

Solution-in-a-Box: Best Practices for Deploying PeopleSoft Applications on Oracle 12c Multitenant Database on Oracle Database Appliance

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Introduction

Oracle's PeopleSoft applications are designed to address the most complex business requirements and provide comprehensive business and industry solutions, enabling organizations to increase productivity, accelerate business performance and provide a lower cost of ownership.


Oracle Database Appliance (ODA) is an Oracle engineered system, consisting of hardware and software, designed to simplify the deployment, maintenance and support of high availability Oracle Database and Oracle E-Business Suite Application Tier solutions.

Oracle Multitenant is a new option for Oracle Database 12c Enterprise Edition that helps customers reduce IT costs by simplifying consolidation, provisioning, upgrades, and more. It is supported by a new architecture that allows a container database to hold many pluggable databases. And it fully complements other options, including Oracle Real Application Clusters (RAC) and Oracle Active Data Guard.

This red paper is a practical guide for system architects or PeopleSoft Application DBAs planning a PeopleSoft implementation with an Oracle 12c multitenant container database (CDB) and Oracle Database Appliance (ODA). This paper provides guidance for using the Oracle VM Templates for PeopleSoft to reduce the time required to install and deploy PeopleTools middle tier. The instructions and recommendations provided in this document incorporate best practices for PeopleSoft applications, Oracle 12c multitenant container database and ODA. With some customization, Oracle VM Templates for PeopleSoft (referred to here as PeopleSoft VM templates) can be used to deploy PeopleSoft applications on ODA in a high availability (HA) configuration. The information in this paper is applicable to PeopleSoft PeopleTools 8.54 and later.

Structure of This Red Paper

This red paper explains how you can accelerate the deployment of your PeopleSoft system on ODA. Underpinning this solution are the PeopleSoft VM templates that are developed and maintained by the Oracle PeopleSoft team, and the Oracle VM templates for Oracle WebLogic and Oracle Traffic Director developed and maintained by the Oracle WebLogic team. The solution architecture takes advantage of ODA Virtualized Platform and optimizes the use of onboard storage to take best advantage of the resources and bandwidth available within the platform. By following the best practices described in this document you can drive down the cost of managing your PeopleSoft application environment substantially, and start from a proven reference environment. This document outlines the process of implementing and configuring a PeopleSoft system on Oracle Real Application



Cluster multitenant container database, with PeopleSoft application servers and PeopleSoft Pure Internet Architecture (PIA) servers, and Oracle Traffic Director (OTD) running on different virtual machines (VMs).

Related Materials

This paper is not a general introduction to PeopleSoft applications, Oracle Multitenant Databases, or ODA. You need to be familiar with the ODA documentation and, in particular, the ODA Virtualized Platform documentation. Further information about the ODA is available at:

» [Oracle Database Appliance Documentation](#)

You also need to understand OTD deployment on ODA, as described in the following documentation:

» [Oracle WebLogic Server on Oracle Database Appliance Product Documentation](#)

For an overview of the Oracle VM Templates for PeopleSoft see [Oracle VM Templates for PeopleSoft](#).

The following documentation available on the [PeopleSoft Online Help](#) site discusses many of the fundamental concepts that are related to PeopleSoft PeopleTools:

» [PeopleTools: Getting Started with PeopleTools](#)

» [PeopleTools: System and Server Administration](#)

Overview

This section summarizes some of the key points of the Oracle Database Appliance Virtualized Platform Deployment Architecture that will make it easier to understand the installation procedure in this paper.

Reviewing the ODA Virtualized Platform Deployment Architecture

Oracle Database Appliance Virtualized Platform is based on Oracle VM and it enables customers to quickly deploy both database and application workloads in a single virtualized appliance platform. The virtualization feature of ODA is leveraged for deploying the PeopleSoft system on ODA as a solution-in-a-box. ODA also provides the capabilities to optionally configure a “shared VM repository” that enables high availability for PeopleSoft application VMs.

Figure 1 shows the system architecture for a PeopleSoft deployment on ODA. This illustrates an ODA machine which is enabled as a virtualized platform running two nodes, and which is configured with an Oracle RAC multitenant database.

