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Using OVM Templates for PeopleSoft on Exalogic

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Using OVM Templates for
PeopleSoft on Exalogic
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About this Documentation

This preface discusses:

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

Understanding this Documentation

This documentation is designed to guide you through the deployment of the Oracle® VM templates for Oracle's PeopleSoft Applications. It is not a substitute for the documentation provided for Oracle® VM Server, Oracle® VM Manager, or Oracle® Exalogic Elastic Cloud.

Audience

This documentation is intended for individuals responsible for deploying the OVM Templates for Oracle's PeopleSoft Applications on Oracle Exalogic Elastic Cloud. You should have a basic understanding of virtual machines. You should have a basic understanding of the PeopleSoft system.

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.

Convention	Description
<i>Italics</i>	<p>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:</p> <p>Enter the letter <i>O</i>.</p> <p>Italics are also used to indicate user-supplied information. For example, the term <i>domain</i> is used as a placeholder for the actual domain name in the user's environment. When two such placeholders are used together, they may be set apart with angle brackets. For example, the path <code><PS_CFG_HOME>/appserv/<domain></code> includes two placeholders that require user-supplied information.</p>
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	<p>Cross-references that begin with <i>See</i> refer you to additional documentation that will help you implement the task at hand. We highly recommend that you reference this documentation.</p> <p>Cross-references under the heading <i>See Also</i> refer you to additional documentation that has more information regarding the subject.</p>
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meaning.
Note. Note text.	Text that begins with <i>Note.</i> indicates information that you should pay particular attention to as you work with your PeopleSoft system.
Important! Important note text.	A note that begins with <i>Important!</i> is crucial and includes information about what you need to do for the system to function properly.
Warning! Warning text.	A note that begins with <i>Warning!</i> contains critical configuration information or implementation considerations; for example, if there is a chance of losing or corrupting data. Pay close attention to warning messages.

Products

This documentation may refer to these products and product families:

- Oracle® Database
- Oracle® Enterprise Manager

- Oracle® Exalogic Elastic Cloud
- Oracle® Tuxedo
- Oracle® VM Manager
- Oracle® VM Server
- Oracle® WebLogic Server
- Oracle's PeopleSoft Application Designer
- Oracle's PeopleSoft Customer Relationship Management (CRM)
- Oracle's PeopleSoft Enterprise Learning Management (ELM)
- Oracle's PeopleSoft Financial Management (part of FSCM)
- Oracle's PeopleSoft Human Capital Management (HCM)
- Oracle's PeopleSoft PeopleTools
- Oracle's PeopleSoft Portal Solutions (PS)
- Oracle's PeopleSoft Process Scheduler
- Oracle's PeopleSoft Supply Chain Management (part of FSCM)
- Oracle® Secure Enterprise Search

See <http://www.oracle.com/applications/peoplesoft-enterprise.html> for a list of Oracle's PeopleSoft products.

Related Information

You can find several sources of reference information about PeopleSoft PeopleTools and your particular PeopleSoft application. You can access PeopleBooks for the current release of PeopleSoft PeopleTools and PeopleSoft applications at the Hosted PeopleBooks site. You can also find installation guides and other information by searching for the product name and release number on My Oracle Support.

- Oracle PeopleSoft Hosted PeopleBooks. This page includes links to the most recent documentation for PeopleSoft PeopleTools and PeopleSoft applications.

See Oracle PeopleSoft Hosted PeopleBooks, <http://www.oracle.com/pls/psfthomepage/homepage>

- PeopleTools Installation for Oracle. This documentation provides instructions for installing PeopleSoft PeopleTools on an Oracle RDBMS (using the traditional method).

See My Oracle Support, (search for title).

- Oracle Exalogic Elastic Cloud Administrator's Guide. This documentation describes how to set up, administer, and manage a virtual Data Center (vDC) on an Exalogic machine.

See Oracle Exalogic Release EL X2-2 and EL X3-2 Documentation Library. http://docs.oracle.com/cd/E18476_01/doc.220/e25258/toc.htm

- Oracle Exalogic Release EL X2-2 and EL X3-2 Documentation. This documentation library covers administration and use of Exalogic hardware and software.

See Exalogic Documentation Library, http://docs.oracle.com/cd/E18476_01/index.htm

- 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>

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

See My Oracle Support, (search for title).

- PeopleTools Mid-Tier Deployment Best Practices. This white paper explains the PeopleSoft Homes (for example *PS_APP_HOME*) introduced since the PeopleSoft PeopleTools 8.50 release.

See "PeopleTools Mid-Tier Deployment Best Practices," My Oracle Support, article ID 1448479.1.

For information on Oracle VM Manager and Oracle VM Server, see the following documentation:

See http://download.oracle.com/docs/cd/E11081_01/welcome.html

- Oracle VM Server Quick-Start Guide
- Oracle VM Manager Installation Guide
- Oracle VM Manager Release Notes
- Oracle VM Manager User's Guide
- Oracle VM Server Installation Guide
- Oracle VM Server Release Notes
- Oracle VM Server User's Guide

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.

CHAPTER 1

Preparing to Deploy

This chapter discusses:

- Understanding the Deployment of the OVM Template for PeopleSoft on Exalogic
- Understanding PeopleSoft Components
- Obtaining the OVM Template for PeopleSoft on Exalogic
- Planning the OVM Template for PeopleSoft on Exalogic Deployment

Understanding the Deployment of the OVM Template for PeopleSoft on Exalogic

This documentation explains how to deploy the OVM Template for PeopleSoft on Exalogic. For PeopleSoft customers running on Oracle Exalogic Elastic Cloud, we strongly recommend the use of the Exalogic OVM Template for PeopleSoft. The OVM Template for PeopleSoft on Exalogic includes the following features:

Note. See the README file provided with the OVM template for PeopleSoft on Exalogic for version information.

- The OVM Template for PeopleSoft on Exalogic is developed for Exalogic with an Oracle Linux operating system with Unbreakable Enterprise Kernel (UEK).
- PeopleSoft PeopleTools Install directory (this will be found in /opt/oracle/psft/pt/tools after deployment)
- PeopleSoft Pure Internet Architecture (PIA) built with Oracle WebLogic web server
- Application Server configured for the Exalogic environment.
- Process Scheduler with a default UNIX configuration
- Oracle Tuxedo
- OVM templates for PeopleSoft Applications 9.1 or earlier include Verity for searches.

See the information using Verity in the *PeopleTools: System and Server Administration* product documentation.

- For PeopleSoft Applications 9.2 and later, you must set up a server, install, and configure Oracle Secure Enterprise Search (SES).

See *PeopleTools Installation*, "Configuring Integration Between PeopleSoft PeopleTools and Oracle SES."

See *PeopleTools: PeopleSoft Search Technology*.

- PeopleSoft Client installer

- Oracle Database client tools
- Samba Open Source software for file system access included

The deployment requires, at a minimum, users with the following roles:

- An Exalogic user with the permissions to create the vServer and assign the network configuration to the vServer
- PeopleSoft vServer root user

A separate vServer user to serve as an administrator to manage the PeopleSoft PeopleTools environment on the vServer. This user is local to the vServer, and will configure the PeopleSoft components.

While these are listed as separate roles, both sets of skills are needed to complete the deployment process in very close coordination.

The deployment process described in this documentation includes the following tasks, which are covered in the next chapter, “Deploying the OVM Template for PeopleSoft on Exalogic”:

- Creating the vServer
- Updating the Networking Files
- Configuring the vServer for the PeopleSoft Configuration
- Using the PeopleSoft Installation
- Completing Post-Deployment Activities

Understanding PeopleSoft Components

Here are brief descriptions of some of the terms referenced in this documentation for components included in a PeopleSoft environment. For more complete information, see the PeopleSoft documentation.

- PeopleSoft Pure Internet Architecture (PIA)

This is the Web Server component of the PeopleSoft system. It is responsible for handling incoming http requests, primarily from the browser. This tier routes requests to the Application Server domain using Tuxedo Jolt. The responses from the Application Server are assembled as the page content observed in the browser. PIA also contains the Integration Gateway for the PeopleTools Integration Broker system, frequently known as Pub/Sub.

- PeopleTools Application Server and Process Scheduler Server

The Application Server acts as the business logic engine of the PeopleSoft system. Built on Oracle Tuxedo, this tier handles all incoming requests from both PIA and PeopleSoft PeopleTools clients using Application Designer. This tier also contains the Process Scheduler, also known as the Batch Server. The Process Scheduler is responsible for processing scheduled tasks or jobs that typically do not happen during the course of a user’s browser request. An example might be processing payroll or quarterly sales reports. The Process Scheduler runs in its own Tuxedo domain independent of the Application Server domain and can therefore be physically relocated to another machine that is dedicated to batch processing.

- PeopleSoft Application Database

The Application Database hosts the PeopleTools and PeopleSoft Application tables, also known as meta data. The user data is also located in the database. A demo database contains limited sample data to allow you to perform the functionality.

PeopleSoft Applications refers to Oracle PeopleSoft products such as PeopleSoft Customer Relationship Management (CRM), PeopleSoft Enterprise Learning Management (ELM), PeopleSoft Financials and Supply Chain Management (FSCM), PeopleSoft Human Capital Management (HCM), and PeopleSoft Portal Solutions (PS).

Note. The deployment of the OVM Template for PeopleSoft on Exalogic does not install a database.

