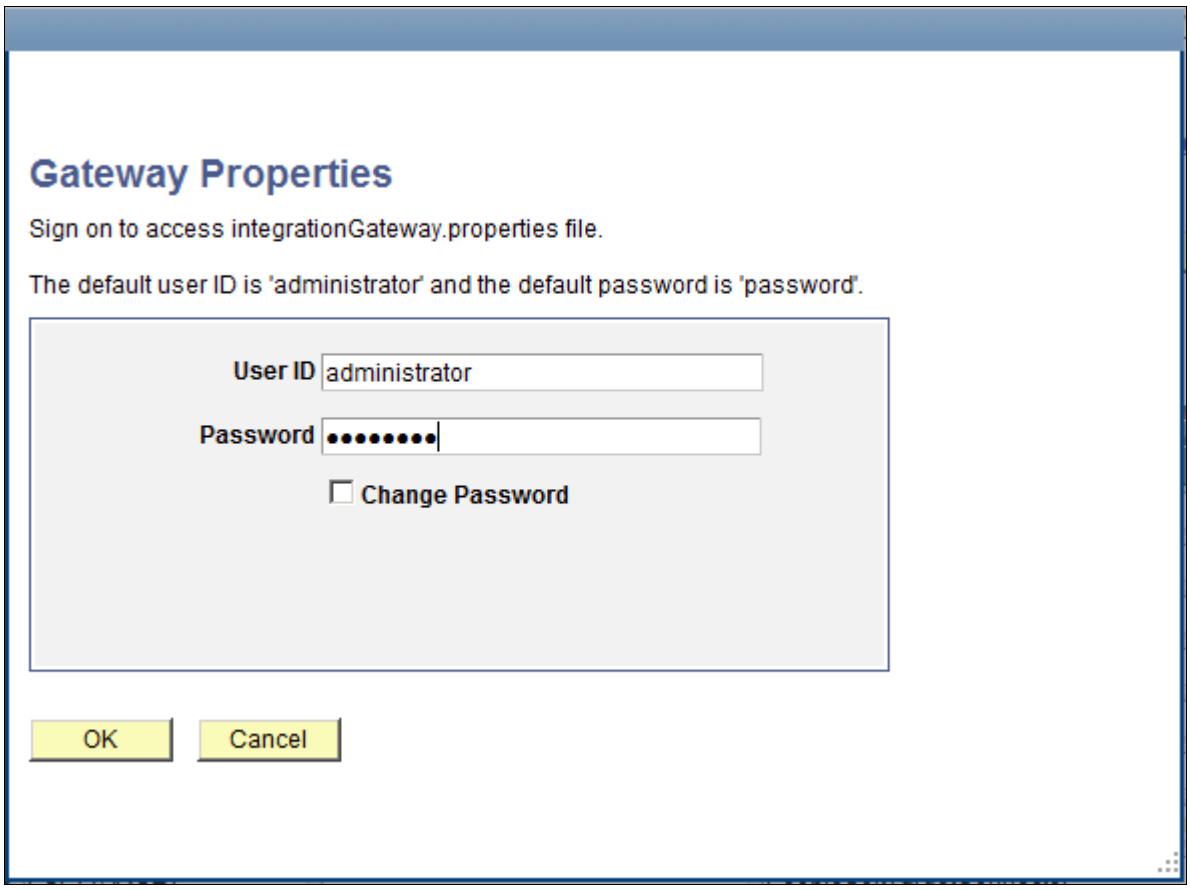
   Select the same Integration Gateway ID that you chose in step 1.

9. On the Gateways page, select the link Gateway Setup Properties.

   The Gateways Properties page appears.

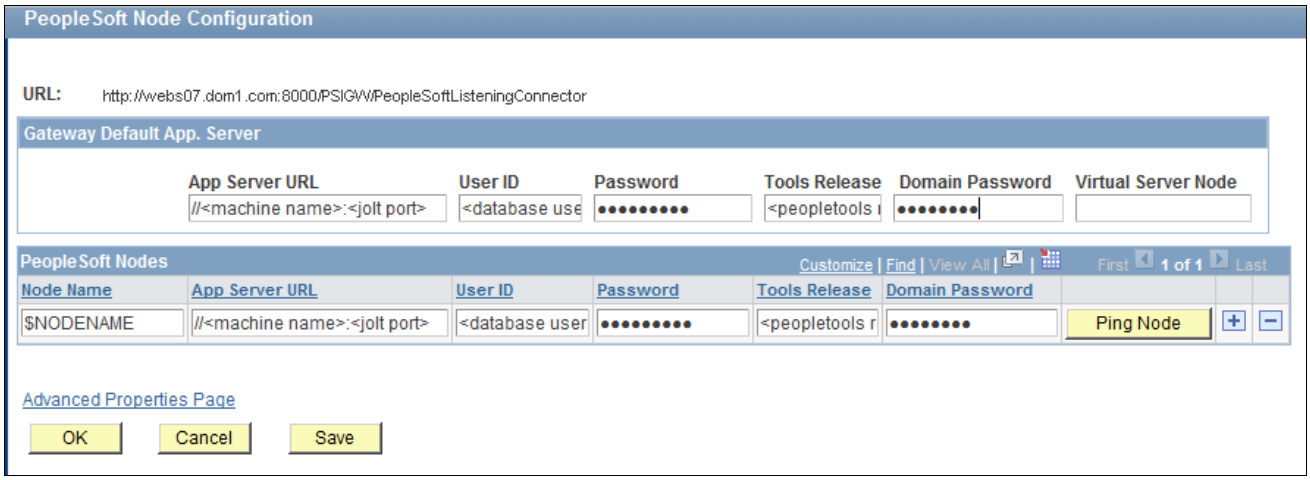
10. Enter the Integration Gateway administrator user ID and password.

    The default User ID is administrator, as shown in this example. Enter the password that you specified when setting up the PeopleSoft Pure Internet Architecture.



Gateway Properties sign on page

11. Add a new node in the PeopleSoft Node Configuration page.



PeopleSoft Node Configuration page

Node Name: Enter the name of the active default node.

This example uses $NODENAME.

To find the active default node, navigate to Integration Broker, Integration Setup, Nodes. Do a search, and choose the node for which the Local Node value is "1" and the Default Local Node value is "Y".

Enter the following values to complete the page:

Note. The following information can be retrieved by pressing CTRL+J on the PeopleSoft Node Configuration page.

- App Server URL: Enter the application server machine name and the Jolt port.
- User ID: Enter PeopleSoft user ID
- Password: Enter the password for the PeopleSoft user ID specified in the User ID field.
- Tools Release: Provide the exact PeopleSoft PeopleTools release that your application server is using.

12. Click Save.
13. Click Ping Node to be sure the node is accessible, and then exit.

    See *PeopleTools: Integration Broker Administration.*

Chapter 22

Installing Web Application Deployment Tools

This chapter discusses:

- Prerequisites
- Installing the Web Application Deployment Tool in Silent Mode
- Testing and Troubleshooting the Web Application Deployment

Prerequisites

This chapter includes instructions for installing the Web Application Deployment tool on Oracle WebLogic and IBM WebSphere. Complete the instructions for the web server you selected when you carried out the PeopleSoft PeopleTools installation. Typically, you would choose GUI mode for Microsoft Windows platforms and console mode for UNIX platforms.

Note. Oracle supports a number of versions of UNIX and Linux in addition to Microsoft Windows for the PeopleSoft installation. Throughout this book, there are references to operating systems. Where necessary, this book refers to specific operating systems by name (for example, Oracle Solaris, IBM AIX, or Linux); however, for simplicity the word UNIX is sometimes used to refer to all UNIX-like operating systems, including IBM AIX, Linux, HP-UX, and Oracle Solaris for SPARC. For the most up-to-date information on operating system support for your database platform, see the Certification information on My Oracle Support.

When you install your PeopleSoft application, consult the product-specific installation guide to determine whether the Web Application Deployment tool is required. If the Web Application Deployment tool is not referenced in the product-specific installation guide, you can skip this chapter.

Before you install the Web Application Deployment tool, confirm that you have completed the following requirements.

If you use Oracle WebLogic as your web server, you must fulfill these requirements:

- Java 8 must be installed and working properly. Your PATH environment variable must include an entry for Java 8 (for example, <*java*>/bin). If you do not install Java 8 the deployment will fail due to the absence of a Java compiler.
- The PeopleSoft web server must be installed during the PeopleSoft PeopleTools installation.
- Oracle WebLogic 12.2.1 must be installed.

If you use IBM WebSphere as your web server, you must fulfill these requirements:

- Java 8 or above must be installed and working properly.
- The PeopleSoft web server must be selected for installation during the PeopleSoft PeopleTools installation.
- IBM WebSphere 9.0.0.0 must be installed. The web server must be up and running when you carry out the

Web Application Deployment tool installation.

- The PeopleSoft Pure Internet Architecture must be installed on IBM WebSphere.
- If you are running on UNIX, run the Web Application Deployment installation with a user who owns IBM WebSphere, and who owns *PS_HOME*. Here are two examples:
  - If IBM WebSphere is owned by "root" and group "system", the Web Application Deployment installation must be run with "root" and group "system."
  - If WebSphere is owned by user "wsadmin" and group "wsadmin", then the Web Application Deployment installation must be run with wsadmin and wsadmin as the user and group.

See Also

"Installing Web Server Products"

"Setting Up the PeopleSoft Pure Internet Architecture in GUI Mode"

"Setting Up the PeopleSoft Pure Internet Architecture in Console Mode"

"Using the PeopleSoft Installer"

PeopleTools: System and Server Administration

PeopleSoft Customer Relationship Management Installation

Task 22-1: Installing the Web Application Deployment Tool in Silent Mode

This section discusses:

- Understanding the Web Application Deployment Tool Silent Mode Installation and the Response File
- Editing the Web Application Deployment Tool Response File to Deploy DES
- Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES

Understanding the Web Application Deployment Tool Silent Mode Installation and the Response File

You can carry out a silent installation of the Web Application Deployment tool by providing all the required settings in a response file. With silent installation there is no user interaction after the installation begins. Silent mode installation of the Web Application Deployment tool is supported for both Microsoft Windows and UNIX operating systems platforms, and for both Oracle WebLogic and IBM WebSphere web servers.

Task 22-1-1: Editing the Web Application Deployment Tool Response File to Deploy DES

You need a response file to start the installer in silent mode. The Web Application Deployment tool installer comes with a response file template (responsefile.txt) that can be found under *PS_HOME*\setup\PsMpWebAppDeployInstall. Modify the values in the response file according to your installation requirements. The response file should contain all the input parameters that are needed for deploying Web Application Deployment tool. To exclude sections that are not needed, begin the line with a pound sign (#).

The sample response file template includes the following sections:

- Comments and instructions, including the command to run the silent installation, and the proper syntax for specifying paths in Microsoft Windows or UNIX.

```
# ************************************************************
#
# Response file for WebAppDeploy Installations
#
# 1. In Windows
#  use "\\" as file path seperator
#     Open a command prompt; go to PS_HOME\setup\PsMpWebAppDeployInstall⇒
 and run following commands
#     setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
#
# 2. In UNIX
#  use "/" as file path seperator
#     Go to  PS_HOME/setup/PsMpWebAppDeployInstall and run following⇒
 commands
#     setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
#
#
#*******************************************************************
```

- The directory where you want to deploy the web server domain for the Web Application Deployment. The default directory is *PS_CFG_HOME*.

```
# Set the below variable to the location where you want to install DES.
# PLEASE NOTE this variable could be ANY DIRECTORY on your machine. It⇒
 includes but is definitely not limited to PeopleTools Home.
PS_CFG_HOME=
```

- A name for the Web Application Deployment domain, such as PSWebApp.

  Use a fully qualified domain name, and do not use an IP address.