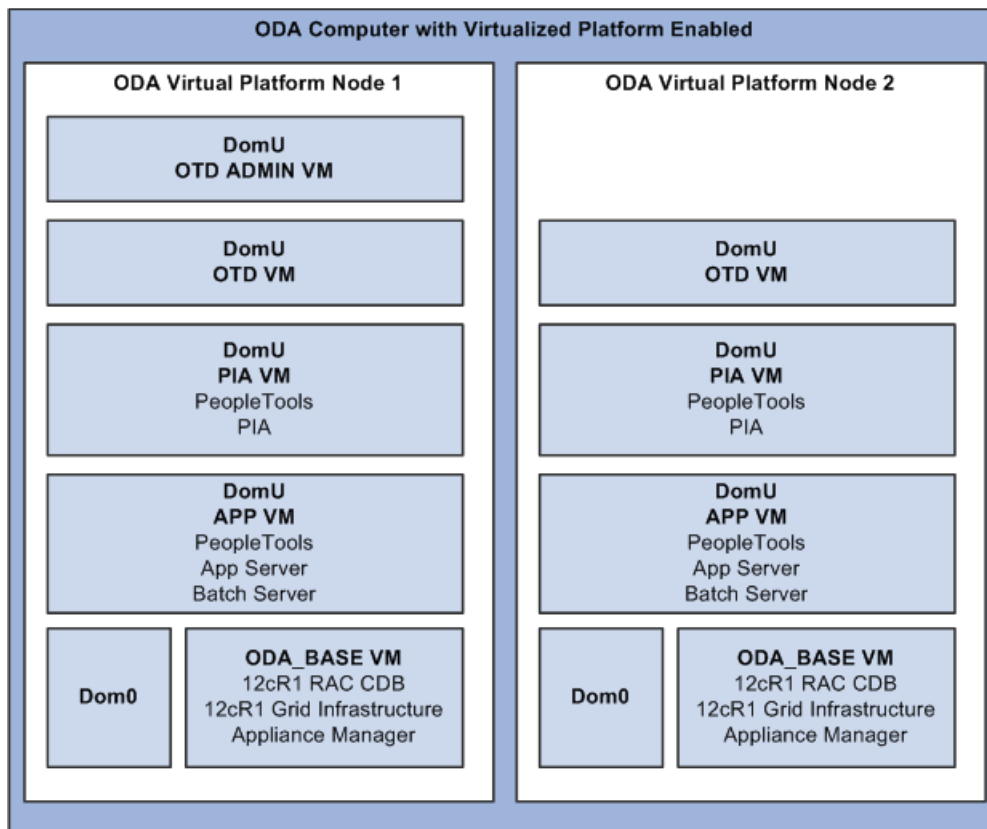



Figure 1 : System architecture of a PeopleSoft deployment on ODA Virtualized Platform.

The system architecture includes these components (beginning at the bottom of the diagram):

- » **DOM0:** Domain 0 is the administrative domain that resides on each ODA server node. The Dom0 kernel is a complete Linux kernel with support for a broad array of devices, file systems, software Redundant Array of Independent Disks (RAID) and volume management.
- » **ODA_BASE:** ODA_BASE is a “privileged domain” within the ODA virtualized platform. This domain runs the databases and is configured and sized to support database workloads. The size of the ODA_BASE domain is



determined by the required assignment of physical CPU cores and memory to this domain. The other application workloads are isolated from this domain.

- » APP VM: APP VMs are user domains or DomUs. These domains host middle-tier products, such as Oracle WebLogic Server, or application-specific functionality. The APP VMs in the above system architecture diagram host PeopleSoft PeopleTools, the PeopleSoft application server, and PeopleSoft Batch Server.
- » PIA VM: The PIA VM is a user domain and hosts the PeopleSoft Pure Internet Architecture domain functionality, which handles online user page requests and web services through the Integration Gateway.
- » OTD Instance VM: The OTD instance is an OTD server that is instantiated from a configuration and deployed on an administration node.
- » OTD ADMIN VM: The OTD administration node is a specially configured OTD server instance that is registered with the administration server.

The following diagram shows the logical flow of PeopleSoft application architecture components on ODA. The diagram includes the typical components of PeopleSoft application architecture on ODA in a high availability environment. The diagram includes components that are deployed on the ODA base and components on the guest VMs. This diagram also shows a relationship between PIA servers and a software load balancer deployed on ODA, and client browsers outside the ODA environment.