- Mid-tier and AppBatch components

This documentation uses the term “AppBatch” to refer to the Application Server and Process Scheduler Server.

This documentation uses the term “mid-tier” to refer to PeopleSoft Application Server, Process Scheduler, and PIA.

See Also

"Deploying the OVM Template for PeopleSoft on Exalogic," Using the PeopleSoft Installation

Task 1-1: Obtaining the OVM Template for PeopleSoft on Exalogic

This section discusses:

- Understanding Template Delivery
- Obtaining the OVM Template for PeopleSoft on Exalogic from Oracle Software Delivery Cloud
- Obtaining the OVM Template for PeopleSoft on Exalogic from My Oracle Support

Understanding Template Delivery

This section includes information on finding and using the OVM Template for PeopleSoft on Exalogic. You may have already downloaded the necessary files, in which case this procedure will not be necessary. There are two methods discussed in this section:

- The OVM Template for PeopleSoft on Exalogic on Oracle Software Delivery Cloud is based upon a specific release, typically the generally available (GA) release. It is not updated with patch releases.
- The OVM Template for PeopleSoft on Exalogic on My Oracle Support is derived from the latest PeopleSoft PeopleTools patch.

Task 1-1-1: Obtaining the OVM Template for PeopleSoft on Exalogic from Oracle Software Delivery Cloud

To obtain the OVM Template for PeopleSoft on Exalogic from Oracle Software Delivery Cloud:

1. Sign in to the Oracle Software Delivery Cloud portal for Oracle Linux and Oracle VM.
See <http://edelivery.oracle.com/linux>
2. On the Media Pack Search page, select Oracle VM templates from the Select a Product Pack drop-down list. Select the operating system you are running on from the Platform drop-down list, and click Go.

3. Select the radio button for the PeopleSoft Application you want to deploy, and click Continue.
4. Download the OVM Template for PeopleSoft on Exalogic, and save the zip files to a temporary directory.

When you download, there will probably be multiple zip files. The multiple zip files are needed due to size limitations. You must extract parts for the OVM template from these individual zip files and recombine them into a single tgz file before importing into Exalogic.

The zip file names will be similar to the following, where `<PART_NUMBER#>` is a variable string specific to the Oracle Software Delivery Cloud offering:

```
<PART_NUMBER1>.zip
<PART_NUMBER2>.zip
```

```
...
```

```
<PART_NUMBERn>.zip
```

5. Extract the contents of each zip file using a standard zip tool.

Extracting the contents of the zip files yields the individual parts of the template tgz file.

The extracted file names have this format, where `<TOOLS_VERSION>` represents the PeopleSoft PeopleTools version and patch number, such as 8.53.01, and `n` represents the total number of zip files:

```
<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz#ofn
```

For example, for the PeopleSoft PeopleTools 8.53.01 patch:

```
OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz1ofn
```

```
OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz2ofn
```

```
...
```

```
OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgznofn
```

6. Combine the individual template part files into a single tgz file.

For example, if you extracted three tgz part files, use the following commands.

- On Microsoft Windows, use the `copy /b` command. For example:

```
copy /b <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz1of3+<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz2of3+<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz3of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz
```

Note. There is a space before the name of the final combined file.

- On UNIX or Linux, use the `cat` command. For example:

```
cat <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz1of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz2of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz3of3 > <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz
```

7. After you combine the individual files, you have a single template archive file such as:

```
<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz
```

For example, for the PeopleSoft PeopleTools 8.53.01 patch:

```
OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz
```

See the section Uploading and Registering a Server Template in the Exalogic administrator's guide for information on how to upload templates.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Exalogic vDC Management — Basic."

Task 1-1-2: Obtaining the OVM Template for PeopleSoft on Exalogic from My Oracle Support

This procedure describes how to access the Patches & Updates database. Contact Oracle if you don't have a user ID and password for My Oracle Support.

To obtain the OVM Template for PeopleSoft on Exalogic from My Oracle Support:

1. Go to My Oracle Support at <https://support.oracle.com>
2. Enter your user name and password to log in.
3. Select Patches & Updates.
4. In the Patch Search section, select the Product or Family (Advanced) link.
The Search page includes several search filters.
5. In the Product drop-down list, select PeopleSoft PeopleTools.

Note. This selection is required.

6. In the Release drop-down list, select the desired PeopleSoft PeopleTools release.

Note. This selection is required.

7. Click the Search button (Patch Search).
8. On the Patch Search Results page, click the patch number to access the Readme file and download the software.

Review the Readme documentation for information about supported releases.

9. Download the OVM Template for PeopleSoft on Exalogic, and save the zip files to a temporary directory.

When you download, there will probably be multiple zip files. The multiple zip files are needed due to size limitations. You must extract parts for the OVM template from these individual zip files and recombine them into a single tgz file before importing into Exalogic. The first zip file contains a readme.txt with information on the file contents.

The zip file names have this format, where *<TOOLS_VERSION>* represents the PeopleSoft PeopleTools version and patch number, such as 8.53.01, and *n* represents the total number of zip files:

<TEMPLATE_NAME><TOOLS_VERSION>_PVM_#ofn.zip

For example, for the PeopleSoft PeopleTools 8.53.01 patch:

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM_1ofn.zip

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM_2ofn.zip

...

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM_nofn.zip

10. Extract the contents of each zip file using a standard zip tool.

Extracting the contents of the zip files yields the individual parts of the template tgz file.

For example, for the PeopleSoft PeopleTools 8.53.01 patch:

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz1of3

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz2of3

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz3of3

11. Combine the individual part files into a single tgz file.

For example, if you extracted three zip files, use the following commands.

- On Microsoft Windows, use the `copy /b` command. For example:

```
copy /b <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz1of3+<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz2of3+<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz3of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz
```

Note. There is a space before the file combined .tgz file name.

- On UNIX or Linux, use the `cat` command. For example:

```
cat <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz1of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz2of3 <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz3of3 > <TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz
```

12. After you combine the individual files, you have a single template archive file such as:

<TEMPLATE_NAME><TOOLS_VERSION>_PVM.tgz

For example, for the PeopleSoft PeopleTools 8.53.01 patch:

OVM_EL5U6_X86_64_EXALOGIC_TOOLS8_53_01_PVM.tgz

See the section *Uploading and Registering a Server Template* in the Exalogic administrator's guide for information on how to upload templates.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Exalogic vDC Management — Basic."

Task 1-2: Planning the OVM Template for PeopleSoft on Exalogic Deployment

This section discusses:

- Understanding Oracle Exalogic Elastic Cloud
- Planning the Exalogic Environment
- Planning the vServer Configuration

Understanding Oracle Exalogic Elastic Cloud

For an introduction to the Oracle Exalogic Elastic Cloud, see the following:

- The Products and Services area of the Oracle web site includes data sheets, webcasts, and white papers on Exalogic.

Go to the Oracle corporate web site and select Products and Services, Engineered Systems, Oracle Exalogic Elastic Cloud.

See Oracle Exalogic Elastic Cloud Overview, <http://www.oracle.com/us/products/middleware/exalogic/overview/index.html>

- The product documentation *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Introduction to Exalogic Elastic Cloud."

See Oracle Exalogic Release EL X2-2 and EL X3-2 Documentation library, http://docs.oracle.com/cd/E18476_01/index.htm

Task 1-2-1: Planning the Exalogic Environment

In planning the deployment of the OVM Template for PeopleSoft on Exalogic, consider the following:

- Create a database before deploying the OVM Template for PeopleSoft on Exalogic.

The OVM Template for PeopleSoft on Exalogic does not contain a PeopleSoft database. This means that for vServers to be created and used from these templates a database should already be provisioned and available. The database must fulfill these requirements:

- Supported PeopleSoft database

See the README file provided with the OVM template for the versions of PeopleSoft Application and PeopleSoft PeopleTools that are supported for the OVM Template for PeopleSoft on Exalogic.

Verify that the database to which you will connect your vServer has been upgraded to the same version of PeopleSoft PeopleTools as the OVM template for PeopleSoft on Exalogic.

- The database can be a demo, development, or testing database. Production databases are not recommended on Exalogic.
- Ensure that your PeopleSoft environment includes a *PS_APP_HOME* configuration.

See "Deploying the OVM Template for PeopleSoft on Exalogic," Using the PeopleSoft Installation.

- Ensure that the Exalogic environment is set up.

The Exalogic environment must be fully configured and ready to create vServers created from the OVM Template for PeopleSoft on Exalogic. This means that there must be sufficient virtual resources, such as disk space, RAM, and vCPUs available to run the required vServers. The minimum requirements are 6vCPUs and 22 GB RAM.

The vServer is comprised of runtime components such as Application Server, Process Scheduler, and PIA domains that have their own minimum requirements.

- After setting up the virtual machines you will need to use a secure shell (SSH) client to log in to the vServers.
- It is possible to combine one or more deployed PeopleSoft vServers with a conventional, typically non-virtual, installation. There are several possible combinations.

For example, you can connect to a traditional, non-virtual database instance residing outside Exalogic. You may choose a demo, testing, or development database, depending upon your requirements.

If you are familiar with working with the Oracle Exadata Database Machine, it is also possible to connect to database hosted in Exadata.

- The environment installed by the deployment of the OVM Template for PeopleSoft on Exalogic can be used as a starting point that can subsequently be enhanced and tuned to fit the requirements of the target system.