Note. The domain that you create for the Web Application Deployment cannot be the same as any existing PeopleSoft Pure Internet Architecture domains. Be sure you do not enter a name that you used for a PeopleSoft Pure Internet Architecture domain.

```
# Domain Name
DOMAIN_NAME=PSWebApp
```

- The web server type, either Oracle WebLogic or IBM WebSphere.

```
# Web server type. Possible values are "weblogic", "websphere"
SERVER_TYPE=weblogic
```

- The root directory where you installed Oracle WebLogic or IBM WebSphere.

  In this example, the Oracle Websphere section is excluded:

```
# WebLogic home, the location where Oracle WebLogic is installed (for⇒
 WebLogic deployment only)
BEA_HOME=C:\\oracle

# WebSphere Home, the location where IBM WebSphere is installed (for Web⇒
Sphere deployment only)
```

```
#WS_HOME=
```

- The login ID and password for the new web server domain that you are creating.

Note. The default login ID is system, as shown on this example. The password, which you specified during the PeopleSoft Pure Internet Architecture setup, must be at least 8 alphanumeric characters with at least one number or special character.

```
# admin console user id/password for securing WebLogic/WebSphere admin⇒
 console credential
USER_ID=system
USER_PWD=
USER_PWD_RETYPE=
```

- The HTTP and HTTPS port numbers.

  Do not use the same values that you used for the HTTP and HTTPS ports when setting up the PeopleSoft Pure Internet Architecture.

```
HTTP_PORT=8000
HTTPS_PORT=4430
```

- The domain type and install action values in the sample response file are mandatory.

  Do not change these parameters.

```
# DES support only NEW_DOMAIN , so please do not change the below⇒
 variable.
DOMAIN_TYPE=NEW_DOMAIN

# DES support only CREATE_NEW_DOMAIN , so please do not change the below⇒
 variable.
INSTALL_ACTION=CREATE_NEW_DOMAIN
```

- The installation configuration

```
# Install type to specify whether the installation is a single server or⇒
 multi server deployment,
# possible valuses for INSTALL_TYPE are singleserver, multiserver,⇒
 distributedmanagedserver
INSTALL_TYPE=singleserver
```

  - Singleserver (Single Server Domain) — This configuration is intended for single user or very small scale, non-production environments.
  - Multiserver (Multi-Server Domain) — This configuration is intended for a production environment.
  - Distributedmanagedserver (Distributed Managed Server) — This option is an extension of the Multi-Server Domain selection and installs the necessary files to boot a managed server.

    This option requires a Multi Server installation to be performed to some other location, which will contain the configuration for this managed server.

- The PS_APP_HOME location.

  Note that the DPK installation requires that the *PS_APP_HOME* location be different from the *PS_HOME* location; that is, a decoupled *PS_APP_HOME*.

```
# If your PeopleSoft Applications install is decoupled from PS_HOME then⇒
```

```
 PS_APP_HOME will be the actual path to PS_APP_HOME, else it should be⇒
 the path to PS_HOME.
PS_APP_HOME=
```

- Information about your database.

```
# Please enter the CRM specific DB information

# possible values for DB_TYPE are MSSQL,ORACLE,DB2UDB
DB_TYPE=MSSQL
DB_SERVER_NAME=
DB_PORT=1433
DB_SERVER_INSTANCE=
DB_USER=Admin
DB_PASSWORD=
```

  - DB_TYPE — The RDBMS type
  - DB_SERVER_NAME — The name of the machine that is hosting the database
  - DB_PORT — Consult with your database administrator for the correct port number.
  - DB_SERVER_INSTANCE — the database name.
  - DB_USER — The user name for the database.
  - DB_PASSWORD — The password for the database user.

Task 22-1-2: Running the Web Application Deployment Tool Silent Mode Installation to Deploy DES

To install the Web Application Deployment tool in silent mode, use the response file that you modified for your configuration. Substitute the location where you saved the response file for *<path_to_response_file>* in the following procedures:

1. Open *PS_HOME*\setup\PsMpWebAppDeployInstall\responsefile.txt for editing.
2. Modify the file for your environment, and then save the file.
   - If your web server is on Oracle WebLogic:

     Specify `SERVER_TYPE=weblogic` and the installation location for the Oracle WebLogic software, such as `BEA_HOME=C:\\WLS1221`.
   - If your web server is on IBM WebSphere:

     Specify `SERVER_TYPE=websphere` and the installation location for the IBM WebSphere software, such as `WS_HOME=C:\\IBM\\WebSphere\\AppServer`. In addition, add a comment character (#, pound or hash sign) in front of the line `BEA_HOME=`.
   - Enter values for the remaining installation parameters.
3. In a command prompt, go to *PS_HOME*\setup\PsMpWebAppDeployInstall.
4. On Microsoft Windows, run the following command, using "\\" as a separator in the file path:

   ```
   setup.bat -i silent -DRES_FILE_PATH=<path_to_response_file>
   ```

   For example:

   ```
   setup.bat -i silent -DRES_FILE_PATH=C:\\pt856\\setup\\PSMpWebAppDeploy⇒
   ```

```
Install
```

5. On UNIX, run the following command, using "/" as a separator in the file path:

   ```
   setup.sh -i silent -DRES_FILE_PATH=<path_to_response_file>
   ```

   For example:

   ```
   setup.sh -i silent -DRES_FILE_PATH=/home/pt856/setup/PsMpWebAppDeploy⇒
   Install
   ```

Task 22-2: Testing and Troubleshooting the Web Application Deployment

Check the log file for any problems encountered during installation. The log file is saved in the following location:

<*WebAppDeploy_DIR*>/webserv/webappinstall<*domain_name*>.log

The *WebAppDeploy_DIR* is the directory where the web server domain for the Web Application Deployment was installed. The <*domain_name*> is the name you specified for the Web Application Deployment web server domain, such as PSWebApp.

If you need to start or stop Oracle WebLogic or IBM WebSphere, use the commands given in the chapter on installing the PeopleSoft Pure Internet Architecture.

See Testing the PeopleSoft Pure Internet Architecture Installation in the chapters on setting up the PeopleSoft Pure Internet Architecture.

Chapter 23

Installing Oracle Policy Automation for PeopleSoft Integration

This chapter discusses:

- Understanding Oracle Policy Automation
- Prerequisites
- Obtaining Oracle Policy Automation and Oracle Policy Modeling
- Installing Oracle Policy Modeling
- Installing Oracle Policy Automation
- Accessing the Oracle Policy Automation Hub with Oracle Policy Modeling

Understanding Oracle Policy Automation

Oracle Policy Automation (OPA) is a suite of software products for modeling and deploying business rules within enterprise applications. It is a specialist application that is focused on modeling, automating, and optimizing the implementation of policy, legislation, and complex business rules.

OPA suite consists of the following five major components:

- Oracle Web Determinations — The Web Determinations is a web application that allows rapid deployment of interactive applications based on rules.
- Oracle Determinations Server — The Determinations Server is a web service interface that allows remote client applications to send assessment data, perform inference based on chosen rule-base and returns the determination of the inference to the requesting client.

  It is built on top of the Determinations Engine.
- Oracle Determinations Engine — The Determinations Engine is the core component of the OPA, which provides basic services for executing rules-based applications like inference mechanisms, metadata to build rules and natural language support.
- Oracle Policy Modelling (OPM) — OPM is an integrated development environment that supports all aspects of the OPA lifecycle, such as natural language-based rule authoring with Microsoft Word or Microsoft Excel, debugging of rules, and comprehensive rule testing facilities.

  OPM is supported on Microsoft Windows operating systems. It has integrated source control to store multiple versions of the rules.
- Oracle Policy Automation Hub (OPA Hub) — OPA Hub is a central administration console with a repository database for storing Rules Projects. and

  The OPA Hub provides connections to third party applications, for example PeopleSoft environments, to fetch data models. It is a Web application deployed on an Oracle WebLogic domain.

The current release of PeopleSoft PeopleTools supports OPA 12.2.4. This section describes the installation of OPM and OPA for use with PeopleSoft environments

See Also

PeopleTools: System and Server Administration, "Working with Oracle Policy Automation"

Oracle Policy Automation documentation on Oracle Technology Network, http://www.oracle.com/technetwork/apps-tech/policy-automation/documentation/index.html

Prerequisites

Before installing Oracle Policy Automation, the following software is required:

- Oracle database server software
- A dedicated Oracle database instance

  See Setting Up the OPA Database.
- Oracle WebLogic server software, domain, and managed server

  See Setting Up the WebLogic Domain and Administration Server.

Task 23-1: Obtaining Oracle Policy Automation and Oracle Policy Modeling

To download Oracle Policy Automation and Oracle Policy Modeling from Oracle Technology Network (OTN):

1. Go to the Oracle Policy Modeling Downloads page on OTN.

   See Oracle Policy Automation Downloads, http://www.oracle.com/technetwork/apps-tech/policy-automation/downloads/index.html.
2. Read and accept the license agreement.
3. Locate Oracle Policy Automation 12.2.4 (August 2016) and follow the instructions to download Oracle Policy Modelling and Oracle Policy Automation server components.

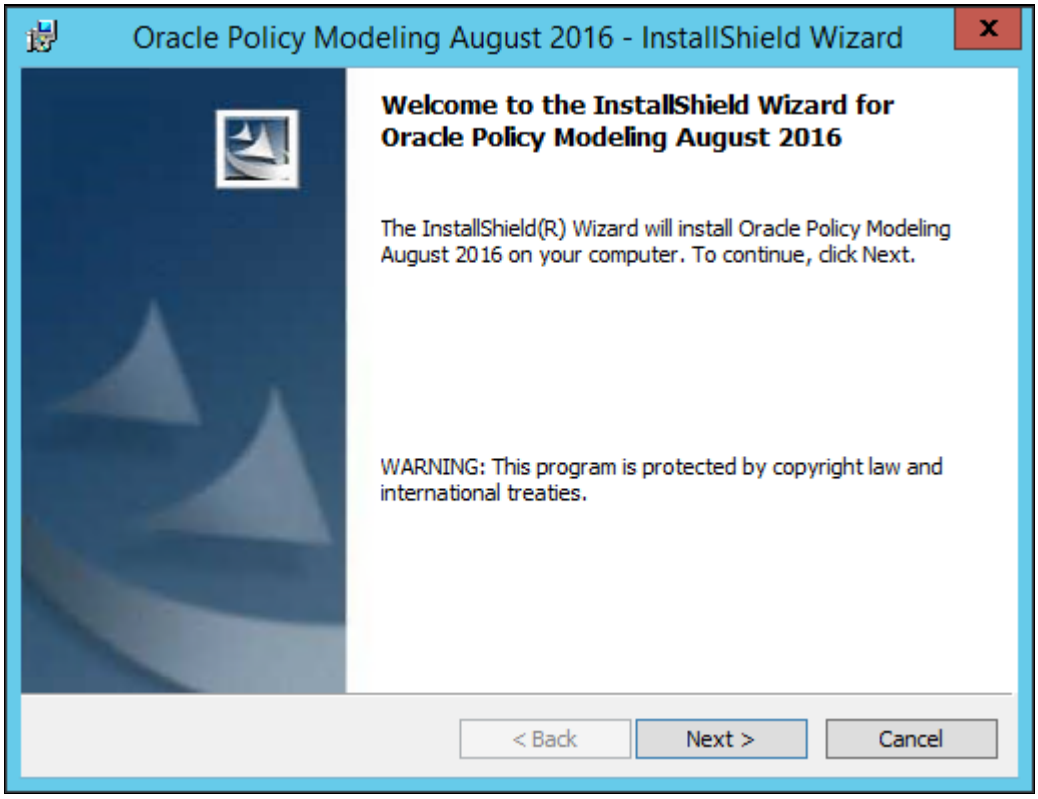
To download Oracle Policy Automation and Oracle Policy Modeling from Oracle Software Delivery Cloud:

1. Sign in to Oracle Software Delivery Cloud at http://edelivery.oracle.com.
2. Enter Oracle Policy Automation in the Search by field, and select Oracle Policy Automation 12.2.4 from the results list.
3. Click Select Platform, click the operating system you are running on, and click Select.
4. Enter Oracle Policy Modeling in the Search by field, and select Oracle Policy Modeling 12.2.4 from the results list.
5. Click Select Platform, click the operating system you are running on, and click Select.
6. Click Continue twice.
7. Read the license agreements, and select the check box to acknowledge that you accept the agreement, and then click Continue.
8. Download the zip files for OPA and OPM to a temporary location, referred to here as *OPA_INSTALL*.