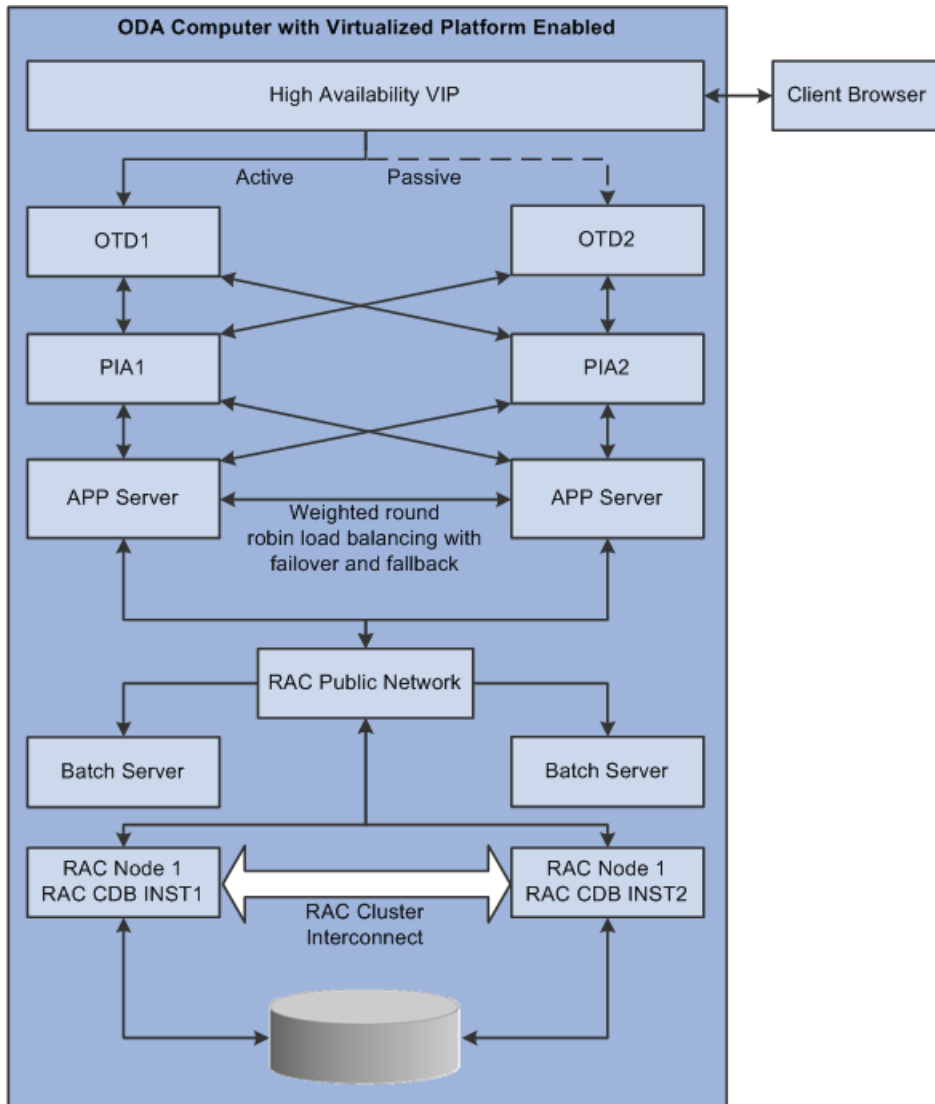



Figure 2 : Logical architecture of a PeopleSoft deployment on ODA Virtualized platform

The components running on the ODA virtualized platform shown in the diagram include the following:

- » OTD1 and OTD2: HA VIP (High Availability virtual IP address) is used to connect to OTD servers, and then the request will be routed to PIA servers.
- » PIA1 and PIA2: Two PIA servers based on Oracle WebLogic, which access the PeopleSoft application servers, which use Oracle Tuxedo.
- » APP Servers: The Oracle Tuxedo application servers are configured with weighted round robin load balancing with failover and fallback.
- » Batch Servers: The Process Schedulers supports the PeopleSoft application environment.
- » RAC Public Network: The batch server and application server accessing the Oracle RAC database using the Oracle RAC public network. The Oracle RAC public network is configured using Single Client Access Name (SCAN) IPs.
- » RAC Nodes: The Oracle RAC nodes are configured as RAC clusters, and access the database storage.



The physical servers include the following software:

Dom0 Management Domain

- » Oracle Appliance Kit (OAK) Version 12.1.2.2.0
- » Oracle VM Server 3.2.9

ODA_BASE Virtual Machine

- » Special privileged user domain for database instances
- » Oracle Linux 5.11
- » Oracle Real Application Clusters (RAC) 12c Release 1 Multitenant Database
- » Automatic Storage Management (ASM) 12c Release 1
- » Oracle Grid Infrastructure 12c Release 1

Oracle PeopleSoft Virtual Machine

- » Oracle Linux 5.10 64 bit
- » PeopleSoft PeopleTools 8.54.08 Application Server
- » PeopleSoft PeopleTools 8.54.08 PeopleSoft Pure Internet Architecture (PIA)
- » Oracle Tuxedo 12.1.1.0 Rolling Patch 49
- » Oracle Database client 12.1.0.1
- » Oracle WebLogic 12.1.3.0

Oracle WebLogic VM Template for ODA

- » Oracle WebLogic Template 12.1.3
- » Oracle Database Appliance SW version 12.1.2.2

Design - Planning Your Environment

In order to make decisions relative to the scope of migrating, installing, or upgrading a PeopleSoft environment, it is important to assess the value relative to deployment complexity of each critical and non-critical path item. For details, see the section “Design – Planning of Your Environment” in the red paper [Solution-in-a-Box: Best practices for deploying PeopleSoft Applications on Oracle Database Appliance Virtualized Platform](#).