See "Deploying the OVM Template for PeopleSoft on Exalogic," Managing the Virtual Environment Lifecycle.

- To avoid potential conflicts, the Enterprise Manager Ops Center (EMOC) user in charge of administering virtual networks in the virtual Data Center should keep careful record of the host names and IP addresses associated with the vServers.

See *Enterprise Manager Ops Center 12c*, Oracle Exalogic Release EL X2–2 and EL X3–2 Documentation library, http://docs.oracle.com/cd/E18476_01/index.htm

Task 1-2-2: Planning the vServer Configuration

Before creating a vServer it is necessary to have identified the purpose of your vServer. Identifying the purpose of your vServer is important because it will drive additional decisions that you make concerning how the vServer is to be created. Specifically you must figure out what PeopleSoft PeopleTools components you wish to run on the vServer. The OVM Template for PeopleSoft on Exalogic comes prepackaged with default PIA, Application Server and Process Scheduler domains. This default set of PeopleSoft components requires the following resources:

- 22 GB RAM
- 6 vCPUs
- 40 GB Disk (zFS)

You may of course choose not to use the default PeopleSoft setup, with PIA, Application Server and Process Scheduler domains, that comes with the template. However, be aware that the sizing guidelines that accompany the template are suited for running a single PIA, Application Server and Process Scheduler domain on the vServer. For example, if you choose to run additional Application Server domains you will need to devote additional virtual resources to the vServer. On the other hand, if you need only run a single PIA domain you will be free to significantly reduce the amount of RAM and vCPUs devoted to the vServer. Guidelines cannot be provided for exact amounts of virtual resources required by the vServer. This is a function of the load on the system and the usage patterns of the user population. Some of the following items influence the resources required by your system:

- Caching by the PeopleSoft Application Servers — cached objects tend to be larger in some applications.
- Number of concurrent users — more online users typically implies a need for larger Application Server domains and thus more RAM
- Integration Broker usage
- Peak usage — some systems undergo extremely high usage at specific times. Unless you can predict these peaks in system usage it is necessary to permanently devote sufficient resources to support the maximum user population

See the information on performance guidelines for PeopleSoft in My Oracle Support.

See "PeopleTools Performance Guidelines White Paper," My Oracle Support (search for article name).

In conclusion, you must be aware of what runtime components you wish to run. If in doubt, or when you first begin to work with these templates, it is recommended that you select the defaults and assign the above values when creating your vServer.

See Also

"Deploying the OVM Template for PeopleSoft on Exalogic," Configuring the vServer

CHAPTER 2

Deploying the OVM Template for PeopleSoft on Exalogic

This chapter discusses:

- Creating the vServer
- Updating the Networking Files
- Configuring the vServer for the PeopleSoft Deployment
- Using the PeopleSoft Installation
- Completing Post-Deployment Activities
- Troubleshooting
- Managing the Virtual Environment Lifecycle

Task 2-1: Creating the vServer

To create the vServer:

1. Read the section Planning the vServer Configuration earlier in this documentation and decide on the runtime components that you wish to run. You may also choose to accept the default values for your initial deployment.

See "Preparing to Deploy," Planning the vServer Configuration.

2. Follow the instructions in the section Uploading and Registering a Server Template in the Exalogic documentation.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Exalogic vDC Management — Basic."

3. Follow the instructions in the section Examining the Default vDC in the Exalogic documentation to create a new vServer Type with 22 GB RAM and 6vCPUs. The default vServer types provided in the procedure for creating a vServer will not provide the recommended sizing for the PeopleSoft deployment.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Exalogic vDC Management — Basic."

4. Follow the instructions in the section Creating vServers in the Exalogic documentation.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Exalogic vDC Management — Basic."

In step 15 you must choose an IP address allocation method.

Note that the host name for any vServer running Application Server or Process Scheduler domains must be 30 characters or less, including the domain name.

After you complete the procedure to create the vServer, it starts automatically. Follow the instructions in the next section to configure the vServer for the PeopleSoft deployment.

Task 2-2: Updating the Networking Files

After you create the vServer, you must manually update networking files. Open each of the following files in a text-editing tool such as `vi` and make the required changes:

- `/etc/resolv.conf`

Update the file with the name server information (DNS), that is, the IP address or host name. For example:

```
search domain_name
nameserver xxx.xxx.xxx.xxx
```

For example:

```
search .example.com
nameserver 100.100.123.456
```

- `/etc/sysconfig/network`

Make sure the `HOSTNAME` attribute value matches the host name corresponding to the assigned IP address. If the host name is not correct, this needs to be updated. Contact your network administrator to get the correct host name matching the assigned IP address.

From an environment outside the vServer, you can also run the command `nslookup ip-address` to get the corresponding host name for the assigned IP address.

- `/etc/hosts`

If there is not an entry for the IP address and host name, add an entry such as the following to the end of the file:

```
192.168.1.103 example.com
```

Note. You may need to reboot the machine for the changes to take effect. If you update only the `/etc/resolv.conf` file, you do not need to reboot.

Task 2-3: Configuring the vServer for the PeopleSoft Deployment

This section discusses:

- Understanding the vServer Configuration
- Reviewing vServer Configurations
- Configuring the vServer

Understanding the vServer Configuration

The PeopleSoft vServer is used to run PeopleSoft Pure Internet Architecture (PIA), the PeopleSoft Application Server, and the PeopleSoft Process Scheduler within the same virtual machine.

You can choose to run PIA on one vServer, and the PeopleSoft Application Server and Process Scheduler on a separate vServer, by your response to the prompts in the section *Creating the vServer*.

Furthermore you can decide to deploy neither the PIA nor AppBatch on a vServer. In this case the vServer that you created from the OVM Template for PeopleSoft would be analogous to a traditional system with PeopleSoft PeopleTools installed in *PS_HOME*, PeopleSoft Application files installed in *PS_APP_HOME*, and the required versions of Oracle WebLogic and Oracle Tuxedo, but with no Application Server domain, Process Scheduler domain, or PeopleSoft Pure Internet Architecture site set up.

Keep the following in mind when deciding how to configure the vServer:

- If PIA is to be started on the vServer, the Application Server(s) to which it will connect will need to be started in order to use PIA.

Note. PIA will boot successfully without being able to connect to the Application Server domain but will be unusable because it is dependent on the Application Server to respond to any web page requests, including PIA signon.

- If you plan to start the Application Server or Process Scheduler on the vServer, the database must be available for connection from the vServer, and you need the following information:
 - Database service name
 - Service listener port on the database server
 - The Protocol being used by the database listener, either TCP or SDP
 - The database name (SID)
 - The Connect ID and Connect password for the database
 - The User ID and password for starting the Application Server (called the Domain Boot user in the configuration prompt. These criteria are authenticated by the database)
- When connecting to a PeopleSoft Application database such as an HCM demo database, it will be necessary to be able to access the PeopleSoft Application mid-tier installation. There is an interactive prompt for this location during the configuration script described in the next section.

For more information on *PS_APP_HOME*, see the product documentation *PeopleTools: System and Server Administration* on working with Server Domain configurations.

See "PeopleTools Mid-Tier Deployment Best Practices," My Oracle Support, article ID 1448479.1.

See *Using the PeopleSoft Installation*.

- If your PeopleSoft Application requires COBOL, see the chapter "Using COBOL with the PeopleSoft Deployment" in this documentation.
- For all connections to vServers (even on the same physical Exalogic node) the network path must be available, and any firewall updates and so on will need to be made by the administrator.

Note. The Linux iptables firewall is not enabled by default in the OVM Template for PeopleSoft on Exalogic, so these ports will be open for connection. So for example, if a PIA vServer created from the OVM Template for PeopleSoft on Exalogic is connecting to a separate Application Server vServer created from this template, no specific steps are required to ensure that the vServers can communicate with one another.

Task 2-3-1: Reviewing vServer Configurations

You will have decided at this point whether you want to run Application Server and Process Scheduler domains on your vServer. If you wish to run these domain types you will probably want to connect to a PeopleSoft Application database (as opposed to a PeopleTools-only database). This means that you will need to have a PeopleSoft Application vcd installation already completed.

For example, if you have an HCM demo database set up, you also need to carry out an installation of the PeopleSoft HCM Application.

The PeopleSoft Application vcd may be installed on a shared file system location that is accessible from any number of vServers. This is the recommended approach for running PeopleSoft mid-tier environments.

Alternatively you may install the PeopleSoft Application directly into your vServer using the following steps:

1. Obtain the installation files and the Application-specific installation documentation for the PeopleSoft Application for which you have a current license from the Oracle Software Delivery Cloud.

Note. You can also obtain the installation guides by searching on My Oracle Support.

2. Move the installer to a file system location accessible from your vServer.

This may require you to use secure FTP (SFTP) to transfer the installation binaries to the vServer.

3. Log in to your vServer as the PeopleSoft Applications Administrator psadm3.

Note that the user psadm3 by default cannot write to any location outside its user home. If the PeopleSoft Application software is installed into a location outside the user home owned by psadm3, the root user will need to change permissions on that user home file system location.

See the section Reviewing the File System and Users for information on default users.

4. Install the PeopleSoft Application, following the installation documentation that you obtained in step 1.

See the installation documentation for your PeopleSoft Application to determine which version of PeopleSoft PeopleTools is supported for your PeopleSoft Application. The Certifications area of My Oracle Support also includes information on the PeopleSoft PeopleTools versions certified for PeopleSoft Applications.