Task 23-2: Installing Oracle Policy Modeling

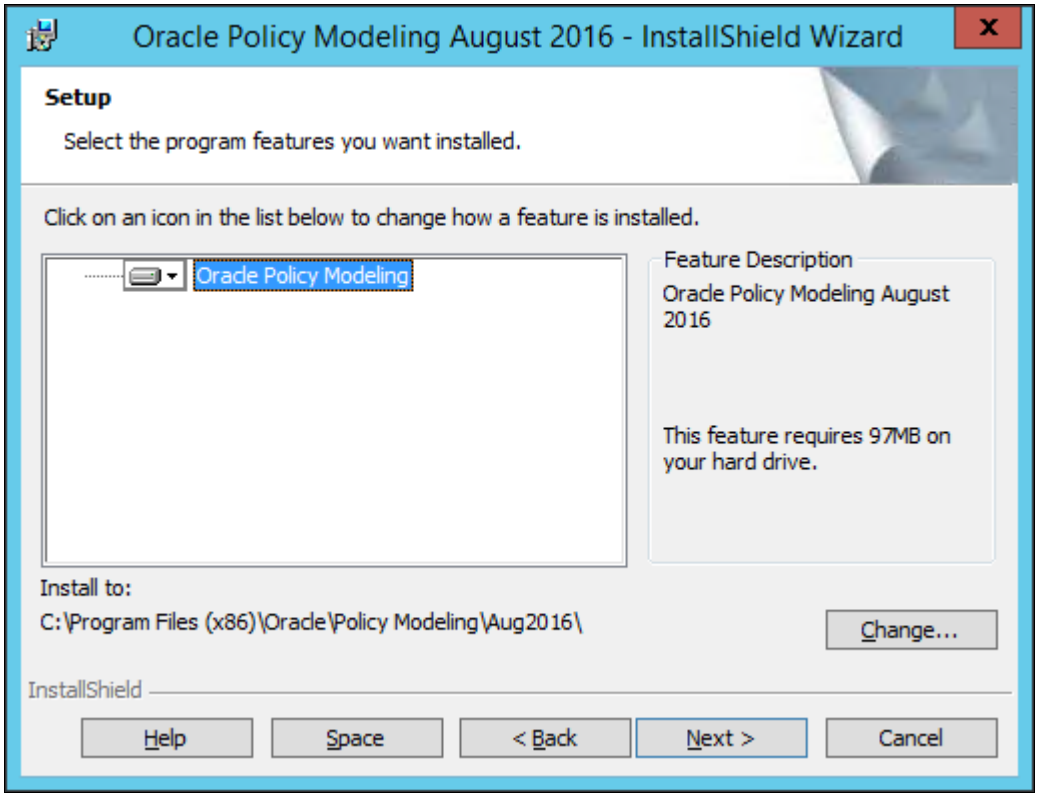
To install OPM on Microsoft Windows:

1. Go to the location where you downloaded the OPM zip file, *OPA_INSTALL*.
2. Extract the OPM zip file to obtain the installation executable.
3. Double-click the executable, Oracle_Policy_Modeling_Aug2016.exe to open the installer.
4. The installer checks for the presence of Java 8 and installs it if it is not present.
5. Click Next on the Welcome window.



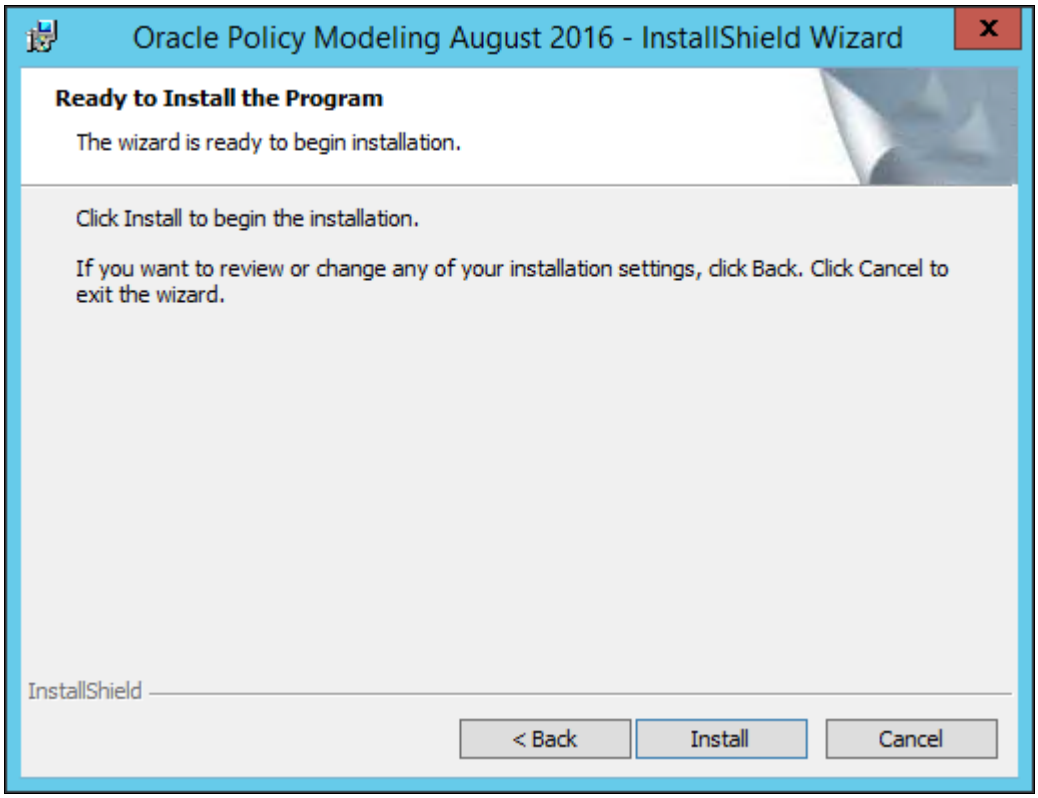
Oracle Policy Modeling August 2016 Welcome window

6. On the Setup window, accept the default installation location, C:\Program Files (x86)\Oracle\Policy Modeling\Aug2016, or click Change and select a different location.



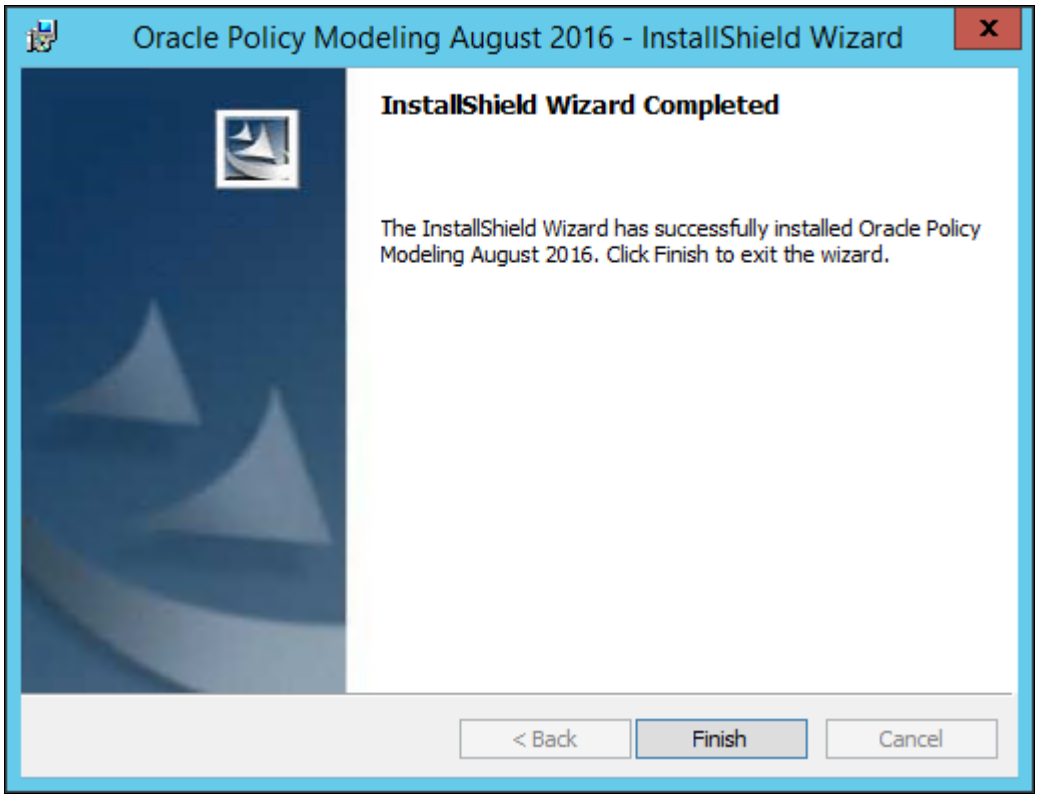
Oracle Policy Modeling August 2016 Setup window

7. Click Next to continue on the Ready to Install the Program window.



Oracle Policy Modeling August 2016 Ready to Install the Program window

8. Click Finish on the Completed window.



Oracle Policy Modeling August 2016 InstallShield Wizard Completed window

You will use OPM in the section Accessing the Oracle Policy Automation Hub with Oracle Policy Modeling.

Task 23-3: Installing Oracle Policy Automation

This section discusses:

- Setting Up the OPA Database
- Setting Up the WebLogic Domain and Administration Server
- Granting Permission to the OPA Database
- Running the OPA Installation Script
- Starting the Managed Server
- Removing the OPA Deployment

Task 23-3-1: Setting Up the OPA Database

Before installing OPA, you must install supported Oracle database server software and create an Oracle database instance. The OPA setup requires a dedicated database instance. Do not use a database that is used for other PeopleSoft purposes.

Note. You may use an Oracle pluggable database.

When setting up the Oracle database, make a note of the following parameters that will be used for the OPA installation:

- Database name
- Database host name and listener port
- Database administrator user ID
- Database administrator user password

Task 23-3-2: Setting Up the WebLogic Domain and Administration Server

The setup for OPA requires an Oracle WebLogic domain and managed server for OPA. The Oracle WebLogic domain is used for deploying Oracle Policy Automation Hub and Determinations Server as web applications.

Install Oracle WebLogic server software and set up a WebLogic domain and a managed server, as described in the Oracle WebLogic online documentation.

See the information about domains and managed servers in the Oracle WebLogic Server 12.2.1.2.0 online documentation on Oracle Help Center, http://docs.oracle.com/middleware/12212/wls/wls-administer.htm

When setting up WebLogic , make a note of the parameters that will be used for the OPA installation. The following table lists values and descriptions used for input when running the OPA installation script.

Value	Description
Domain Name	The name for the WebLogic domain created.
Admin server name	The name of the WebLogic administration server for the domain, for example, AdminServer
Admin server HTTP port	The HTTP port for the WebLogic administration server
Managed server name	The name for the WebLogic managed server being created for OPA
WL_HOME	The full path to the WebLogic installation location
weblogic domain path	The full path to the WebLogic domain
path to WLST	The full path to the WebLogic Scripts Tools files

After completing the Oracle WebLogic domain and managed server installation, start the Oracle WebLogic administration server.