Deploying Oracle PeopleSoft Applications on Oracle Database Appliance Virtualized Platform

This section lists the necessary steps to deploy PeopleSoft VM templates with Oracle Database 12c Release 1 multitenant container database on Oracle Database Appliance 12.1.2 (or later).

Task 1: Setting Up Oracle Database Appliance Virtualized Platform

Before the PeopleSoft VM template is deployed the Oracle Database Appliance Virtualized Platform setup must be completed.

1. Follow the Oracle Database Appliance Virtualized Platform Setup instructions on the [Setup Poster](#) to set up the ODA.

It is not necessary to deploy a database during the appliance setup. Clear the Create Initial Database check box on the Database Information page of the Appliance Manager.

2. Calculate the space requirements for the PeopleSoft VM templates and VMs before the deployment.

Consider the space requirements for PeopleSoft application software such as PeopleSoft Human Capital Management (HCM) or PeopleSoft Financial and Supply Chain Management (FSCM), or any other software used, when calculating the total space requirement for PeopleSoft VM templates and VMs.

Table 1 lists typical space requirements for PeopleSoft VM templates, but it may vary based on the deployment criteria for each environment.

TABLE 1: PEOPLESOFT TEMPLATE AND VM SPACE REQUIREMENTS

PeopleSoft Template and VMs	Typical Disk Space Requirements
Oracle PeopleSoft PeopleTools VM Template	35 GB
Oracle PeopleSoft PeopleTools APP VM (2VMs)	35 GB × 2 = 70 GB
Oracle PeopleSoft PeopleTools PIA VM (2VMs)	35 GB × 2 = 70 GB
<i>Total Space Required</i>	<i>300 GB</i>

3. Log in as the root user on node 1 and create a 300 GB shared repository, which will be used to host the VMs, using the following commands:

```
# oakcli create repo psoftrepo -dg data -size 300
```

```
# oakcli show repo psoftrepo -node 0
```

```
# oakcli show repo psoftrepo -node 1
```

4. Download ODA patches.

The Oracle Database Appliance team releases RDBMS Clone Bundles for each ODA version. Setting up the PeopleSoft VM templates for PeopleSoft PeopleTools 8.54 with an Oracle multitenant container database requires Oracle Database 12c Release 1. Download the RDBMS patch bundle from My Oracle Support, unpack and deploy on ODA.

See Oracle Database Appliance – 12.1.2 and 2.x Supported ODA Versions and Known Issues, My Oracle Support, My Oracle Support, Doc ID 888888.1.

Task 2: Downloading the PeopleSoft VM Template

The procedures described here use the Oracle VM Template for PeopleSoft for PeopleSoft PeopleTools 8.54. To obtain the PeopleSoft VM templates:

5. Log in to My Oracle Support.

6. Select the Patches & Update tab.

7. Select Product or Family (Advanced) under Patch Search, and provide the following details:

- » Product: PeopleSoft Enterprise PT PeopleTools

- » Release: PeopleTools 8.54

- » Platform: Linux x86-64

8. Click Search.

The search results include details of all the PeopleSoft PeopleTools Product Patch VM templates. Download the latest PeopleSoft VM template for PeopleSoft PeopleTools 8.54.

Note: Review the README provided with the template. This file includes all the installation instructions you need before moving to the next task in this documentation.

Be aware that the PeopleSoft VM templates do not contain PeopleSoft application installations and do not contain PeopleSoft databases.

Task 3: Importing the PeopleSoft VM Template

Import the PeopleSoft VM templates and create VMs, as follows:

1. Execute the following command from ODA_BASE:

```
# oakcli import vmtemplate PSFT_PT_854_TEMPLATE -files
/OVS/Repositories/staging/OVM_EL5U6_X86_64_TOOLS8_54_08_PVM.tgz -repo
pssoftrepo -node 0
```

2. Check the template with the following command:

```
# oakcli show vmtemplate
```

3. Execute the following command to set up the required network configuration:

```
# oakcli configure vmtemplate PSFT_PT_854_TEMPLATE -network
"['type=netfront,bridge=net1']"
```

4. Clone the VM from the PeopleSoft VM template on Oracle Database Appliance Virtualized platform with the following command:

```
# oakcli clone vm PSFT_PT_854_VM -vmtemplate PSFT_PT_854_TEMPLATE -repo
pssoftrepo -node 0
```

5. Start the PeopleSoft VM on Oracle Database Appliance with the following command:

```
# oakcli start vm PSFT_PT_854_VM
```

6. Provide the required input to configure network stack and root password.

Table 2 lists the hostname used for configuring the PeopleSoft VM. Use the IP column in the table to note the IPs in your environment.