Note. Prior to using the PeopleSoft PeopleTools utility PSADMIN to create or administer Application Server and Process Scheduler domains, remember to set the PS_APP_HOME environment variable to point to the file system location where your PeopleSoft Application is installed.

Task 2-3-2: Configuring the vServer

This section assumes that the vServer has been started. In order to access the vServer you will need to connect to the vServer using Secure Shell (SSH). The first time you connect to the vServer you will use the root user.

Important! You should change the default root password as soon as you log in to the vServer for the first time.

Note. Your use of the root user should be limited to those operations that require root access. All other operations should be performed with non-root users.

1. Log into the vServer as the root user, using Secure Shell (SSH).
2. Launch the PeopleSoft configuration script to configure the PeopleSoft environment, by running the following command:

```
/opt/oracle/psft/vm/oraclevm-template.sh
```

Note. If you chose to manually configure the PeopleSoft environment, log in to the system using the `psadm2` user and create Application Server domain, Process Scheduler domain, and PIA domain according to your requirements.

See Using the PeopleSoft Configuration Script.

3. Respond `y` to this prompt if you wish to set up an Application Server domain:

```
Do you wish to setup PeopleSoft Application Server Domain on this VM [y|n]
```

4. If you select `y` you will be prompted for additional configuration values required to start the Application Server domain.

If you select `n` you skip to the later step concerning setting up the Process Scheduler domain.

The configuration values will include the database connectivity details discussed in the section Configuring the vServer for the PeopleSoft Deployment, and some additional values related to Jolt. Jolt is used to allow PIA domains to connect to the Application Server.

Note. You must enter each password twice in the prompt below. The values that you enter for the passwords in this section are not echoed to the shell.

See Understanding the vServer Configuration.

```
Enter the database service name [TESTDB]:
```

```
Enter the database name [defaults to the service name]:
```

```
Enter the hostname for the database server [defaults to the host name of the v-
Server on which this is running ]:
```

```
Enter the port number for the database host [1521]:
```

```
Enter the protocol for the database [TCP]: [Enter SDP or TCP]
```

```
Enter the Connect user [people]:
```

```
Enter the Connect user password:
```

```
Re-Enter the Connect user password:
```

```
Enter the Domain Boot user [QEDMO]:
```

```
Enter the Domain Boot user password:
```

```
Re-Enter the Domain Boot user password:
```

If you want to return to the beginning of the database questions, answer `n` to the following prompt. Otherwise, answer `y` to continue.

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

5. Select an option for the `PS_APP_HOME` location at the following prompt:

```
Do you wish to use a Decoupled Application Home (PS_APP_HOME) [y|n]:
```

Note. If you have not yet created a `PS_APP_HOME`, you can open a separate shell at this point to install the PeopleSoft Application into either the current vServer or an external location.

6. If you respond `y` to the preceding prompt to use a Decoupled Application Home, you see the following prompt:

```
You may provide a file system location for your PS_APP_HOME that is
already accessible to this VM.
```

Alternatively provide details to mount the PS_APP_HOME from an external location.

1. File system location already accessible to this vServer
 2. Mount external file system location
 - q. Return to previous menu
- Enter 1, 2 or q(uit):

- Enter 1 if you have already provisioned the *PS_APP_HOME*; you may specify a location that is accessible to the vServer. Enter the full path at the following prompt, for example `/opt/oracle/psft/apptools`:

Enter the full path of the Decoupled Application Home directory

- Enter 2 and provide details if you want to mount it from a remote location at this prompt.

7. Supply the password for Jolt at the following prompt:

Enter the JoltConnection Password:

You see a progress indicator as the PeopleSoft Application Server domain is started.

Note. If you experience problems in starting the PeopleSoft Application Server and Process Scheduler domains, see the section *Resetting PeopleSoft vServers* in this chapter.

8. Respond y to this prompt if you wish to start the Process Scheduler:

Do you wish to setup PeopleSoft Process Scheduler Domain on this VM [y|n]

If you select y above, and you did not set up the Application Server, you will be prompted for the database connectivity values discussed in an earlier step.

Note. You will not be prompted for database connectivity information if you provided these details in the previous step.

9. Respond y to this prompt if you want to set up the Process Scheduler domain as a Master Scheduler:

Do you want to setup this Domain as a Master Scheduler [y/n]:

You see a progress indicator as the Process Scheduler domain is started.

10. Respond y to this prompt if you wish to create and start a PIA domain:

Do you wish to setup PeopleSoft Pure Internet Architecture on this VM [y|n]:

If you select y you will be prompted for additional configuration values required to start the PIA domain. This includes connectivity details for the Application Server domain, the Web profile user password, the Integration Gateway user password.

See the information on using authentication domains in the *PeopleTools Installation for Oracle* product documentation.

Enter the Web Profile user PTWEBSEVER password:

Enter the Integration Gateway user Id [administrator]:

Enter the Integration Gateway user password:

Enter the Authentication Domain for PIA []:

After the PIA installation has started, you see the following prompt asking for the Jolt password that you provided when creating the Application Server domain:

```
Enter the JoltConnection Password:
```

```
Attempting to start WebLogic Server PIA
```

You see the following messages, ending with the process ID:

```
No activity will be logged to this window.
```

```
Server activity will be logged to /home/psadm2/psft/pt/8.53/webserve/peoplesoft⇒  
/servers/PIA/logs/PIA_*
```

```
PID for WebLogic Server PIA is:
```

11. Respond `y` to this prompt if you want your domains to be restarted automatically when you reboot the vServer:

```
Do you want PeopleSoft domains to be started on boot [y|n]
```

Task 2-4: Using the PeopleSoft Installation

This section discusses:

- Reviewing the File System and Users
- Understanding Samba and vServer File System Access
- Using Application Designer
- Managing PeopleTools Domains with PSADMIN
- Installing PeopleSoft Change Assistant
- Installing and Starting Oracle Database Client Tools

Reviewing the File System and Users

The following table includes a description of the default locations for the PeopleSoft installation and configuration, and the access for each. Not all these locations will be applicable if you have customized your vServer.

Directory	Description	Access
PS_HOME	The binary installation files are placed into a secure <i>PS_HOME</i> directory at /opt/oracle/psft/pt/tools.	This directory can only be written to by the PeopleSoft administrator, psadm1.

Directory	Description	Access
PS_APP_HOME	This is the file system location for your PeopleSoft Application.	<p>If your <i>PS_APP_HOME</i> is located on the local filesystem of your vServer you will have installed it with a specific user account. The user with which it was installed will be the owner. The owner of the <i>PS_APP_HOME</i> should <i>not</i> be root and should <i>not</i> be writable to the user with which Application Server and Process Scheduler domains are administered.</p> <p>The psadm3 user is intended to be the only user that has write access to this directory. If you have placed the <i>PS_APP_HOME</i> on a shared file system location outside your vServer the level of access to that location will be dictated by the permissions applied to it by the user who owns it.</p>
ORACLE_HOME (PeopleSoft PeopleTools)	The Oracle RDBMS Client connectivity software, including the SQL*Plus program, is located in /opt/oracle/psft/pt/oracle-client/windows. This is the Oracle RDBMS client installation that is used by PeopleSoft PeopleTools to connect from the PeopleSoft Application Server and Process Scheduler domains to the PeopleSoft database.	This directory is owned by psadmin1.
PS_CFG_HOME	The application server and Process Scheduler server configuration files are placed into <i>PS_CFG_HOME</i> . The <i>PS_CFG_HOME</i> path is /home/psadm2/psft/pt/<peopletools_version>	This directory is owned by psadm2.
Other directories	The rest of the environment, outside <i>PS_HOME</i> and <i>PS_CFG_HOME</i> .	These directories are owned by root. The file system ownership and permissions are similar to typical Oracle Linux installations.

The deployed configuration includes the default users in this table:

Important! It is strongly recommended that you change all default passwords immediately after installation. Be sure to consult Oracle security guidelines for information on setting and maintaining passwords.

For security guidelines, see the Red Paper “Securing Your PeopleSoft Application Environment,” (search on My Oracle Support for the article title, or use the URL http://download.oracle.com/peopletools/documents/Securing_PSFT_App_Environment_May2010%20v4.pdf).

See *PeopleTools: Security Administration*.

User Name	Default Password	Role Definition
psadm1	Oradmin (the first character is the number zero)	The PeopleSoft installation administrator who owns <i>PS_HOME</i> is psadm1. This user cannot write into <i>PS_CFG_HOME</i> .
psadm2	Oradmin (the first character is the number zero)	The domain user who creates and configures the Application Server domain, Process Scheduler (batch server) domain, and the PIA. This user cannot write to <i>PS_HOME</i> , but has read-execute access.
psadm3	Oradmin (the first character is the number zero)	The PeopleSoft installation administrator who owns <i>PS_APP_HOME</i> .

See Also

"About this Documentation," Related Information.

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

PeopleTools: System and Server Administration, "Working with Server Domain Configurations"

Understanding Samba and vServer File System Access

The file system location in the vServer is made available using Samba. This makes files residing in the vServer accessible on the host OS. This also allows files on the host or even on an external network to be shared with the vServer.

Note. Samba is Open Source software under the GNU General Public licence that allows for interoperability between Linux/UNIX servers and Microsoft Windows-based clients.