Task 23-3-3: Granting Permission to the OPA Database

You must grant a few permissions to the database used for the OPA Hub. This section assumes that you have created an Oracle container database (CDB) and pluggable database (PDB).

1. In a command prompt, set the ORACLE_SID environment variable to the CDB, which is CDBOPA in this example:

   set ORACLE_SID=CDBOPA

2. Start SQL*Plus as sysdba:

```
sqlplus / as sysdba
```

3. List the pluggable databases:

```
SQL> show pdbs

    CON_ID CON_NAME                        OPEN MODE  RESTRICTED
---------- ------------------------------ ---------- ----------
         2 PDB$SEED                       READ ONLY  NO
         3 PSFTDB1                        READ WRITE NO
         4 OPAPDB                         READ WRITE NO
```

4. Enter this command, specifying the name of the pluggable database, OPAPDB in this example:

```
SQL> alter session SET CONTAINER = OPAPDB
  2  ;
Session altered.
```

5. Enter the following commands to grant permissions to the OPA user, which is opauser in this example:

```
GRANT CREATE SESSION TO opauser;
GRANT CREATE TABLE TO opauser;
GRANT CREATE VIEW TO opauser;
GRANT CREATE ANY TRIGGER TO opauser;
GRANT CREATE ANY PROCEDURE TO opauser;
GRANT CREATE SEQUENCE TO opauser;
GRANT CREATE SYNONYM TO opauser;
ALTER USER opauser quota unlimited on USERS;
```

6. Exit SQL*Plus.

Task 23-3-4: Running the OPA Installation Script

This section assumes that you extracted the OPA zip file in *WL_HOME/*opa. The installation script requires the input listed in the following table:

Script Option	Input	Description
-name	opa deployment name	Enter a name to identify the OPA deployment, such as opa1224.
-resetpass	admin password for the hub	Password used when signing in as admin to the OPA Hub
-key	encryption key	The key to use for encrypting all database connection information. See Oracle Policy Automation Documentation Library for information on using the encryption key.
-wldomain	path to WebLogic domain	The full path to the domain referenced in the section Setting Up the WebLogic Domain and Administration Server.

Script Option	Input	Description
-wlstdir	path to WLST	The full path to the WebLogic Scripting Tools files.
-wladminurl	Admin Server URL	Enter the WebLogic domain administration server and port, for example, t3://localhost:8001. T3 protocol is Oracle's proprietary protocol. Remote Method Invocations (RMI) communications in WebLogic Server use the T3 protocol to transport data between WebLogic Server and other Java programs, including clients and other WebLogic Server instances. See Configure T3 protocol in Oracle WebLogic Server Administration Console Help, http://docs.oracle.com/middleware/1221/wls/WLACH/core/index.html.
-wladmin	Admin Server name	The name of the WebLogic administration server referenced in the section Setting Up the WebLogic Domain and Administration Server.
-target	Managed Server name	The name of the WebLogic managed server mentioned in the section Setting Up the WebLogic Domain. You will use this name when starting the managed server in the next section.
-dbtype	database type	Specify oracle as the database server platform for the OPA database.
-dbconn	Host:Port/DB	The host name, listener port, and OPA database name
-dbtnsname	TNS name for the DB	For an Oracle database, the name used for connectivity in the tnsnames.ora file.
-dbuser	DB connect user	The OPA user specified in the section Granting Permission to the OPA Database.
-dbpass	DB connect password	The password for the OPA user.

Script Option	Input	Description
-non-secure-cookie	true or false	The non-secure-cookie parameter is either true or false depending on whether you wish your installed application to accept non-secure session cookies. See Oracle Policy Automation Documentation Library, Command-line installation of Policy Automation and In-Memory Policy Analytics.

To run the script to install OPA Hub:

1. In a command prompt, change directory to *WL_HOME*/opa/bin.
2. Run the install command:

```
./install.sh install -name=<opa deployment name> -resetpass=<admin⇒
 password for the Hub> -key=<encryption key> -wldomain=<path to Web⇒
Logic domain> -wlstdir=<path to WLST> -wladminurl=<Admin Server URL> -⇒
wladmin=<Admin Server name> -target=<Managed Server name> -dbtype=⇒
<database type> -dbconn=<Host:Post\DB> -dbtnsname=<TNS name for the⇒
 DB> -dbuser=<DB connect User> -dbpass=<DB Connect Password> -non-⇒
secure-cookie=<false or true>
```

   For example, on Microsoft Windows:

```
install.cmd install -name=opa1224 -resetpass=<password> -key=<password>⇒
 -wldomain=C:\WLS1221\user_projects\domains\opa1224 -wlstdir=C:\WLS1221⇒
\wlserver\common\bin -wladminurl=t3://localhost:8001 -wladmin=Admin⇒
Server -target=opa1224ms -dbtype=oracle -dbconn=hostname.example.com:⇒
1521/OPADB -dbuser=opauser -dbpass=<password> -non-secure-cookie=false
```

   On UNIX:

```
./install.sh install -name=opa1224 -resetpass=<password> -key=<password>⇒
 -wldomain=/home/psftuser/wls1221/user_projects/domains/opa1224 -⇒
wlstdir=/home/psftuser/wls1221/wlserver/common/bin  -wladminurl=t3:⇒
//localhost:8001 -wladmin=AdminServer -target=opa1224ms -dbtype=oracle -⇒
dbconn=hostname.example.com:1521/OPADB -dbuser=opauser -dbpass=⇒
<password> -non-secure-cookie=false
```

3. Wait until the script process completes.

   The OPA Hub web application is deployed to the WebLogic managed server.

Task 23-3-5: Starting the Managed Server

To avoid having to provide the WebLogic administration user name and password every time you start the managed server, set the JAVA_OPTIONS environment variable before starting the managed server:

1. Set JAVA_OPTIONS to reference the boot.properties file.

The boot.properties file contains encrypted versions of the administration user and password, and is located in <*Domain name*>/servers/AdminServer/security.

```
JAVA_OPTIONS=-Dweblogic.system.BootIdentityFile=<absolute path to the⇒
 boot.properties file>
```

On Microsoft Windows:

```
set JAVA_OPTIONS=-Dweblogic.system.BootIdentityFile=C:\WLS1221\user_⇒
projects\domains\opa1224\servers\AdminServer\security\boot.properties
```

On Linux or UNIX:

```
export JAVA_OPTIONS=-Dweblogic.system.BootIdentityFile=/home/psftuser⇒
/wls1221/user_projects/domains/opa1224/servers/AdminServer/security⇒
/boot.properties
```

2. Change directory to <*WL_HOME*>/user_projects/domains/<*Domain name*>/bin.
3. Run the command to start the managed server, supplying the Managed Server Name and Admin URL you specified in the section Running the OPA Installation Script.

   ```
   startManagedWebLogic.<ext> <Managed Server Name> <Admin Server URL>
   ```

   On Microsoft Windows:

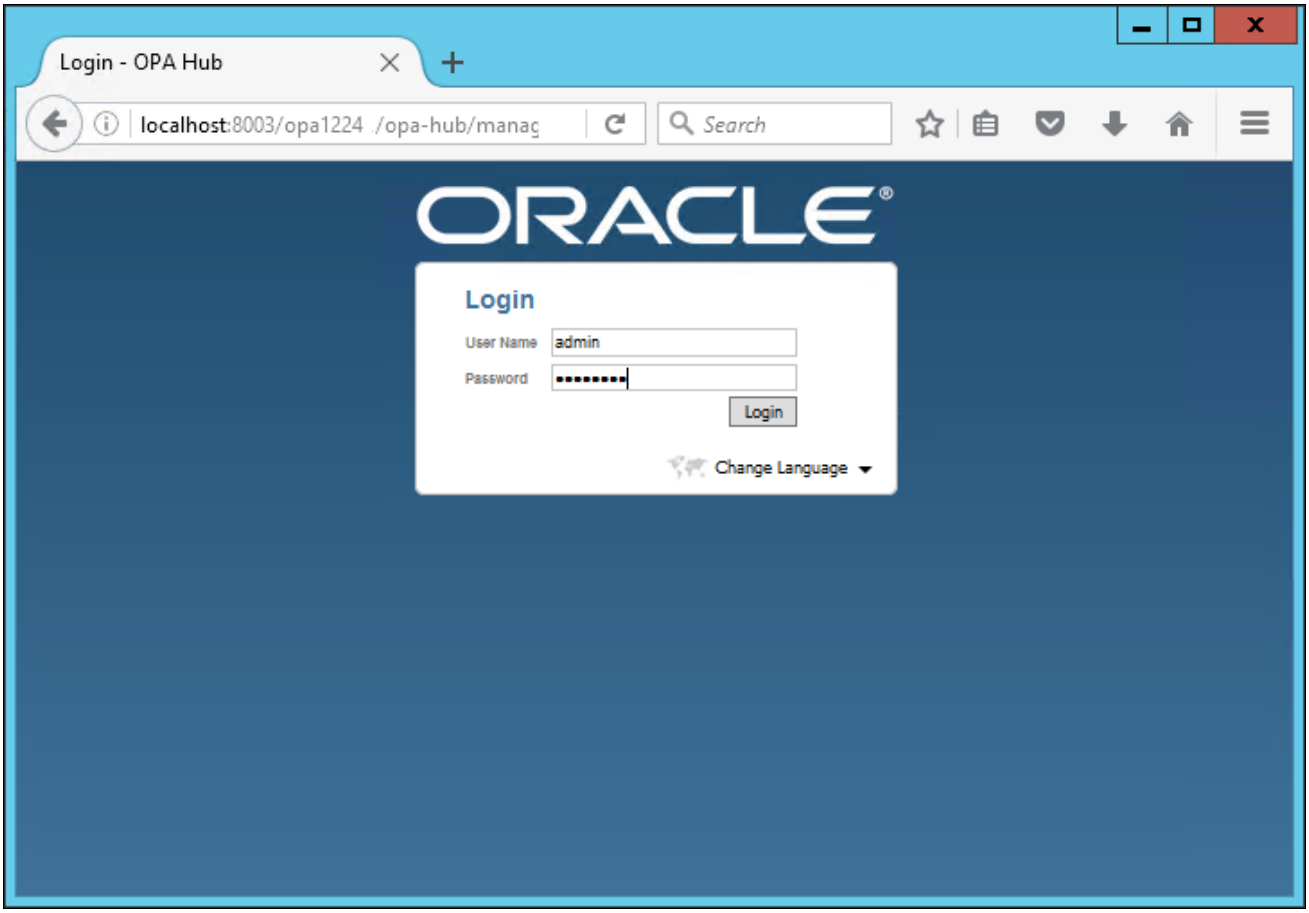
   ```
   startManagedWebLogic.cmd opa1224ms http://localhost:8001
   ```

   On UNIX:

   ```
   ./startManagedWebLogic.sh opa1224ms http://localhost:8001
   ```

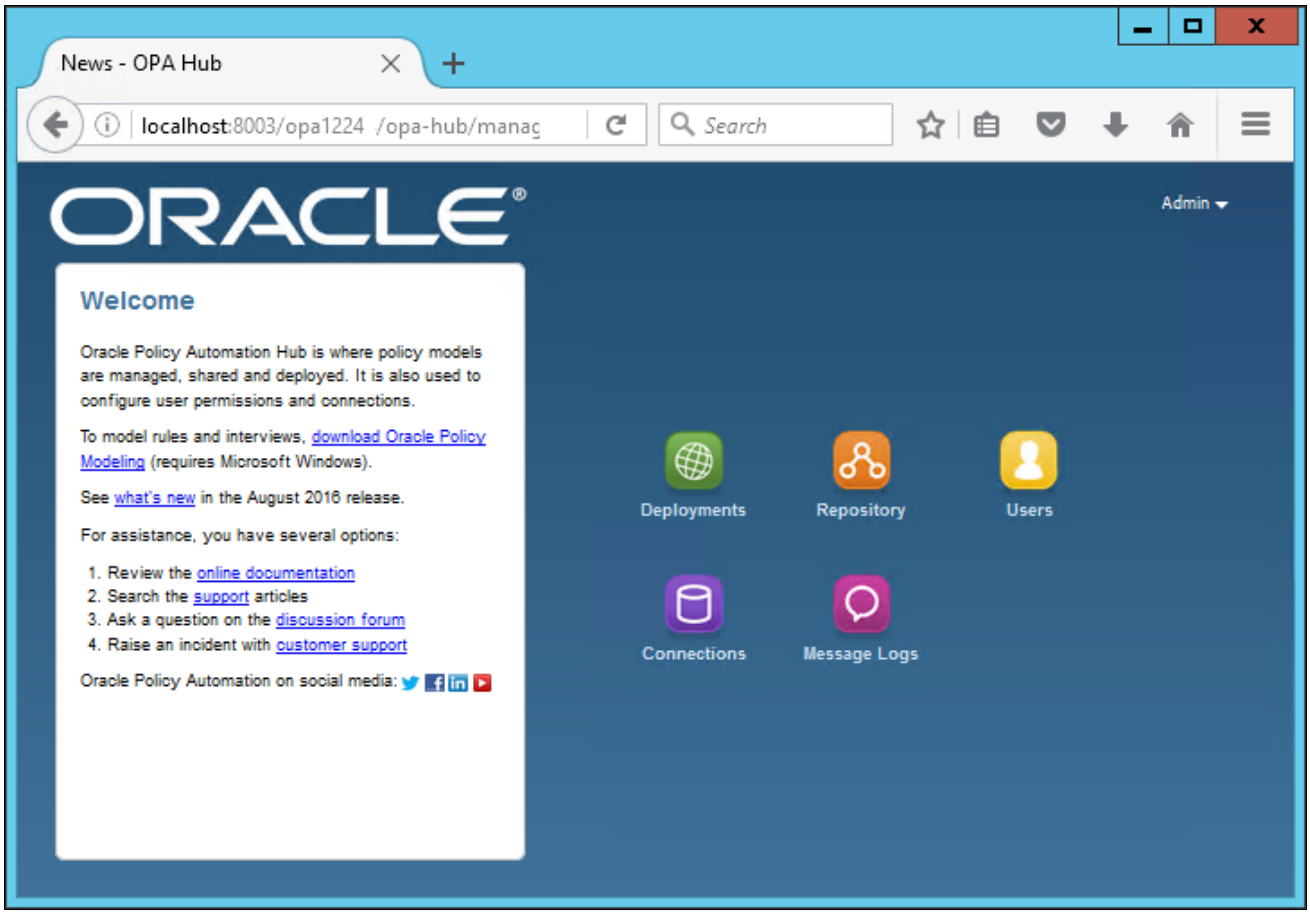
4. Wait until the script completes, as indicated by the status RUNNING.

5. To log in to the OPA hub, enter this URL in a browser:
   http://<*Hostname*>:<*Managed Server HTTP port*>/<*Domain Name*>/opa-hub/manager



OPA Hub Login page

6. Sign in with user admin and the administrator password.



OPA Hub Welcome page

7. To reset the OPA Hub password, in a command prompt, change directory to *WL_HOME*/opa/bin.
8. Enter this command, supplying the current password.

```
admin.<ext> reset_password -name=<Domain Name> -dbtype=<database type> -⇒
dbconn=<Host:Port/DB> -dbuser=<DB connect user> -dbpass=<DB connect⇒
 password>
```

   The script resets the password and displays a new password.
9. The next time you log in to the OPA Hub, you will be forced to change the password.

Task 23-3-6: Removing the OPA Deployment

To remove the OPA web application deployment:

1. In a command prompt, change directory to *WL_HOME*/opa/bin.
2. Enter this command to remove the OPA web application deployment:

```
undeploy.<ext> -name=<opa deployment name> -wldomain=<path to WebLogic⇒
 domain> -wlstdir=<path to WLST> -wladminurl=<Admin Server URL> -⇒
wladmin=<Admin Server name>
```

On Microsoft Windows:

```
undeploy.cmd -name=opa1224 -wldomain=C:\WLS1221\user_projects\domains⇒
\opa1224 -wlstdir=C:\WLS1221\wlserver\common\bin -wladminurl=t3:⇒
//localhost:8001 -wladmin=AdminServer
```

On UNIX:

```
./undeploy.sh -name=opa1224 -wldomain=/home/psftuser/wls1221/user_⇒
projects/domains/opa1224 -wlstdir=/home/psftuser/wls1221/wlserver⇒
/common/bin -wladminurl=t3://localhost:8001 -wladmin=AdminServer
```

3. Change directory to <*WL_HOME*>/user_projects/domains/<*Domain name*>/bin.
4. Enter this command to stop the managed server:

```
stopManagedWebLogic.<ext> <Managed server name> <Admin Server URL>⇒
 <Admin Server User> <Admin Server User password>
```

On Microsoft Windows:

```
stopManagedWebLogic.cmd opa1224ms http://localhost:8001 weblogic ⇒
<password>
```

On UNIX:

```
./stopManagedWebLogic.sh opa1224ms http://localhost:8001 weblogic ⇒
<password>
```

5. Enter thus command to stop the WebLogic administration server.

   On Microsoft Windows:

```
stopWebLogic.cmd
```

   On UNIX:

```
./stopWebLogic.sh
```

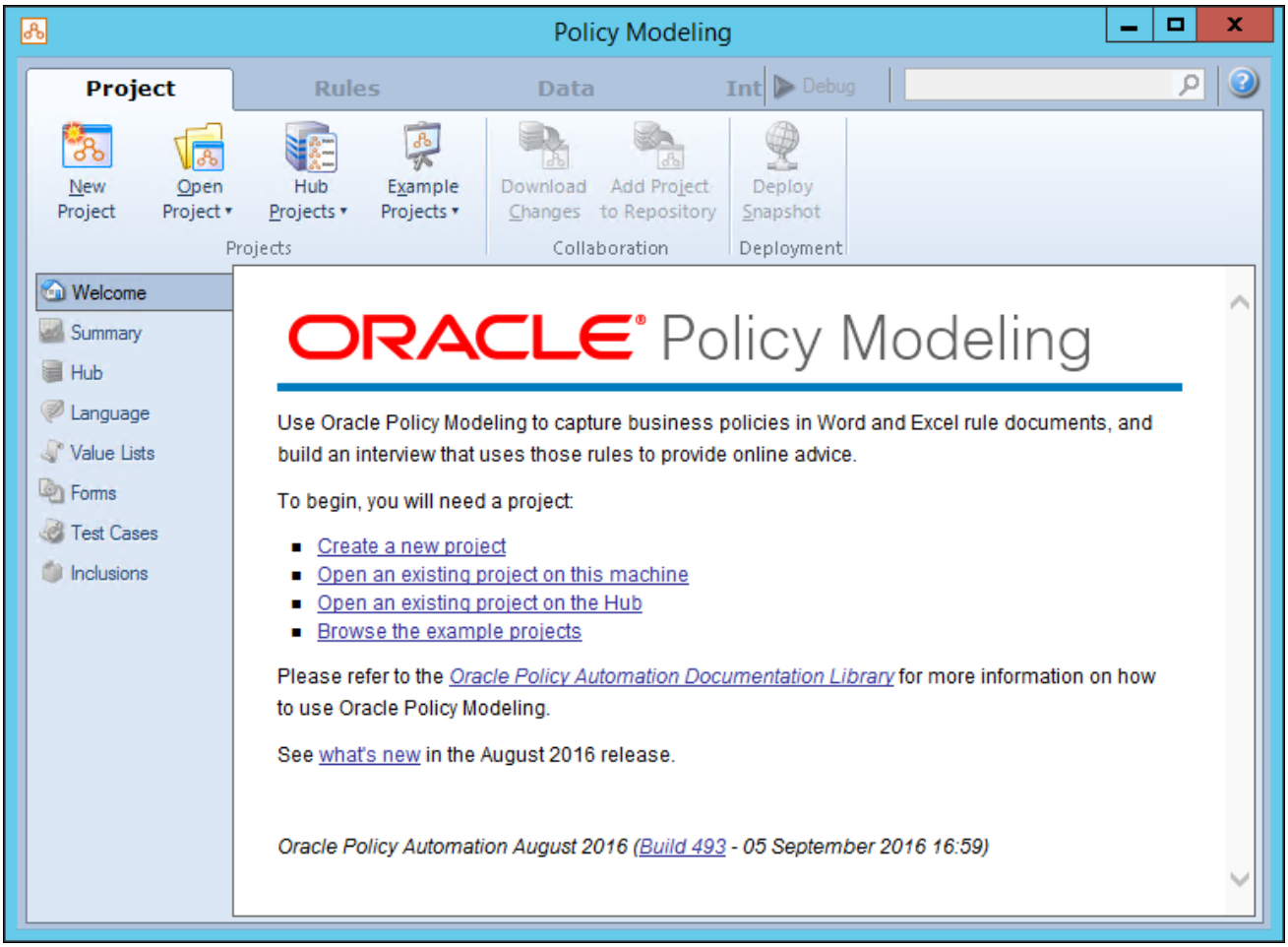
6. Remove the WebLogic domain directory manually.

Task 23-4: Accessing the Oracle Policy Automation Hub with Oracle Policy Modeling

Use the Oracle Policy Modeling development environment to access the Oracle Policy Automation hub. This section assumes you have installed both OPA and OPM.

1. To start OPM, double-click OPM.exe in the installation location.

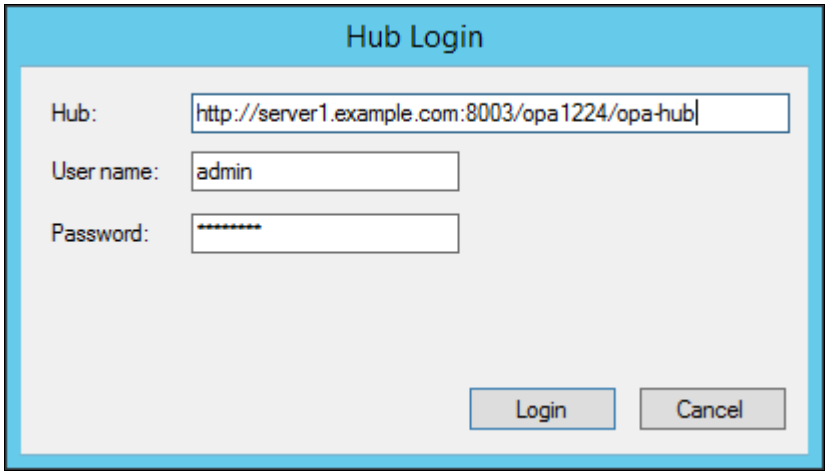
   The default location is C:\Program Files (x86)\Oracle\Policy Modeling\bin. The Welcome page appears, as shown in this example:



Oracle Policy Modeling home page

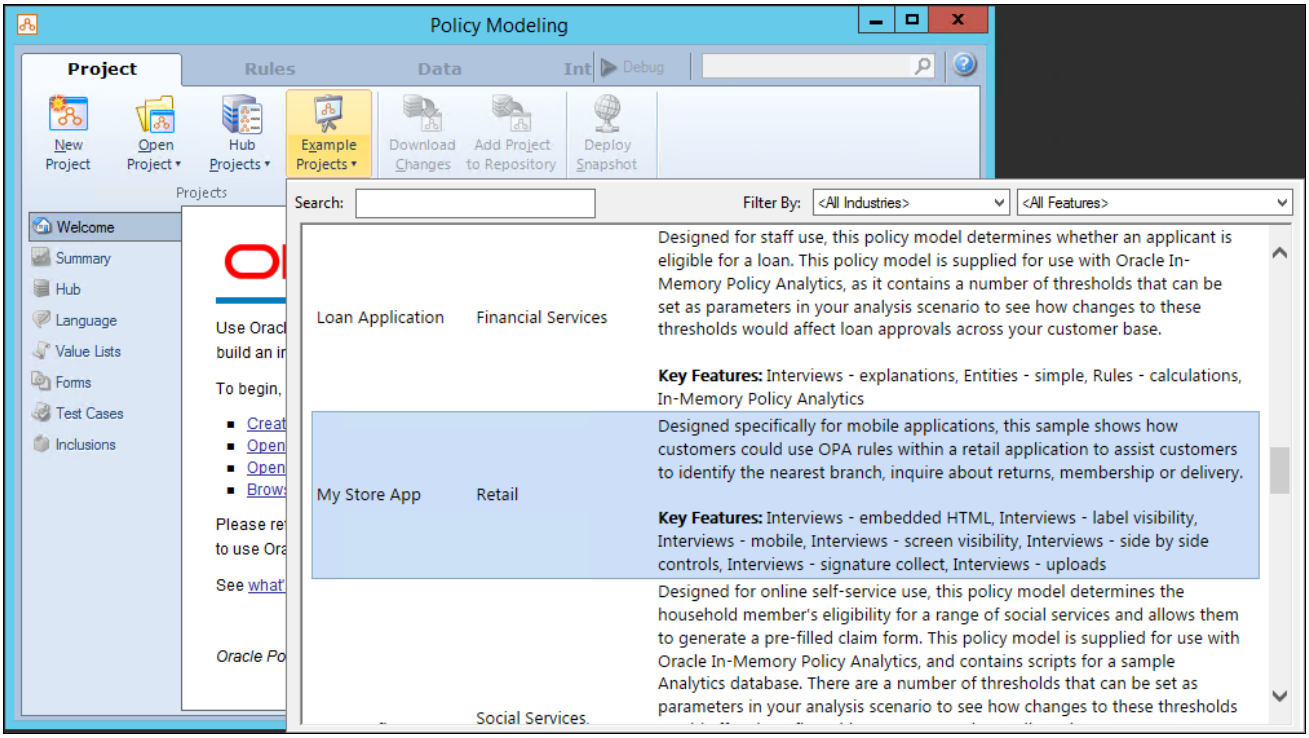
2. To configure OPM to connect to the OPA Hub and enable deployment of rulesbases to Determinations Servers, click Hub Projects, and enter the URL, admin as the user name and the admin password for the OPA Hub.

   This example uses the HTTP URL for the OPA Hub, http://server1.example.com:8003/opa1224/opa-hub. You can also enter the HTTPS URL. When you access OPA Hub from OPM you will be asked to supply these credentials.



Hub Login dialog box

3. On the OPM home page, click Example Projects and double-click to select one of the projects.
   This example shows the My Store App.

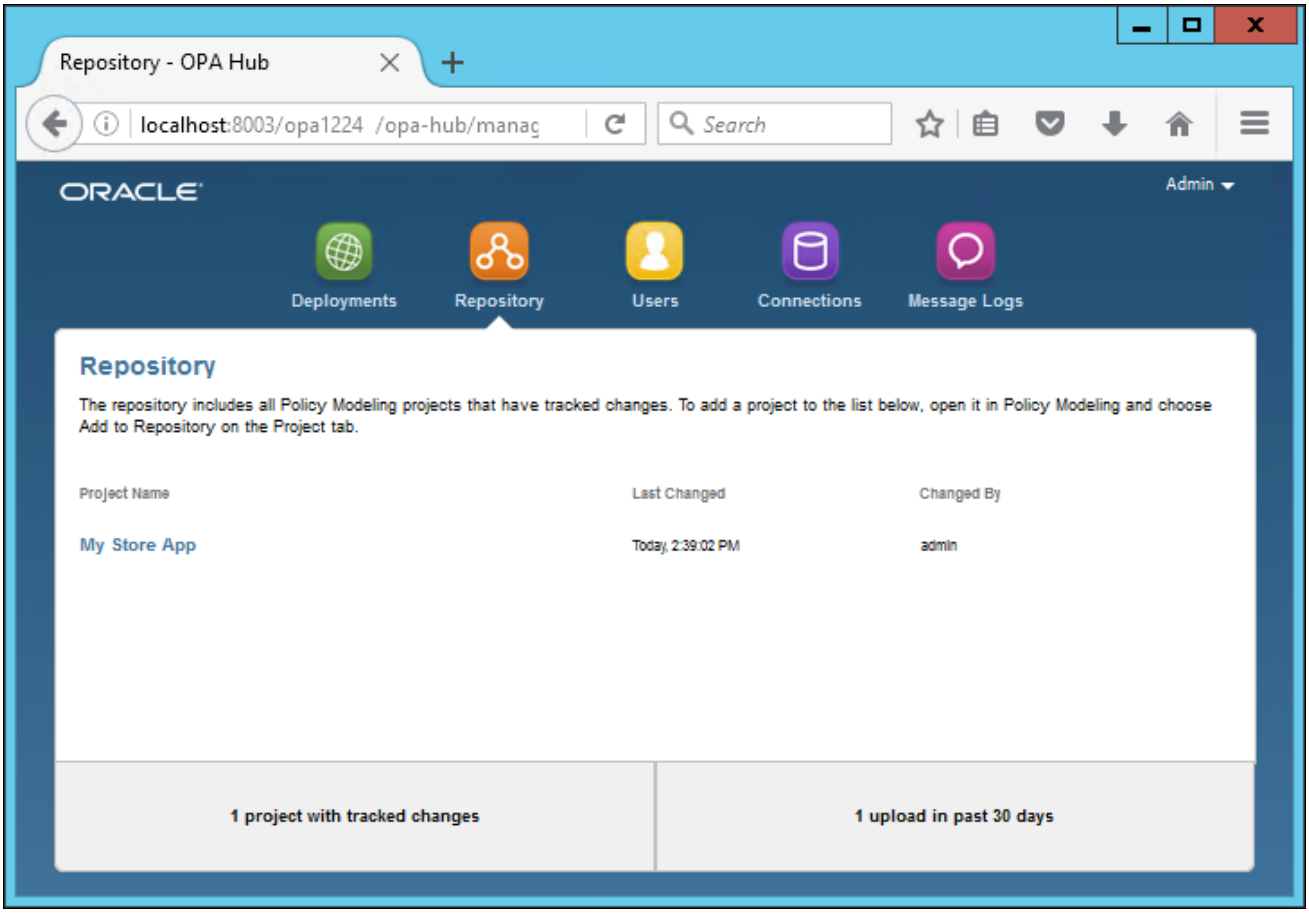


OPM Example Projects page

4. Click Add Project to Repository to add the selected example project to the OPA Hub.
5. Log in to the OPA Hub by entering this URL in a browser, and supplying the admin user and password:
   http://*<Hostname>*:*<Managed Server HTTP port>*/*<Domain Name>*/opa-hub/manager
   See Starting the Managed Server.

6. Click the Repository icon.

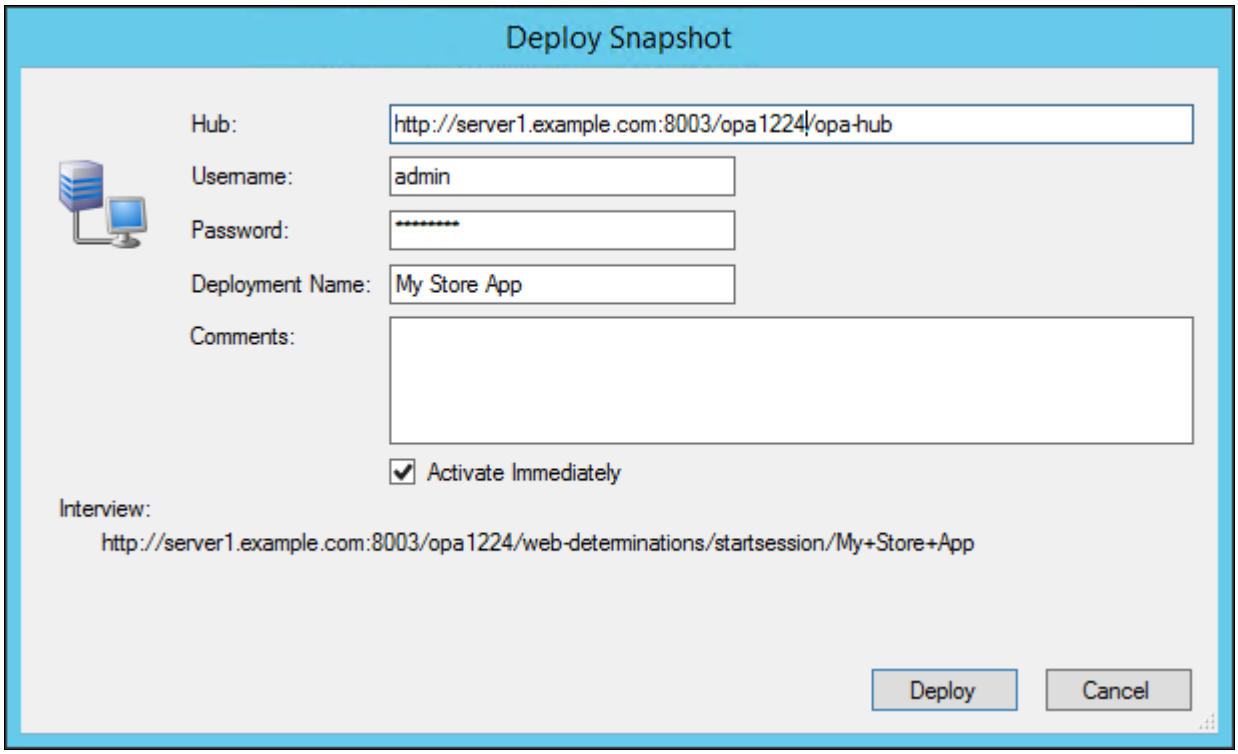
   The My Store App has been added to the projects on the Repository page, as shown in this example.



OPA Repository page with My Store App

7. In OPM, click Deploy Snapshot to deploy the My Store App project to Determinations Server and Web Determinations Server.