TABLE 2: VM NAME AND IP DETAIL

VM Name	IP Address	Hostname
PSFT_PT_854_VM	xx.xxx.xx.xxx	ps-v1.us.oracle.com

7. Enter *N* when prompted for configuring APP, PIA and PS_APP_HOME during the boot process for the PeopleSoft VM configuration.

8. Review the status of the setup steps.


For the details about using PeopleSoft VM templates, user details, pre-installed software, and setup instructions, see [Using Oracle VM Template for PeopleSoft on Oracle Linux](#), My Oracle Support, Doc ID 1905422.1.

Task 4: Installing PeopleSoft Application Software on Oracle Database Appliance

Before beginning the PeopleSoft application database setup, obtain and install the PeopleSoft applications on ODA_BASE. For this setup, we downloaded PeopleSoft Human Capital Management (HCM) 9.2 and PeopleSoft Financials and Supply Chain Management (FSCM) 9.2 installation software zip files from the Oracle Software Delivery Cloud portal.

Execute the following steps to install PeopleSoft HCM 9.2 Application database on ODA:

1. Create a shared Oracle Automatic Storage Management Cluster File System (ACFS) mount point /cloudfs of size 50G on ODA_BASE.



For creating an ACFS mount point, see ODA (Oracle Database Appliance): [How to Setup ACFS Post Deploy](#), My Oracle Support, Doc ID 1435019.1, for information.

2. Log in to the Oracle Software Delivery Cloud at edelivery.oracle.com.
3. Download PeopleSoft HCM and FSCM 9.2 and stage them on ODA_BASE node1 under /cloudfs.
4. Install PeopleSoft application files as an oracle user.

It is good to keep separate *PS_APP_HOME* directories for PeopleSoft HCM and FSCM. For example, install PeopleSoft HCM under /cloudfs/psft/hcm92 and PeopleSoft FSCM under /cloudfs/psft/fsm92.

5. Export the ACFS mount point to ps-v1.us.oracle.com as NFS mount point.

For exporting the ACFS mount point, see [ODA \(Oracle Database Appliance\): How to export ACFS \(cloudfs\) using NFS](#), My Oracle Support, Doc ID 1456551.1, for information. Also, you need to make sure that the psadm1 user (installation administrator) has read, write, and execute access on NFS mount point. Export *PS_APP_HOME* in .bashrc on ps-v1.us.oracle.com as psadm2 user.

6. Export the *PS_HOME* mount point as an NFS mount pointing to ODA_BASE.

It is a good idea to use the same path for the \$PS_HOME mount point on ODA_BASE as it was mounted on ps-v1.us.oracle.com. The oracle user should have read, write, and execute permission on *PS_HOME*. For more details on using PeopleSoft mid-tier deployment, see [PeopleTools: Mid Tier Deployment Best Practices](#), My Oracle Support, Doc ID 1448479.1.

Task 5: Creating PeopleSoft Application Database on Oracle Database Appliance

On ODA, it is recommended to first create an empty Oracle RAC-enabled multitenant database using the Oracle Appliance Manager command `oakcli`, and then use the PeopleSoft PeopleTools set to complete the installation of the PeopleTools schemas, and application schemas. The PeopleTools setup scripts use file system path names in the tablespace creation SQL statements. When instructed to edit these scripts, you will need to modify them to point to correct paths.

See [PeopleTools Installation for Oracle](#), My Oracle Support, Doc ID 1905010.1.

Since there is no existing PeopleSoft application database configured in the PeopleSoft VM template, you must complete the setup for the PeopleSoft application database on ODA.

Execute the following steps to create and set up a PeopleSoft application database on Oracle 12c multitenant database on ODA:


1. Create an Oracle RAC multitenant container database on ODA_BASE, by executing the following command from ODA_BASE:

```
# oakcli create database -db PTDB -oh $ORACLE_HOME -cdb
```

Note: Substitute the correct value for \$ORACLE_HOME according to your environment.

For more details on database creation on ODA, see the [Oracle Database Appliance Administration and Reference Guide](#), Managing Oracle Database on Oracle Database Appliance. We choose small database template for this setup.