By default Samba will make some of the installation directories under the /opt/oracle/psft/pt/tools/setup directory of the vServer available to the host. This makes the following installation programs available:

- PeopleTools Client in /opt/oracle/psft/pt/tools/setup/Client
- PeopleSoft Change Assistant in /opt/oracle/psft/pt/tools/setup/PSCA
- Oracle RDBMS client for Microsoft Windows in /opt/oracle/psft/pt/oracle-client/windows

By default you cannot put files into the guest using the delivered Samba configuration. This means that you only access the guest in read-only mode. This is sufficient for accessing installation programs such as the PeopleTools Client installation setup. You may modify the Samba configuration file in /etc/samba/smb.conf to change which content is accessed from outside the guest OS. See the samba man page in the vServer and the web site www.samba.org for more information about configuration options for Samba.

Task 2-4-1: Using Application Designer

This section discusses:

- Understanding Application Designer
- Installing the PeopleSoft Client Tools
- Setting Up Configuration Manager

- Starting Application Designer

Understanding Application Designer

The Microsoft Windows-based program Application Designer is an important tool that is used to perform a variety of administrative tasks in a PeopleSoft environment.

The PeopleSoft installation deployed by the OVM Template for PeopleSoft on Exalogic includes the PeopleTools Client installer that packages Application Designer and other client tools (for example, Change Assistant, Configuration Manager, and the PeopleSoft Test Framework). The installer is provided in the vServer in the following directory: `/opt/oracle/psft/pt/tools/setup/Client`.

See *PeopleTools Installation for Oracle*, “Preparing for Installation,” Planning Your Initial Configuration.

Application Designer runs only on Microsoft Windows and therefore cannot be run in the vServers that are provided with this distribution. You must install and run Application Designer on a separate computer with a supported Microsoft Windows operating system, as described in this section.

See the product documentation *PeopleTools: System and Server Administration* for information on using PSADMIN.

See *PeopleTools Installation for Oracle*, “Configuring the Application Server on UNIX,” Creating, Configuring, and Starting an Initial Application Server Domain.

Installing the PeopleSoft Client Tools

To install the PeopleTools Client tools:

1. Access the vServer file system from your Microsoft Windows host by selecting Start, Run, and entering the Microsoft Windows UNC path containing your vServer IP address.
Windows Explorer opens displaying a file system location within the vServer that contains the PeopleTools Client installer.
2. Copy the “Client” directory contents from `/opt/oracle/psft/pt/tools/setup/Client` on the vServer to a convenient directory, referred to here as *TEMP_DIR*, on the Microsoft Windows machine.
3. Run *TEMP_DIR*\Client\Disk1\setup.bat to launch the Client installer.
Specify the installation location for the PeopleSoft Client tools, referred to here as *INSTALL_DIR*, and select defaults for the rest of the options.

Setting Up Configuration Manager

Before starting Application Designer, you must specify the connection details and the Jolt connection password for the application server domain in Configuration Manager.

To set up Configuration Manager:

1. Run *INSTALL_DIR*\bin\client\winx86\pscfg.exe to start Configuration Manager.
2. Select the Profile tab.
3. Highlight the Default profile and click Edit.
4. On the Edit Profile - 'Default' page, select the Application Server radio button.
5. Enter values for the following:
 - Application Server Name
Enter a descriptive name for the application server. The name in the following example is HR91FP3

- Machine Name or IP Address

Enter the IP address or the resolvable server name for the application server. The machine name in the following example is server1.mycompany.com.

- Port Number

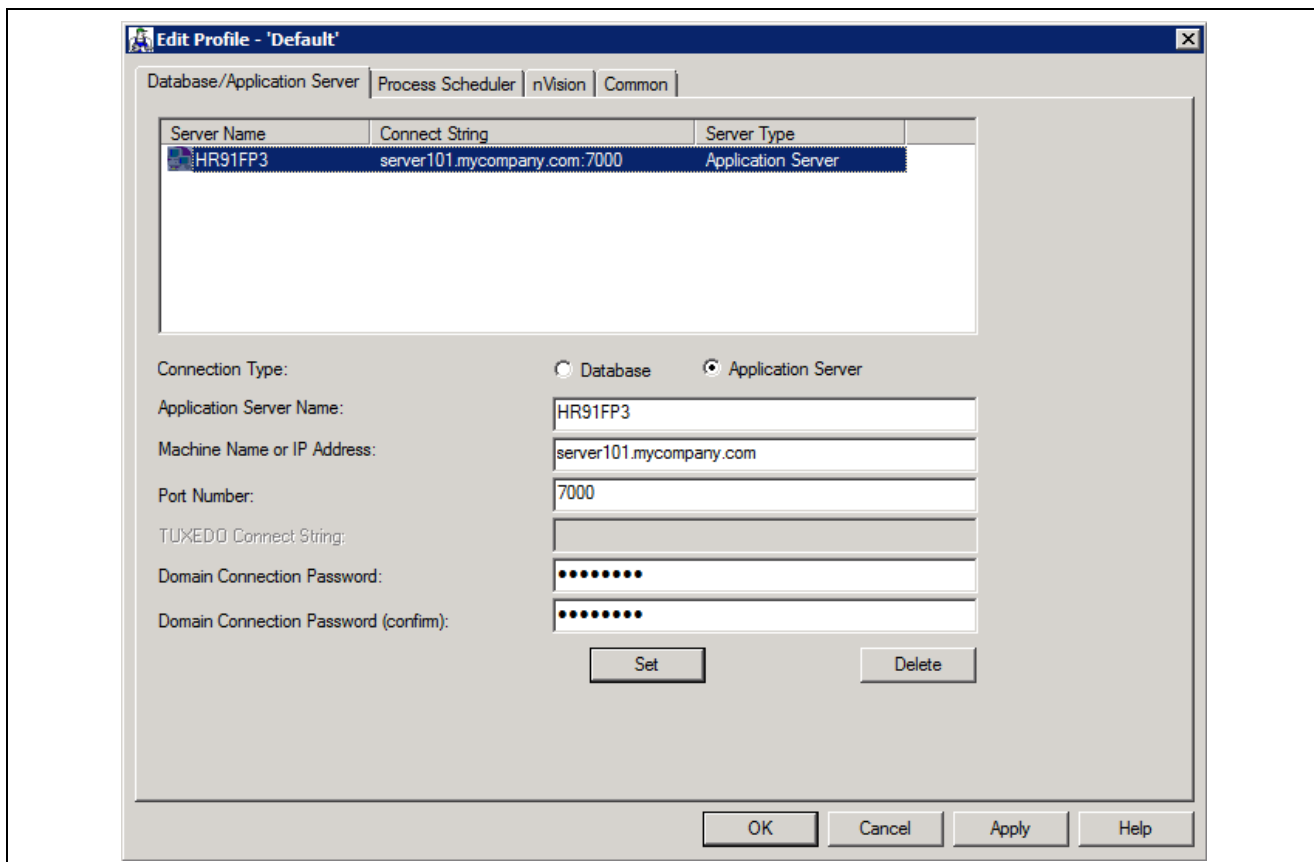
Enter the port number for the application server. The port number in the following example is 7000.

- Domain Connection Password

Enter and confirm the same password that you entered for the JoltConnection password in the section Configuring the vServer.

6. Click Set.

The application server settings are moved to the grid at the top of the window, as shown in this example:



Edit Profile - Default page in Configuration Manager dialog box

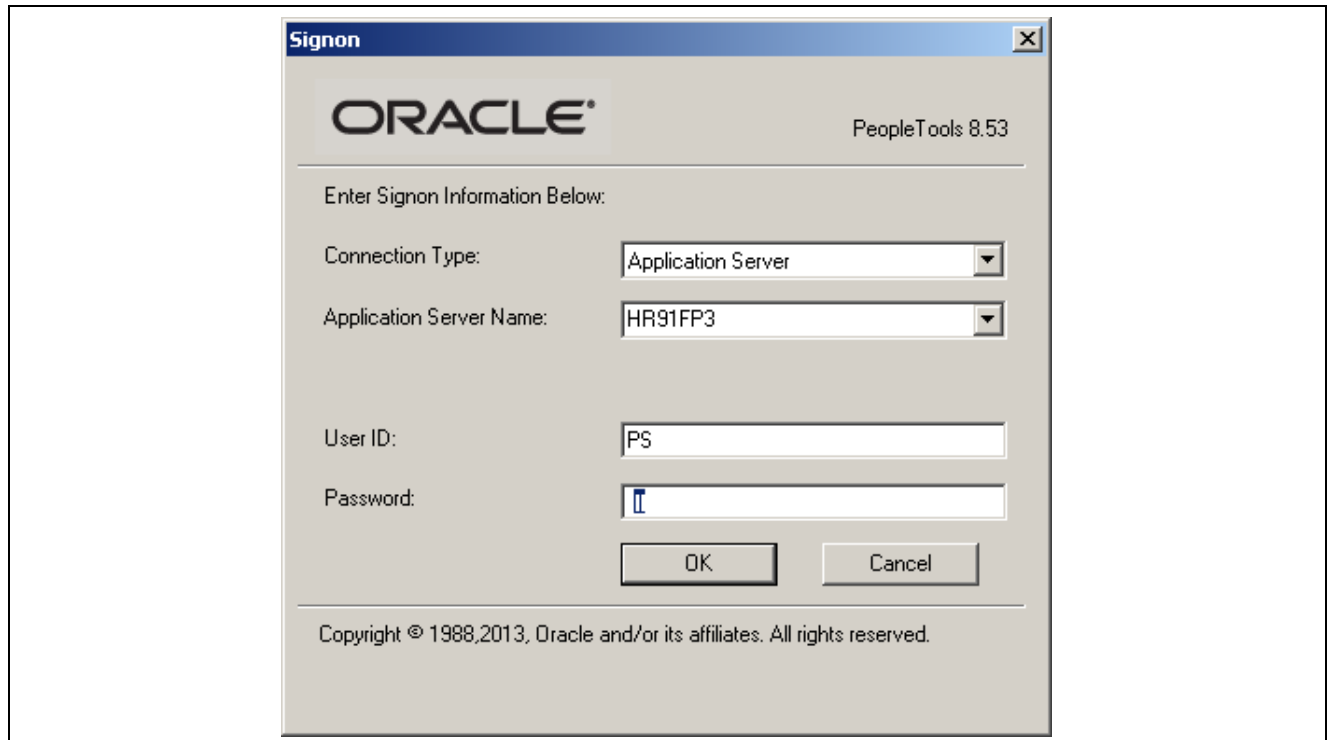
7. Click OK to accept your changes, and OK to close Configuration Manager.