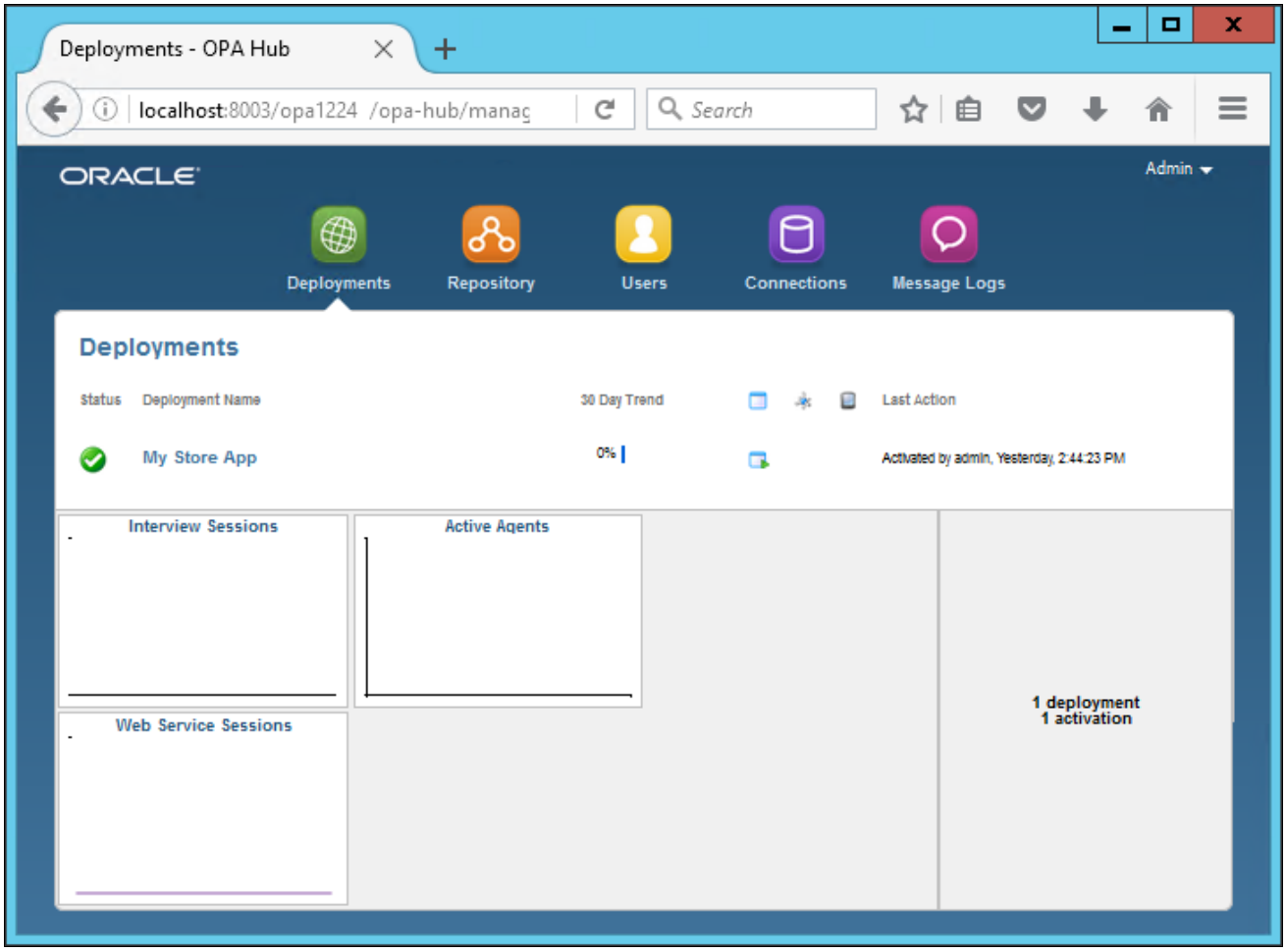
   Enter the URL for the OPA Hub, admin user name and password, as shown in this example:



Deploy Snapshot dialog box

8. In OPA Hub, click Deployments.

   The My Store App appears in the Deployments page.



OPA Hub Deployments page

Appendix A

Describing Debugger Requirements

This appendix discusses:

- Describing Debugger Requirements for the AIX Operating System
- Describing Debugger Requirements for the HP-UX Operating System
- Describing Debugger Requirements for the Linux Operating System
- Describing Debugger Requirements for the Oracle Solaris Operating System
- Describing Debugger Requirements for the z/OS Operating System

Describing Debugger Requirements for the AIX Operating System

If you are installing on an AIX platform, download and install the latest gdb RPM from IBM's website, and install it.

Describing Debugger Requirements for the HP-UX Operating System

If you are installing on an HP-UX platform, download and install the latest wdb from http://www.hp.com/go/wdb.

Describing Debugger Requirements for the Linux Operating System

If you are installing on a Linux platform, install the "glibc-debuginfo" RPM package.

There should be one "glibc-debuginfo" package for each installed "glibc" package and the version numbers must match exactly. Use the following commands to determine the packages installed:

- To see the installed "glibc" versions, run:

  ```
  rpm -q --queryformat "%{NAME}-%{VERSION}-%{RELEASE}-%{ARCH}\n" glibc
  ```

  For example, running this command on an Intel-based Linux system should produce output similar to this:

  ```
  glibc-2.5-24-i686
  glibc-2.5-24-x86_64
  ```

  Running this command on a zSeries Linux system should produce output similar to this:

  ```
  glibc-24-31.2-s390x
  ```

- To see the installed "glibc-debuginfo" packages, run:

  ```
  rpm -q --queryformat "%{NAME}-%{VERSION}-%{RELEASE}-%{ARCH}\n" glibc-⇒
  debuginfo
  ```

Make sure that the "glibc-debuginfo" RPM version is exactly the same as the "glibc" version.

Describing Debugger Requirements for the Oracle Solaris Operating System

If you are installing on an Oracle Solaris platform, install dbx. No compiler license of any kind is needed for this. Download the latest Sun Studio, and on the Select Components page of the installer, expand the Compilers and Tools component and deselect all of the subcomponents except dbx. Also deselect the Performance Library and Third-Party Tools components. The installer will install the dbx subcomponent and the Support files subcomponent. The Support files subcomponent includes packages on which dbx depends. After you complete the installation, add the full path to dbx to your PATH environment variable.

Describing Debugger Requirements for the z/OS Operating System

If you are installing on a z/OS platform, dbx comes with z/OS UNIX. Starting with z/OS v1r5, dbx requires the Common Debug Architecture (CDA) libraries to be present. They must be accessible by dbx in order for it to run. The libraries are as follows:

Library	Description
CDAEED	Amode31 ELF/DWARF library
CDAEQED	Amode64 ELF/DWARF library
CDAEDPI	Amode31 DDPI library
CDAEQDPI	Amode64 DDPI library

Note. CDAEDPI and CDAEQDPI are only present on a z/OS v1r7 and higher systems.

Depending on the size of the program you are debugging with dbx, plus how many others are also using dbx on your system, you may run out of SQA and/or CSA storage on your z/OS system, because this storage is global z/OS storage. Consult the z/OS initialization and tuning guide for information on how to modify the z/OS parameters.

When diagnosing crashes, be aware that a crash is more strictly defined on z/OS as a program check that is handled by z/OS UNIX as a fatal signal (for example, SIGSEGV for PIC4; 10, 11, or SIGILL for PIC1). A crash would also occur because of a fault in the JVM, or because of a fault in native (JNI) code that is being run inside the Java process.

When one of these fatal signals occurs, obtain the following documents to help you debug:

- a formatted LE dump (CEEDUMP)

  The CEEDUMP shows the C-Stack (or native stack). The traceback from a CEEDUMP shows where a failure

occurred for a C/C++ program

- a JVM trace snap dump
- a formatted JVM dump (javacore)

The default action of the z/OS UNIX signal handler is to produce a transaction dump (through the BCP IEATDUMP service), CEEDUMP, JVM dump javacore.

Appendix B

Relinking SQR on UNIX

This appendix discusses:

- Understanding SQR Relinking
- Relinking SQR on UNIX
- Relinking SQR on Oracle Solaris

Understanding SQR Relinking

PeopleSoft SQR is now linked with Unicode libraries and therefore no longer requires relinking with Unicode libraries. PeopleSoft SQR uses dynamic linking for database connectivity libraries and should not require relinking to support new versions of database connectivity. The exception to this rule is if the PeopleSoft PeopleTools release spans multiple RDBMS versions and the database connectivity changes the names or functionality of required libraries in the new release. In addition, relinking may be required for invoking an external application's APIs using the UFUNC.C interface, as described in the PeopleSoft product documentation.

See *PeopleTools: SQR for PeopleSoft Developers,* "Invoking an External Application API by Using the UFUNC.C Interface."

For example, PeopleSoft PeopleTools is currently supported on Oracle 11g or Oracle 12c. Based on the timing of our release we built the SQR modules for a specific PeopleSoft release with the lowest supported RDBMS version. For the current PeopleSoft PeopleTools release, the minimum supported Oracle version is Oracle 11g (11.2.0.x). This means PeopleSoft SQR will work right out of the box on Oracle 11g (no relink required).

Task B-1: Relinking SQR on UNIX

Here's a high-level overview of what you need to do, on a UNIX platform, to relink SQR:

1. Export the following environment variables:
   - SQRDIR, the location of the SQR executable.
   - PS_HOME, the PeopleSoft home directory.
   - PS_DB, the platform identifier variable:

     ORA for Oracle
2. Export the database install home directory:

   ORACLE_HOME
3. Add SQRDIR to the library path.

   ```
   export LD_LIBRARY_PATH=$SQRDIR:$LD_LIBRARY_PATH
   ```

   or

```
export SHLIB_PATH=$SQRDIR:$SHLIB_PATH
```

4. Change directory to <*PS_HOME*>/bin/sqr/<*PS_DB*>/lib
5. Run sqrmake.

Task B-2: Relinking SQR on Oracle Solaris

The following section is a step-by-step example illustrating how to relink SQR for an Oracle database on the Oracle Solaris platform. Other operating system/database platform combinations work in a similar fashion.

To relink SQR on Oracle Solaris:

1. If the psconfig.sh shell script has not been executed, check for SQR environment variables and set them as necessary.

   Note. If your *PS_HOME/*psconfig.sh correctly sets the environment variables described below, you can skip this step.

```
env | grep SQRDIR
SQRDIR=
export SQRDIR=/home/PT-SOL/bin/sqr/ORA/bin

env | grep PS_HOME
PS_HOME=
export PS_HOME=/home/PT-SOL

env | grep PS_DB
PS_DB=
export PS_DB=ORA

env | grep ORACLE_HOME
ORACLE_HOME=
export ORACLE_HOME=/products/oracle/11.2.0.4.0-64bit

export SHLIB_PATH=/home/PT-SOL/bin/sqr/ORA/bin:$SHLIB_PATH
```

2. Recheck the SQR env:

```
st-sun06:$ env | grep -i sqr

LD_LIBRARY_PATH=/home/PT-SOL/jre/lib/sparcv9/native_threads:/home/PT-⇒
SOL/jre/lib/sparcv9/server:/home/PT-SOL/jre/lib/sparcv9:/lib:/usr/lib:⇒
/usr/local/lib:/usr/lib/X11:/tuxedo/prod/12.2.2.0-j12-64bit/lib:⇒
/products/oracle/11.2.0.4.0-64bit/lib:/pt/products/solaris-11-sparc/lib:⇒
/home/PT-SOL/bin:/home/PT-SOL/bin/interfacedrivers:/home/PT-SOL/bin⇒
/sqr/ORA/bin:/home/PT-SOL/optbin:/home/PT-SOL/verity/solaris/_ssol26⇒
/bin:/products/oracle/11.2.0.4.0-64bit/lib

PWD=/home/PT-SOL/bin/sqr/ORA/bin

SQRDIR=/home/PT-SOL/bin/sqr/ORA/bin
```

```
SQR_HOME=/home/PT-SOL/bin/sqr/ORA
```