2. If using UNICODE, change the value of the parameter NLS_LENGTH_SEMANTICS to CHAR.
3. Log on as user sys, and change the system password to manager and sys user password to welcome1 in the PeopleSoft database.
4. Create the TNSNAMES entry for pluggable databases on both the nodes of ODA.



We will be creating HCM92 and FSM92 pluggable databases (PDBs) so the tnsnames.ora file should contain both the PDB connection strings.

5. Edit the createpdb.sql script, located in \$PS_HOME/unix/pdb, to fit your environment.

- » Replace <SID> with the ORACLE_SID, the name of your multitenant container database (CDB).
- » Replace <mount> with the location of CDB mount point on ODA. On ODA for CDBs the default location for datafiles would be /u02/app/oracle/oradata/dat<CDB_NAME>
- » Do not replace <PDB_SERVICE_NAME> as PeopleSoft Database Configuration Wizard will replace it based on pluggable database name.

ODA uses Oracle Managed Files (OMF) to create pluggable databases using PDB\$SEED. Because we are creating non-OMF files using createpdb.sql, you must convert system, sysaux datafiles, and temp tempfile to non-OMF. You can use file_name_convert to convert OMF-based files to non-OMF. To do so, add all the OMF files like system, sysaux, and tempfile in file_name_convert clause.

Since we are creating Oracle RAC-based pluggable databases, you must change ALTER PLUGGABLE DATABASE <PDB_SERVICE_NAME> to ALTER PLUGGABLE DATABASE <PDB_SERVICE_NAME> open instances=all;.

6. Edit the utlspace.sql script, located in \$PS_HOME/unix/pdb, to fit your environment.

- » Replace <SID> with the ORACLE_SID (the name of your container database)
- » Replace <mount> with the location of CDB mount point on ODA. On ODA for CDBs the default location for datafiles would be /u02/app/oracle/oradata/dat<CDB_NAME>
- » Do not replace <PDB_SERVICE_NAME> as PeopleSoft Database Configuration Wizard will replace it based on pluggable database name.

7. Edit the <xx>dd.sql script, located in \$PS_APP_HOME/scripts/unix, to fit your environment.

Note. Replace <xx> with the abbreviation for the PeopleSoft application.

- » Replace <SID> with the ORACLE_SID (the name of your container database)
- » Replace <mount> with the location of CDB mount point on ODA. On ODA for CDBs the default location for datafiles would be /u02/app/oracle/oradata/dat<CDB_NAME>.
- » Do not replace <PDB_SERVICE_NAME> as PeopleSoft Database Configuration Wizard will replace it based on pluggable database name.

8. Set the required environment variables for running PeopleSoft Database Configuration Wizard on ODA_BASE node1 as oracle user.

```
#source $PS_HOME/psconfig.sh
#source $BEA_HOME/tuxedo/tux.env
```

9. Start the PeopleSoft Database Configuration Wizard in console mode as oracle user.

```
#$PS_HOME/setup/PsMpDbInstall/setup.sh
```

10. Provide required input when prompted, as follows:

- » Select Container DB.
- » Select System at the prompt for the database create type.
- » Select Use existing ID for a new SID setup.
- » Specify the existing CDB for new DB or existing DB.
- » Specify the Oracle database SID for DB SID.
- » Specify the Pluggable Database name at the prompt for oracle server information.

See the chapter “Creating a Database on UNIX” in [PeopleTools 8.54 Installation for Oracle](#).

11. When the Database Configuration Wizard completes successfully, continue with the next task.

Task 6: Customizing the PeopleSoft VM Template

The PeopleSoft VM template can be customized by making changes to the VM created from PeopleSoft PeopleTools VM template. Create and configure VMs PS_APP_1, PS_APP_2, PS_PIA_1 and PS_PIA_2 VMs. Change the template and VM name according to your current setup.

For details, see the section “Customizing the PeopleSoft VM Template” in the red paper [Solution-in-a-Box: Best practices for deploying PeopleSoft Applications on Oracle Database Appliance Virtualized Platform](#).

Task 7: Configuring PeopleSoft Application Server VMs on Oracle Database Appliance

The preceding tasks cloned the VMs from gold template and configured the network stack. In this task we configure oracle application server and batch server on PS_APP_1 and PS_APP_2 VMs.

Execute the following steps to create and set up PeopleSoft application server domain on Oracle Database Appliance:

1. Log in to PS_APP_1 and PS_APP_2 as psadm2 user to create application server domain HCMDOM for PeopleSoft application database HCM92.
2. Set the environment variables.

For details, see the task Setting Environment Variables, in [PeopleTools 8.54 Installation for Oracle](#), chapter “Configuring the Application Server on UNIX.”