Starting Application Designer

To start Application Designer on a Microsoft Windows machine:

1. Run `INSTALL_DIR\bin\client\winx86\pside.exe` to start Application Designer.

The PeopleSoft Signon dialog box opens.



PeopleSoft Signon dialog box with Application Sever Connection Type

2. Select Application Server from the Connection Type drop-down list as shown in the example above.
3. From the Application Server Name drop-down list, select the application server you configured in Configuration Manager in the previous section.

The Application Server Name in the example is HR91FP3.

4. Enter the appropriate User ID and Password for your PeopleSoft Application (for example VP1/VP1, PS/PS, or PTDMO/PTDMO).

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

Use the PSADMIN utility to manage any of the PIA, Application Server or Process Scheduler domains. 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 vServer has been created.

See Also

PeopleTools PeopleBook for the current release: System and Server Administration, "Using the PSADMIN Utility"

Task 2-4-3: Installing PeopleSoft Change Assistant

To install PeopleSoft Change Assistant on a Microsoft Windows machine:

See the PeopleTools Installation guide for Oracle for the current release, “Installing Change Assistant.”

1. Access the virtual appliance file system from your Microsoft Windows host by selecting Start, Run, and entering the Microsoft Windows UNC path containing your virtual appliance IP address.

This is the IP address used for your virtual appliance in the section Starting the PeopleSoft VirtualBox Appliance.

Windows Explorer opens displaying a file system location within the virtual appliance that contains the PeopleSoft Change Assistant installation directory.

See Accessing the Virtual Appliance File System.

2. Copy the “ca” directory contents to a convenient directory, referred to here as *TEMP_DIR*, on the Microsoft Windows machine.
3. Run *TEMP_DIR\setup.exe* to launch the installer.

Follow the instructions in the PeopleTools Installation guide for Oracle for the current release, “Installing Change Assistant” to complete the installation.

Task 2-4-4: Installing and Starting Oracle Database Client Tools

To install the Oracle RDBMS Client tools and start SQL*Plus on a Microsoft Windows machine:

1. Access the vServer file system from your Microsoft Windows host by selecting Start, Run, and entering the Microsoft Windows UNC path containing your vServer IP address.

Windows Explorer opens displaying a file system location within the vServer that contains the Oracle RDBMS client installer.

2. Copy the Oracle RDBMS Client installation program *oracle-client-mswin-x86-32.zip* to the location known as *TEMP_DIR* above and extract the contents.

This will extract the installation program for the Oracle RDBMS client.

3. Review the instructions for Install the Oracle Database Client Software in the installation documentation that accompanies the installation program.

Access the documentation from *TEMP_DIR/client/doc/index.htm*.

4. Start the installation program *TEMP_DIR/setup.exe* and follow the onscreen instructions to install the Oracle Client.

You may choose an installation location of your preference. This will be referred to as *ORACLE_HOME* for the remainder of this section.

Once the client installation is complete it is possible to connect to the database running in your virtual appliance. In order to do this you will connect using the SQL*Plus program (also referred to as *sqlplus*). The *sqlplus* program will be located in *ORACLE_HOME*.

To connect to the database:

1. Locate the *tnsnames.ora* file in the same location in which the client installation was located, *TEMP_DIR* in the previous procedure.

This file is used to instruct the Oracle client which database to use and where it is located. Copy the *tnsnames.ora* file from your virtual appliance to a directory of your choosing, referred to here as *TNS_ADMIN_DIR*.

2. Set environment variables using the following commands:

```
set PATH=%ORACLE_HOME%;%PATH%
```

```
set TNS_ADMIN=TNS_ADMIN_DIR
```

3. Connect to the database using the following command:

```
sqlplus SYSADM/SYSADM@DB_SERVICE_NAME
```

Note. Change the password above, SYSADM, immediately after the installation.

At this point you may issue SQL statements against the database that is running on the virtual appliance. You may need to connect using different user/password combinations depending upon the activity that you wish to perform.

Task 2-5: Completing Post-Deployment Activities

This section assumes that you have started the PeopleSoft vServer. Depending upon the selections that you made when configuring the vServer you may wish to do any of the following:

- Test the vServer to ensure that it was configured correctly.

Testing the vServer will typically involve logging in to PIA to make sure that the server is accessible. For Process Scheduler servers this will involve running test reports or audits. Note that you must set up report distribution to see the posted reports.

See the section Setting Up Process Scheduler to Transfer Reports and Logs to the Report Repository in the *PeopleTools Installation for Oracle*, “Setting Up Process Scheduler on UNIX.”

- Make additional configuration changes to the configured mid-tier components, such as changing port numbers, log file locations, and so on.
- Check for any Critical Patch Updates (CPUs) for any of the installed components at My Oracle Support. Deploy these CPUs to each of the required vServers.

Note. To determine the versions of the installed components, review the README file provided with the template.

- Harden and secure the vServer.

Verify that all default passwords are changed and configure the firewall.

- Prepare the PeopleSoft Application.

If your *PS_APP_HOME* has not been previously provisioned to a shared location it may be necessary to take additional steps to ensure that the software contains the most recent updates for your application; for example:

- Use PeopleSoft Lifecycle Management tools to update the environment. See the *PeopleTools: Change Assistant* and the *PeopleTools: PeopleSoft Application Designer Lifecycle Management Guide* product documentation for information.
- Apply customizations to the PeopleSoft application. This is frequently in the areas of COBOL, SQR and Crystal.
- Set up the COBOL environment.

Install COBOL Compiler and Runtime and compile the COBOL source code that has accompanied the PeopleTools and the PeopleSoft Application.

See "Using COBOL with the PeopleSoft Deployment"

- Configure the PeopleSoft environment using PIA for functionality such as Reporting and Integration Broker.

The extent to which this is required depends upon the role of your vServer in the environment.

- Implement the PeopleSoft Web Architecture.

This involves setting up proxy servers, load balancers and external authentication services. This is not a mandatory step but is customary for production-grade runtime environments.

Task 2-6: Troubleshooting

Here are some resources to use if you encounter a problem during the deployment of the OVM Template for PeopleSoft on Exalogic.

- For logging information, read the `/var/log/oraclevm-template.log` file.

The `oraclevm-template.log` is a centralized log file that includes information about the vServer initialization and the PeopleSoft deployment.

- See the PeopleSoft PeopleTools installation guide and PeopleSoft Application documentation for information on the Application Server, Process Scheduler, and PIA.

See "About this Documentation, " Related Information.

Here are a few suggestions for typical troubleshooting avenues:

- Verify that you have enough resources—disk space, memory—on the Exalogic node that is running the vServer.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*, "Task Overviews and Basic Concepts."

See "Preparing to Deploy," Planning the vServer Configuration.

- If an error status was reported in Enterprise Manager Ops Center (EMOC) immediately after starting the virtual machine this may be due to insufficient resources on the host computer.
- If your vServer is communicating with an external host, make sure the network communication between the hosts is functioning.
- Use EMOC to check the vServer status.

See *Oracle Exalogic Elastic Cloud Administrator's Guide*. "Exalogic vDC Management - Basic."

See *Oracle Enterprise Manager Ops Center 12c*.

- If you are sure the vServer is up and running, but the PeopleSoft Application log in window does not appear, try the same steps that you use for traditional PeopleSoft installations, such as rebooting the application server and restarting PIA.

To access the PeopleSoft PeopleTools utilities such as PSADMIN, go to `/opt/oracle/psft/pt/tools`.

See *PeopleTools Installation for Oracle*.

Task 2-7: Managing the Virtual Environment Lifecycle

This section discusses:

- Understanding Virtual Machine Management
- Saving Virtual Machines as Templates
- Using the PeopleSoft Configuration Script
- Resetting PeopleSoft vServers

Understanding Virtual Machine Management

After you create and initialize your PeopleSoft vServer environment, you may want to customize it and save the customized environment as a template to share within your company. In general, the steps to follow in creating a template from a customized environment are:

1. Set up the vServer using the original templates.
2. Customize the environment.

See Saving Virtual Machines as Templates.

3. Edit the configuration plug-in script.

See Using the PeopleSoft Configuration Script.

4. Issue commands to clean up and restart the vServers using the modified configuration script.

See Resetting PeopleSoft Virtual Machines.