3. Relink SQR using sqrmake file.

```
st-sun06:$ sqrmake

/usr/ccs/bin/ld -o sqr  -u __1cH__CimplKcplus_init6F_v_ -s -R/usr/ccs⇒
/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 crti.o CCrti.o crt1.o values-⇒
xa.o -Y P,/usr/ccs/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 -L⇒
/products/oracle/11.2.0.4.0-64bit/lib -L/products/oracle/11.2.0.4.0-⇒
64bit/rdbms/lib sqr.o  rosette.o sqr.a  sqrlibsti64.a sqrbcl.a ⇒
 sqrzlib.a -L. -lsqrbtunicode /home/PT-SOL/bin/libpdf.so -lclntsh -lc ⇒
/usr/lib/64/libCrun.so.1 /usr/lib/64/libCstd.so.1 -lm -lthread -lc⇒
 CCrtn.o crtn.o -lkstat -lnsl -lsocket -lresolv -lgen -ldl -lsched -lrt⇒
 -lc -laio -lposix4 -lpool -ladm -lefi
/usr/ccs/bin/ld -o sqrp -u __1cH__CimplKcplus_init6F_v_ -s -R/usr/ccs⇒
/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 crti.o CCrti.o crt1.o values-⇒
xa.o -Y P,/usr/ccs/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 -L⇒
/products/oracle/11.2.0.4.0-64bit/lib -L/products/oracle/11.2.0.4.0-⇒
64bit/rdbms/lib sqrp.o rosette.o sqrp.a sqrlibsti64.a sqrbcl.a ⇒
 sqrzlib.a -L. -lsqrbtunicode /home/PT-SOL/bin/libpdf.so -lc /usr/lib⇒
/64/libCrun.so.1 /usr/lib/64/libCstd.so.1 -lm -lthread -lc CCrtn.o⇒
 crtn.o -lkstat -lnsl -lsocket -lresolv -lgen -ldl -lsched -lrt -lc -⇒
laio -lposix4 -lpool -ladm -lefi
/usr/ccs/bin/ld -o sqrt -u __1cH__CimplKcplus_init6F_v_ -s -R/usr/ccs⇒
/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 crti.o CCrti.o crt1.o values-⇒
xa.o -Y P,/usr/ccs/lib/sparcv9:/lib/sparcv9:/usr/lib/sparcv9 -L⇒
/products/oracle/11.2.0.4.0-64bit/lib -L/products/oracle/11.2.0.4.0-⇒
64bit/rdbms/lib sqrt.o rosette.o sqrt.a sqrlibsti64.a sqrbcl.a⇒
 sqrzlib.a -L. -lsqrbtunicode /home/PT-SOL/bin/libpdf.so -lclntsh -lc ⇒
/usr/lib/64/libCrun.so.1 /usr/lib/64/libCstd.so.1 -lm -lthread -lc⇒
 CCrtn.o crtn.o -lkstat -lnsl -lsocket -lresolv -lgen -ldl -lsched -lrt⇒
 -lc -laio -lposix4 -lpool -ladm -lefi
cp -i sqr  /home/PT-SOL/bin/sqr/ORA/bin/sqr
cp: overwrite /home/PT-SOL/bin/sqr/ORA/bin/sqr (yes/no)? yes
cp -i sqrp /home/PT-SOL/bin/sqr/ORA/bin/sqrp
cp: overwrite /home/PT-SOL/bin/sqr/ORA/bin/sqrp (yes/no)? yes
cp -i sqrt /home/PT-SOL/bin/sqr/ORA/bin/sqrt
cp: overwrite /home/PT-SOL/bin/sqr/ORA/bin/sqrt (yes/no)? yes
chmod ugo+x /home/PT-SOL/bin/sqr/ORA/bin/sqr
chmod ugo+x /home/PT-SOL/bin/sqr/ORA/bin/sqrp
chmod ugo+x /home/PT-SOL/bin/sqr/ORA/bin/sqrt
```

4. Validate the relinked SQR executable:
   a. Once linked, change directory to $SQRDIR.

```
st-sun06:$ cd $SQRDIR
st-sun06:$ pwd
/home/PT-SOL/bin/sqr/ORA/bin
```

b. Enter this command:

```
st-sun06:$ sqr -id

           SQR for PeopleSoft/8.56/Sun/SunOS/Oracle/Apr 17 2017


Use, duplication or disclosure by the Government is subject to⇒
 restrictions
as set forth in subparagraph (c) (1) (ii) of DFARS 52.227-7013 for⇒
 the DOD
    and as set forth in FAR 52.227-19 (a) - (d) for civilian⇒
 agencies.

                      SQR is a registered trademark.
     Any other brand and product names used herein may be trademarks
        or registered trademarks of their respective companies.
```

c. Enter this command:

```
SQR for PeopleSoft V8.56

SQR for PeopleSoft [program] [username/password] [-flags...] ⇒
[pars...] [@file...]

where
          program = Report filename
         username = Database username
         password = Database password
               -A = Append to existing output file
              -Bn = Fetch n rows at a time
      -Burst:{xx} = Generate .LIS using specified burst mode (S,T or⇒
 P)
              -Dn = Display report while processing, pause every n⇒
 lines
         -DEBUGxx = Compile #DEBUG[x] lines
        -DNT:{xx} = Set the default numeric type ⇒
(Decimal,Integer,Float)
         -E[file] = Direct errors to {program}.ERR or specified file
   -EH_BQD[:file] = Create BQD file or set linkage for Enhanced HTML
  -EH_APPLETS:dir = Set applets directory name for Enhanced HTML
 -EH_BROWSER:{xx} = Specify target browswer for Enhanced HTML
   -EH_CSV[:file] = Create CSV file or set CSV linkage for Enhanced⇒
 HTML
      -EH_CSVONLY = Create CSV file but do not create HTML file
    -EH_ICONS:dir = Set icons directory name for Enhanced HTML
   -EH_IMAGES:dir = Set images directory name for Enhanced HTML
         -EH_KEEP = Copy (not move) files when used with -EH_ZIP
-EH_FULLHTML:{xx} = Specify the level of the generated Enhanced HTML
-EH_LANGUAGE:{xx} = Specify language for Enhanced HTML navigation bar
          -EH_PDF = Set PDF linkage for Enhanced HTML
     -EH_SCALE:nn = Set scaling factor for Enhanced HTML
         -EH_XIMG = Do not remove directory path from IMAGE reference
```

```
      -EH_XML[:file] = Set XML linkage for Enhanced HTML
      -EH_ZIP[:file] = Move files to ZIP container file
        -F[dir/file] = Use [dir]{program}.LIS or specified file for⇒
    output
          -Idir_list = Directory list to be searched for include files
                  -ID = Display copyright banner
                -KEEP = Keep the .SPF file(s) after program run
       -LL{s|d}{c|i} = Load-Lookup: S=SQR, D=DB, C=Case Sensitive, I=⇒
   Insensitive
             -Mfile = Maximum sizes declared in file
             -NOLIS = Do not generate .LIS file(s) from .SPF file(s)
           -O[file] = Direct log messages to console or specified file
       -PRINTER:{xx} = Printer mode: EP, EH, HT, LP, HP, PD, or PS
                 -RS = Save run time file in {program}.sqt
                 -RT = Use run time file (skip compile)
                  -S = Display cursor status at end of run
                 -Tn = Test report for n pages, ignore 'order by's
                 -XB = Do not display the program banner
                 -XI = Do not allow user interaction during program run
                 -XL = Do not logon to database (no SQL in program)
               -XLFF = Do not generate trailing report form feed
                -XTB = Do not trim blanks from LP .LIS files
               -XNAV = Do not put navigation bar into .HTM file
               -XTOC = Do not generate Table Of Contents
          -ZEN{name} = Set default encoding name
          -ZIF[file] = Complete pathname of the initialization file to⇒
    use
          -ZMF[file] = Complete pathname of the message file to use
                pars = Report parameters for ASK and INPUT commands
               @file = File containing report parameters, one per line
```

5. Change directory (cd) to the actual location of $PS_HOME to set the PeopleSoft environment with the correct SQR environment.

```
st-sun06:$ . ./psconfig.sh
st-sun06:$
```

6. Test SQR from the UNIX command line, entering the access ID and password for the database <DBNAME>.

Note. Remember that this example is specifically for Oracle database platforms. The commands for other RDBMS platforms may be different.

```
st-sun06:$ sqr $PS_HOME/sqr/xrfwin <ACCESS_ID>/<ACCESS_PSWD>@<DBNAME> -⇒
ZIF$PS_⇒
HOME/sqr/pssqr.unx
SQR for PeopleSoft V8.56
Database Name (Optional, Press ENTER to continue):
Process Instance (Optional, Press ENTER to continue):

SQR for PeopleSoft: End of Run.
st-sun06:$
```

Appendix C

Encrypting Passwords for Customizations on Linux, AIX, or Solaris

Task C-1: Encrypting Passwords for Customization Files on Linux, AIX, or Solaris

This section describes how to produce an encrypted version of a clear text password and include it in the psft_customizations.yaml file for a customized deployment for non-default users and groups on Linux, AIX, or Solaris. This section applies to installations with the Native OS for Linux, AIX, or Solaris DPKs.

In general, when you run the DPK setup script, you supply several user IDs and passwords, such as the Connect ID password and operator ID password. The script encrypts the passwords that you supply and includes them in the generated YAML files in *BASE_DIR*/dpk/puppet/production/data. When you create a psft_customizations.yaml file, you can copy these encrypted passwords from the generated YAML files and include them in the psft_customizations.yaml file. However, the passwords for the Linux, AIX, or Solaris users are not prompted for, and therefore the encrypted passwords are not available in any of the generated YAML files.

Note that the successful use of the encrypted password depends on the presence of the public and private keys in the *BASE_DIR*/dpk/puppet directory referred to in the eyaml encrypt command. You cannot save an encrypted password and use it with a deployment with an installation with a different *BASE_DIR*

This procedure assumes that you have carried out the first portion of a customized deployment, and stopped at the question "Do you want to continue with the default initialization?"

See "Completing the DPK Initialization with Customizations," Preparing the Customization Files for Linux, AIX, or Solaris Users and Groups.

To encrypt a password:

1. Open the *BASE_DIR*/dpk/puppet/hiera.yaml file and note the full path to the public and private keys:

   ```
   :pkcs7_private_key: BASE_DIR/dpk/puppet/secure/keys/private_⇒
   key.pkcs7.pem
   :pkcs7_public_key:  BASE_DIR/dpk/puppet/secure/keys/public_key.pkcs7.pem
   ```

2. Run the following command in a terminal window, supplying the paths from the previous step:

   ```
   eyaml encrypt -s "<clear_password>" --pkcs7-private-key=<private_key_⇒
   location> --pkcs7-public-key=<public_key_location> --output=string
   ```

   Note. The double-quotes around the password are required.

   Example for Linux:

   ```
   /opt/puppetlabs/puppet/bin/eyaml encrypt -s "password" --pkcs7-private-⇒
   ```

```
key=/cs1/psft/dpk/puppet/secure/keys/private_key.pkcs7.pem --pkcs7-⇒
public-key=/cs1/psft/dpk/puppet/secure/keys/public_key.pkcs7.pem --⇒
output=string
```

Example for AIX or Solaris:

```
/opt/oracle/puppetlabs/bin/eyaml encrypt -s "password" --pkcs7-private-⇒
key=/cs1/psft/dpk/puppet/secure/keys/private_key.pkcs7.pem --pkcs7-⇒
public-key=/cs1/psft/dpk/puppet/secure/keys/public_key.pkcs7.pem --⇒
output=string
```

3. Copy the encrypted password from the output in the terminal window.

   The encrypted text will be a long single line of letters and numbers. Be sure to copy the text in one unbroken line, with no spaces or line feeds. Here is a truncated representation of an encrypted password:

   ```
   ENC[PKCS7,MIIBeQYJKoZIhvc...................]
   ```

4. Paste the encrypted password in the psft_customizations.yaml file, replacing the text password.

   Again, the encrypted text must be a single line. Also, be sure to retain the indentation in the psft_customizations.yaml file. This is a sample psft_customizations.yaml for a new single user and existing single group:

   ```
   ---
   psft_runtime_user_name: newusr3

   users:
     psft_user:
       name: newusr3
       gid: 35000
       home_dir: /dpk_base/home/userhome
       password: ENC[PKCS7,MIIBeQYJKoZIhvc...................]
       remove: false
   ```

5. Use the psft_customizations.yaml file for deployment with the puppet apply command.

   The DPK deployment will automatically decrypt the password from the psft_customizations.yaml and use it for deployment.