3. Edit /etc/tnsnames.ora and add entries for HCM92 and FSM92 pluggable databases.
4. Check the database connectivity.
5. Execute the following command:

```
# psadmin
```

6. To create PeopleSoft application server domain, provide required input when prompted.

Provide the correct values in the Quick-configure menu under the Settings column for DBNAME, UserId, UserPwD, ConnectPswd, WSL Port, JSL Port, JRAD Port. Also, select features you want to enable or disable under the Features column.

See the chapter “Configuring the Application Server on UNIX” in [PeopleTools 8.54 Installation for Oracle](#).

7. Start PeopleSoft application server domain HCMDOM for HCM92 PeopleSoft application database using the PSADMIN utility.
8. Repeat steps 1 to 7 to create application server domain FSMDOM for FSM92 PeopleSoft application database on PS_APP_1 and PS_APP_2.

Note: Be sure to confirm that there is no conflict between the ports used for the HCMDOM and FSMDOM application server domains.

Task 8: Configuring PeopleSoft Process Scheduler on Oracle Database Appliance

PeopleSoft Process Scheduler is a centralized tool that enables application developers, system administrators, and application users to manage PeopleSoft batch processes.

A Master Scheduler enables load balancing of workloads by automatically routing requests to available Process Scheduler servers, which ensures that you maintain optimal processing at all times. In addition, an active Master Scheduler manages and controls all Process Scheduler server domains that are on the same PeopleSoft database. You need to execute the following steps as psadm2 user.

Execute the following steps to create and set up PeopleSoft Process Scheduler domains on ODA:

1. Log in to PS_APP_1 as psadm2 user to create Master Process Scheduler domain HCMPRSCM for HCM92 PeopleSoft Application Database.

2. Set the environment variables.

See the task Setting Up Your Environment in [PeopleTools 8.54 Installation for Oracle](#), chapter “Setting Up Process Scheduler on UNIX.”

3. Check the database connectivity.

4. Execute following command to start the PSADMIN utility and create a PeopleSoft Process Scheduler domain:

```
# psadmin
```

5. Provide required input when prompted.

6. Start the Process Scheduler domain HCMPRSCM for PeopleSoft HCM92 PeopleSoft application database using the PSADMIN utility.

7. Repeat steps 1 to 6 to create a Master Scheduler Process Scheduler server domain FSMPRSCM for FSM92 PeopleSoft application database on PS_APP_1.

Provide the correct values in the Quick-configure menu under Settings column for DBNAME, PrcsServer, Userld, UserPswd, ConnectPswd, Log/Output Dir, SQRBIN, DomainConnectPswd. Also, enable Master Process Scheduler under Features column. You can enable or disable features under Features column.

Note. Confirm that there is no port conflict between HCMPRSCM and FSMPRSCM master process schedulers.

See the chapter “Setting Up Process Scheduler on UNIX” in [PeopleTools 8.54 Installation for Oracle](#).

8. Log in to PS_APP_2 as psadm2 user to create normal Process Schedulers HCMPRCS and FSMPRCS for HCM92 and FSM92 PeopleSoft application databases, and execute steps 1 to 6.

For this step, do not enable the Master Scheduler option in the Quick-configure menu Features column. Confirm that there is no port conflict between HCMPRCS and FSMPRCS Process Schedulers.

Task 9: Configuring PeopleSoft Pure Internet Architecture VMs on Oracle Database Appliance

This section configures Oracle PeopleSoft Pure Internet Architecture (PIA) on PS_PIA_1 and PS_PIA_2 VMs.

The setup in this documentation uses a Single Server Domain configuration. If you want to create a multi-server domain installation, refer to the red paper [Solution-in-a-Box: Best practices for deploying PeopleSoft Applications on Oracle Database Appliance Virtualized Platform](#).

Execute the following steps to create and set up PIA Single Server domain on ODA:

1. Log in to PS_PIA_1 and PS_PIA_2 VM as a psadm2 user and create the HCMPIA PIA domain.

2. Change directory to \$PS_HOME/setup/PsMpPIAInstall and execute following command.

```
# setup.sh -tempdir /tmp
```

3. Provide required input when prompted, as follow:

- » Select Oracle Weblogic Server for installation type.
- » Specify a domain name.
- » Select Single Server Domain for the domain type.

See the chapter “Setting Up the PeopleSoft Pure Internet Architecture in Console Mode” section in [PeopleTools 8.54 Installation on Oracle](#).

4. Start the PeopleSoft HCMPIA PIA domain using the PSADMIN utility.

5. Repeat steps 1 to 4 to create the FSMPIA PIA domain.

Confirm that there is no port conflict between the HCMPIA and FSMPIA PIA domains.