5. Save the vServer as a new template.

See Also

"Oracle Virtualization," Oracle Technology Network web site, <http://www.oracle.com/us/technologies/virtualization/index.html>

Task 2-7-1: Saving Virtual Machines as Templates

The vServers that you create from the OVM Template for PeopleSoft on Exalogic can actually be saved as customized templates. For example, you may create a vServer from the OVM template for PeopleSoft on Exalogic, change some of the domain configuration settings, and then save the vServer as a new template. This new template can then be replicated throughout the organization. This means that you don't need to repeat the same customization steps each time you create a vServer. Instead it is possible to install software into a vServer or add specific configuration preferences and then save the vServer as a new template. This new template can be used to create any number of vServers.

There are a few things to keep in mind when saving a vServer as a template. When saving a vServer as a template you may want to install software into the vServer from which you will create the template. If you do so, you must make sure that the software that you have installed is virtualization safe. This means that the installation is not bound to the IP address or hostname through any configuration files, database entries, and so on. When you save a vServer as a template the installed components must be host neutral, so that they will be able to run without any problems in new vServer that have different hostnames or IP addresses.

If the software that you have installed requires licensing on a per host or per processor basis, you should ensure that you have the adequate number of licenses for your site. The terms surrounding licensing will vary from application to application.

When saving a PeopleSoft vServer as a template you may wish to add customized first-boot configuration steps. This means that you should edit the first-boot configuration script, as described in the following section.

It is a good idea to use the cleanup script `/opt/oracleosft/vm/oraclevm-template.sh -cleanup` described in the section *Resetting PeopleSoft vServers*, before saving your customized template. Invoking this cleanup script will remove items such as Application Server, PIA, and Process Scheduler domains that were created by the default vServer initialization script.

See *Using the PeopleSoft Configuration Script*.

For information on the Exalogic procedure for saving a template from a customized vServer, see the appendix “Creating Server Templates from vServers” in *Oracle Exalogic Elastic Cloud Administrator’s Guide*.

Task 2-7-2: Using the PeopleSoft Configuration Script

To add configuration steps to the OVM Template for PeopleSoft on Exalogic, use the delivered configuration script, `/opt/oracle/psft/vm/oraclevm-template-ext.sh`. You can find this script in any PeopleSoft template. If you wish to extend the template, you can overwrite or add to this script.

The `oraclevm-template-ext.sh` script includes the four functions described in this table:

Function Name	Description
<code>ovm_configure_pre</code>	This function is run before the PeopleSoft PeopleTools configuration scripts. This function can perform any custom setup steps prior to the running of the PeopleSoft PeopleTools setup.
<code>ovm_configure_post</code>	This function is run after the PeopleSoft PeopleTools configuration scripts. This function can perform any custom steps required after the PeopleSoft PeopleTools setup has completed.
<code>ovm_cleanup_pre</code>	This function is run when a vServer is being cleaned up. This function is called before the PeopleSoft PeopleTools cleanup.
<code>ovm_cleanup_post</code>	This function is run when a vServer is being cleaned up. This function is called after the PeopleSoft PeopleTools cleanup.

When the vServer is being initialized, the first-boot configuration calls the four functions in the order presented in the table. The first-boot configuration calls the function `ovm_configure_pre()` before any of the PeopleSoft PeopleTools setup functions begin, and `ovm_configure_post()` after the PeopleSoft PeopleTools setup functions have completed.

This script does not just play a role when initializing. When the vServer is being cleaned, the PeopleSoft PeopleTools cleanup script calls the `ovm_cleanup_pre()` function before any of the PeopleSoft PeopleTools setup functions begin, and `ovm_cleanup_post()` function after the PeopleSoft PeopleTools setup functions have completed. As described in the above table these functions are located in `/opt/oracle/psft/vm/oraclevm-template-ext.sh`.

Any of these functions may be empty. These functions may call any of the functions in the PeopleSoft PeopleTools scripts. This allows them to manipulate and override the functions delivered in the PeopleSoft PeopleTools scripts.

After you have modified the `/opt/oracle/psft/vm/oraclevm-template-ext.sh` configuration script to include your preferred code, it is necessary to reset the template to get it ready to be saved, as described in the following section.

See Resetting PeopleSoft vServers

Task 2-7-3: Resetting PeopleSoft vServers

It is possible to reset your vServer such that the next time it is started the original prompts associated with the PeopleSoft configuration will be displayed. This is achieved by using the following command:

```
/opt/oracle/psft/vm/oraclevm-template.sh --cleanup
```

Use this command when you have customized a virtual machine and want to save it as a template.

For further information on saving vServers as templates and resetting the network configuration of the vServer, follow the steps in the Exalogic administrator's guide.

See Also

Oracle Exalogic Elastic Cloud Administrator's Guide, "Creating Server Templates from vServers"

CHAPTER 3

Using COBOL with the PeopleSoft Deployment

This chapter discusses:

- Understanding COBOL and the PeopleSoft Deployment
- Obtaining Micro Focus Server Express Installation Files from Oracle Software Delivery Cloud
- Installing Micro Focus Server Express on the PeopleSoft Deployment
- Compiling and Linking PeopleSoft COBOL Programs
- Running PeopleSoft COBOL Programs

Understanding COBOL and the PeopleSoft Deployment

This chapter describes the steps required to install and compile COBOL for use with the OVM Template for PeopleSoft on Exalogic deployment. If you plan to use any PeopleSoft applications that require COBOL, use these instructions to obtain and install Micro Focus Server Express 5.1 WP6 COBOL compiler. The chapter also includes instructions for compiling and running the COBOL programs.

You must use a properly licensed Micro Focus COBOL compiler. This chapter includes instructions for using either a 30-day evaluation license or a permanent license that you have previously purchased and installed.

See Also

"PeopleSoft Enterprise Frequently Asked Questions About PeopleSoft and COBOL Compilers," My Oracle Support, (search for the article name)

PeopleTools Installation for Oracle, "Installing and Compiling COBOL on UNIX"

Task 3-1: Obtaining Micro Focus Server Express Installation Files from Oracle Software Delivery Cloud

The installation files for Micro Focus Server Express COBOL compiler are available on the Oracle Software Delivery Cloud portal. To download the required files:

1. Enter the following URL in a browser:
<http://edelivery.oracle.com>
2. Sign in with your user name and password.

3. Read the trial license agreement and export restrictions, and select the check boxes to indicate that you accept the terms.
Click Continue.
4. On the Media Search pack page, select *PeopleSoft Enterprise* from the Select a Product Pack drop-down list.
5. Select *Linux x86-64* from the Platform drop-down list, and click Go.
6. Select the radio button for Third Party - Micro Focus 5.1 for PeopleSoft Enterprise Media Pack, and click Continue.
7. Click Download for each of the following zip files, and save them to a convenient directory, referred to as *COBOL_INSTALL*:
 - Micro Focus COBOL for PeopleSoft Quick Reference Guide – Version 10 (V24803–01.zip)
 - Micro Focus Server Express 5.1 Wrap Pack 6 Extras Install Documentation for PeopleSoft and Runtime Licenses (Read “Readme” file located on this disk for instructions) (V33438–01.zip)
 - Micro Focus Server Express 5.1 Wrap Pack 6 PeopleSoft for Red Hat Linux x86-64 (V33445–01.zip)
8. On the target vServer create a directory for the Micro Focus installation files, using this command:


```
mkdir /products/mf/svrex-51_wp6-64bit
```
9. Transfer the files using FTP in binary mode:
FTP V33445–01.zip (Micro Focus Server Express 5.1 Wrap Pack 6 PeopleSoft for Red Hat Linux x86-64) from *COBOL_INSTALL* to /products/mf/svrex-51_wp6-64bit on the vServer.
10. Extract (unzip) the file with the following command:


```
unzip V33445-01.zip
Archive:  V33445-01.zip
  inflating: sx51_ws6_redhat_x86_64_dev.tar
```
11. FTP and extract the following files to a separate directory on the host operating system:
 - V33438-01.zip - Micro Focus Server Express 5.1 Wrap Pack 6 Extras Install Documentation for PeopleSoft and Runtime Licenses
This includes PeopleSoft-defined install instructions for the compiler. Detailed install instructions are also given in this document which you are reading.
 - V24803-01.zip - Micro Focus COBOL for PeopleSoft Quick Reference Guide – Version 10
This includes temporary license codes that you can apply to the compiler.
See Using the Micro Focus Licensing Facility.

Task 3-2: Installing Micro Focus Server Express on the PeopleSoft Deployment

To install Micro Focus Server Express 5.1 WP6 on the OVM Template for PeopleSoft on Exalogic deployment:

1. Log in as user root.
2. Change directory to the one containing the extracted Micro Focus compiler software.

```
$ cd /products/mf/svrexpress-51_wp6-64bit
```

3. List the items in the directory with the following commands:

```
$ ls -l
total 273972
-rw-r--r-- 1 root ccpt 71486163 Sep 13 23:56 V33445-01.zip
-rw-r--r-- 1 root ccpt 208496640 Oct 26 2011 sx51_ws6_redhat_x86_64_dev.tar
```

4. Extract the tar file:

```
$ tar -xvf sx51_ws6_redhat_x86_64_dev.tar
```

5. List the items in the directory with the `ls` command:

```
$ ls
ADISCTRL      aslmf  cpylib  deploy  docs      dynload64  eslmf-mess  include =>
lang  lmf    src                      terminfo
V33445-01.zip bin    demo    dialog  dynload  es          etc          install =>
lib    snmp  sx51_ws6_redhat_x86_64_dev.tar  xdb
```

6. To begin the installation, type:

```
$sh ./install
```

7. 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/svrexpress-51_wp6-64bit/docs
```

```
We strongly recommend you read this file once the installation is complete.
```

```
Do you wish to continue (y/n): y
```

8. 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
```

9. 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: Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1) and you are installing
it on Operating System: Linux 2.6.18-92.el5xen
Any product issues you report will only be corrected if they can be reproduced
on one of our systems running:
Linux 2.6.9-11.ELsmp x86_64 Red Hat Enterprise Linux AS release 4 (Nahant
Update 1)
Linux 2.6.9-67.ELsmp i686 Red Hat Enterprise Linux ES release 4 (Nahant Update
6)
Linux 2.6.18-238.el5 x86_64 Red Hat Enterprise Linux Server release 5.6
(Tikanga)
Linux 2.6.18-238.el5 i686 Red Hat Enterprise Linux Server release 5.6 (Tikanga)
Linux 2.6.32-131.0.15.el6.x86_64 x86_64 Red Hat Enterprise Linux Server release
6.1 (Santiago)
Linux 2.6.18-194.el5 x86_64 Red Hat Enterprise Linux Server release 5.5
(Tikanga)
Please confirm that you want to continue with this installation (y/n): y

```

10. 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:

11. Type y (yes) to continue after reading the following information:

```

This product is certified on the following reference environment:
The command(s) used to gather the information is given following each entry.
Operating System
-----
Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
uname -s
uname -r
uname -m
cat /etc/redhat-release

C Compiler
-----
cc gcc version 3.4.6 20060404 (Red Hat 3.4.6-9)
gcc -v 2>&1 | tail -1
C++ Compiler
-----
/usr/bin/g++ gcc version 3.4.6
g++ -v 2>&1 | tail -1
Assembler
-----
as GNU assembler version 2.15.92.0.2 (x86_64-redhat-linux) using BFD version=>
2.15.92.0.2 20040927
as -v 2>&1 < /dev/null

```

Linker

ld GNU ld version 2.15.92.0.2 20040927

ld -V 2>&1 | head -1

Please confirm your understanding of the above reference environment details (y⇒
/n): **y**

12. Answer *n* (no) to the following prompt:

Do you want to make use of COBOL and Java working together? (y/n): **n**

Skipping Java setup

Should you want to use Java with COBOL later on as super user, run the command ⇒
/products/mf/svrex-51_wp6-64bit/bin/java_setup to select the version of Java⇒
you want to use.

Peoplesoft COBOL implementations do not require COBOL and Java to work together.

13. 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**

14. At the following prompt, enter the directory name where you wish 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 install.

Enter the directory name where you wish to install License Manager.

(Press Enter for default directory /opt/microfocus/mflmf)

/products/mf/mflmf-svrex-51_wp6-64bit

/products/mf/mflmf-svrex-51_wp6-64bit does not exist
do you wish to create it ? (y/n) **y**

15. Enter *y* (yes) to restrict access to the License Admin System to the superuser account:

Empty database created ok.

Do you want only superuser to be able to access the License Admin System? (y/n) ⇒
y

16. 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.

17. 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 changing directory to where the LMF was installed, and⇒
typing:
./mflicense

To run your applications you need a deployment license installed using Aptrack.
See your Deployment Licensing Guide for details.
Installing Aptrack...

Access permissions on directory /var/mfaslmf have changed on this release
Write access permission has been removed except for superuser use
Aptrack installation complete

18. 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.

19. Wait for the documentation to be installed:

Installing documentation. Please wait

20. 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 while logged in as root:

```
/products/mf/svrex-51_wp6-64bit/bin/eslminstall
/products/mf/svrex-51_wp6-64bit/bin/casperm
```

Do you wish to configure Enterprise Server now? (y/n): **n**

21. Enter *n* (no) at the following prompt to skip XDB installation:

XDB is a fully-functional ANSI-compliant relational database management system,⇒
providing support for SQL data access for development purposes.

Do you want to install XDB? (y/n): **n**

Skipping XDB install. Should you want to install XDB later on, run the⇒
following command as the root user:

```
sh /products/mf/svrex-51_wp6-64bit/xdb/xdb_install
```

22. Review the information concerning setting the COBDIR, LD_LIBRARY_PATH, and PATH environment variables in the concluding prompt:

```
(Remember to set COBDIR to /products/mf/svrex-51_wp6-64bit, include /products=>
/mf/svrex-51_wp6-64bit/lib in LD_LIBRARY_PATH, and include /products/mf/svrex=>
51_wp6-64bit/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 3-3: Compiling and Linking PeopleSoft COBOL Programs

This section discusses:

- Compiling COBOL
- Linking COBOL

Task 3-3-1: Compiling COBOL

On Linux operating systems, you always need to compile your COBOL programs at installation time. This section assumes the `psconfig.sh` script has already been invoked when you signed in as a PeopleTools domain user, `psadm2`.

See "Deploying the PeopleSoft VirtualBox Appliances," Managing PeopleTools Domains with PSADMIN.

Note that the `psadm2` user cannot write to `PS_HOME`. If you want to compile PeopleSoft Application COBOL source, you need a user with permissions to write to `PS_APP_HOME`. To compile PeopleTools COBOL sources, you need a user with permission to write to `PS_HOME`.

See Using the PeopleSoft Installation.

Before compiling, verify that the following environment variables are set and are pointing to the correct location:

- `PS_HOME`

```
$ echo $PS_HOME
/opt/oracle/psft/pt/tools
```

- `PS_APP_HOME`

```
$ echo $PS_APP_HOME
/opt/oracle/psft/pt/apptools
```

- `COBDIR`, `LD_LIBRARY_PATH`, and `PATH`

If these environment variables are not set, set them using the same command prompt window that you use to compile COBOL. For example:

```
export COBDIR=/products/mf/svrex-51_wp6-64bit
export LD_LIBRARY_PATH=$COBDIR/lib:$LD_LIBRARY_PATH
```

```
export PATH=$COBDIR/bin:$PATH
```

Run the shell script `pschl.mak`, found in `PS_HOME/setup`, to do the PeopleSoft COBOL compilation. This table describes the allowed arguments for `pschl.mak`:

Command	Description
<code>./pschl.mak</code>	Use this command, with no argument, to compile all the COBOL programs, that is, both the PeopleSoft PeopleTools and PeopleSoft Application COBOL programs This will compile the programs that are under <code>PS_HOME/src/cbl</code> and <code>PS_APP_HOME/src/cbl</code> .
<code>./pschl.mak PS_HOME</code>	Use this argument to compile only the PeopleSoft PeopleTools COBOL programs.
<code>./pschl.mak PS_APP_HOME</code>	Use this argument to compile only the PeopleSoft Application COBOL programs.
<code>./pschl.mak <COBOL_PROGRAM></code>	Enter the name for a valid PeopleSoft PeopleTools or PeopleSoft Application COBOL program, excluding the <code>.cbl</code> extension, to compile a specific program For example, for a PeopleSoft PeopleTools COBOL program <code>PTPDBTST.CBL</code> , or a PeopleSoft Application COBOL program <code>GPPDPRUN.CBL</code> , run: <code>./pschl.mak PTPDBTST</code> <code>./pschl.mak GPPDPRUN</code>

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 3-3-2: Linking COBOL

To link PeopleSoft COBOL programs:

1. Change to the `PS_HOME/setup` directory:

```
cd $PS_HOME/setup
```

2. For dynamic linking, run this command:

```
./psrun.mak
```

The `PSRUN.MAK` script should return the Linux prompt when done. If the compile completes without errors, the files `PSRUN` and `PSRUNRMT` will now exist in the `PS_HOME/bin` directory. If you encounter errors, check `PS_HOME/setup/psrun.err` and `PS_HOME/setup/psrunrmt.err`.

Task 3-4: Running PeopleSoft COBOL Programs

Once your Application Server and Process Scheduler domains are configured and running, all the runtime environment settings for running PeopleSoft COBOL programs are complete.

You can run the COBOL programs from PIA. Details on configuring the application setup and data for running a requisite COBOL program can be found in appropriate PeopleSoft Application documentation.

See "About this Documentation, " Related Information.

To run COBOL programs from the command shell:

1. Set the environment variables for PS_HOME, PS_APP_HOME, PS_SERVER_CFG and COBPATH:

```
PS_HOME= /opt/oracle/psft/pt/tools; export PS_HOME
PS_APP_HOME= /opt/oracle/psft/pt/apptools; export PS_APP_HOME
PS_SERVER_CFG=$PS_CFG_HOME/appserv/prcs/<domain>/psprcs.cfg; export PS_SERVER_CFG
COBPATH=$PS_APP_HOME/cblbin:$PS_HOME/cblbin; export COBPATH
```

Note. The *PS_CFG_HOME* path is /home/psadm2/psft/pt/<peopletools_version>.

2. Use this command to run the program:

```
PSRUN <COBOL_PROG> <dbtype>/<dbname>/<userid>/<userpasswd>/<runcontrol>=>
/<process_instance>/<sqltrace>/<dbflags>
```

For example:

```
PSRUN GPPDPRUN ORACLE/Q8529033/VP1/VP1/1/1/191/0
```


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