Task 10: Configuring Load Balancing for Application Server

The application server can also be used in load balancing and failover configuration. We have two application servers that are running on PS_APP_1 and PS_APP_2. We need to add failover and load balancing information in PIA configuration files, as follows:

1. Log in to PS_PIA_1 and PS_PIA_2 as psadm2 user and enable load balancing for the HCMDOM APP domain.
2. Open the file `$PIA_HOME/applications/peoplesoft/PORTAL.war/WEB-INF/psftdocs/ps/configuration.properties` for editing.

`$PIA_HOME` refers to the installation location for the PIA domain. Replace `$PIA_HOME` with the value for your environment.

3. Add the following line in the file to enable weighted load balancing and failover on PS_PIA_1 and PS_PIA_2 VMs:

```
psserver=psapp-v1.us.oracle.com:9000#1,psapp-v2.us.oracle.com:9000#1
```

4. Ensure that all the participating PIA instances have the same session cookie name.

To change the cookie value, open the file

`$PIA_HOME/weberv/$PIA_Domain_Name/applications/peoplesoft/PORTAL.war/WEB-INF/weblogic.xml` for editing and modify the value for `<cookie-name>`.

Replace `$PIA_HOME` and `$PIA_Domain_Name` with the values for your environment.

5. Restart the PIA Domain.
6. Execute steps 1 to 5 for the FSMDOM APP domain, using a different port value for FSMDOM.

Deploying Oracle Traffic Director on Oracle Database Appliance Virtualized Platform

Oracle Traffic Director (OTD) is the Application Delivery Controller (ADC) for Oracle engineered systems and has the ability to efficiently load balance the entire TCP(s) and HTTP(s) traffic. By downloading and installing Oracle Virtual Machine (OVM) templates that include Oracle WebLogic Server and Oracle Traffic Director, you can quickly configure and provision a high-availability Oracle WebLogic domain using the Oracle WebLogic Server Configuration for Oracle Database Appliance utility (referred to here as the configuration utility).

The configuration utility provides an easy way to create and configure a single Oracle WebLogic domain with a cluster to serve your business applications, and configure OTD, a software load balancer that can efficiently balance incoming requests to the Oracle WebLogic cluster. The configuration utility can be run on a local Microsoft Windows or Linux client to create and save a configuration for later use, or it can be run on ODA to provision an Oracle WebLogic cluster.


Task 1: Set Up OTD Servers on ODA

1. Download Oracle WebLogic Server (12.1.3) OVM images from My Oracle Support or Oracle Software Delivery Cloud.
2. Run the configuration utility to provision an Oracle WebLogic cluster with Oracle Traffic Director.

In this setup we use Oracle WebLogic on Oracle Database Appliance 12.1.3 and Oracle Database Appliance SW version 12.1.2.2. For availability of Oracle WebLogic templates on ODA, see [Oracle WebLogic Server on Oracle Database Appliance Downloads](#).

3. You need to provision only an Oracle WebLogic cluster and OTD for this setup.

See [Using Oracle WebLogic Server on Oracle Database Appliance 12.1.3 documentation](#).



4. Once the setup is complete, you can stop and delete the Oracle WebLogic VMs.

Do not delete the OTD admin and instance VMs.

Task 2: Configure OTD with PeopleSoft Pure Internet Architecture

You can configure PIA servers with OTD on ODA. Oracle Traffic Director on ODA has 2 VMs for OTD server and 1 VM for Admin node. You can set up active-passive high availability for PIA servers using HA VIP, which you need to create from the OTD administration console.

See [Configuring Oracle Traffic Director \(OTD\) in a PeopleSoft Environment](#), My Oracle Support, Doc ID 1624905.1 for the implementation details.



Documentation Resources

[Using Oracle VM Templates for PeopleSoft on Oracle Linux \(for PeopleSoft PeopleTools 8.54\)](#), My Oracle Support, Doc ID 1905422.1.

[PeopleSoft Oracle Virtual Machine Templates Development and Customization Guide](#), My Oracle Support, Doc ID 1385319.1.

[Oracle VM Templates for PeopleSoft White Paper](#), My Oracle Support, Doc ID 956177.1.

[Configuring Oracle Traffic Director \(OTD\) in a PeopleSoft Environment](#), My Oracle Support, Doc ID 1624905.1

[Oracle Database Appliance Documentation](#)

[Oracle WebLogic Server on Oracle Database Appliance Downloads](#)

[Solution-in-a-box: Best practices for deploying PeopleSoft Applications on Oracle Database Appliance](#)







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Solution-in-a-Box: Best Practices for Deploying PeopleSoft Applications on Oracle 12c Multitenant Database on Oracle Database Appliance
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