
PeopleSoft Cloud Manager for Oracle Cloud Infrastructure

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PeopleSoft Cloud Manager for Oracle Cloud Infrastructure
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Preface

Understanding the PeopleSoft Online Help and PeopleBooks

The PeopleSoft Online Help is a website that enables you to view all help content for PeopleSoft Applications and PeopleTools. The help provides standard navigation and full-text searching, as well as context-sensitive online help for PeopleSoft users.

PeopleSoft Hosted Online Help

You access the PeopleSoft Online Help on Oracle's PeopleSoft Hosted Online Help website, which enables you to access the full help website and context-sensitive help directly from an Oracle hosted server. The hosted online help is updated on a regular schedule, ensuring that you have access to the most current documentation. This reduces the need to view separate documentation posts for application maintenance on My Oracle Support, because that documentation is now incorporated into the hosted website content. The Hosted Online Help website is available in English only.

Note: Only the most current release of hosted online help is updated regularly. After a new release is posted, previous releases remain available but are no longer updated.

Locally Installed Help

If you are setting up an on-premises PeopleSoft environment, and your organization has firewall restrictions that prevent you from using the Hosted Online Help website, you can install the PeopleSoft Online Help locally. If you install the help locally, you have more control over which documents users can access and you can include links to your organization's custom documentation on help pages.

In addition, if you locally install the PeopleSoft Online Help, you can use any search engine for full-text searching. Your installation documentation includes instructions about how to set up Elasticsearch for full-text searching. See *PeopleSoft 9.2 Application Installation* for your database platform, "Installing PeopleSoft Online Help." If you do not use Elasticsearch, see the documentation for your chosen search engine.

Note: See [Oracle Support Document 2205540.2 \(PeopleTools Elasticsearch Home Page\)](#) for more information on using Elasticsearch with PeopleSoft.

Note: Before users can access the search engine on a locally installed help website, you must enable the Search field. For instructions, go to your locally installed PeopleSoft Online Help site and select About This Help >Managing Locally Installed PeopleSoft Online Help >Enabling the Search Button and Field in the Contents sidebar.

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format. The content in the PeopleBook PDFs is the same as the content in the PeopleSoft Online Help, but it has

a different structure and it does not include the interactive navigation features that are available in the online help.

Common Help Documentation

Common help documentation contains information that applies to multiple applications. The two main types of common help are:

- Application Fundamentals
- Using PeopleSoft Applications

Most product families provide a set of application fundamentals help topics that discuss essential information about the setup and design of your system. This information applies to many or all applications in the PeopleSoft product family. Whether you are implementing a single application, some combination of applications within the product family, or the entire product family, you should be familiar with the contents of the appropriate application fundamentals help. They provide the starting points for fundamental implementation tasks.

In addition, the *PeopleTools: Applications User's Guide* introduces you to the various elements of the PeopleSoft Pure Internet Architecture. It also explains how to use the navigational hierarchy, components, and pages to perform basic functions as you navigate through the system. While your application or implementation may differ, the topics in this user's guide provide general information about using PeopleSoft Applications.

Field and Control Definitions

PeopleSoft documentation includes definitions for most fields and controls that appear on application pages. These definitions describe how to use a field or control, where populated values come from, the effects of selecting certain values, and so on. If a field or control is not defined, then it either requires no additional explanation or is documented in a common elements section earlier in the documentation. For example, the Date field rarely requires additional explanation and may not be defined in the documentation for some pages.

Typographical Conventions

The following table describes the typographical conventions that are used in the online help.

<i>Typographical Convention</i>	<i>Description</i>
Key+Key	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For Alt+W, hold down the Alt key while you press the W key.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe ().
[] (square brackets)	Indicate optional items in PeopleCode syntax.

<i>Typographical Convention</i>	<i>Description</i>
& (ampersand)	<p>When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object.</p> <p>Ampersands also precede all PeopleCode variables.</p>
⇒	<p>This continuation character has been inserted at the end of a line of code that has been wrapped at the page margin. The code should be viewed or entered as a single, continuous line of code without the continuation character.</p>

ISO Country and Currency Codes

PeopleSoft Online Help topics use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

ISO country codes may appear as country identifiers, and ISO currency codes may appear as currency identifiers in your PeopleSoft documentation. Reference to an ISO country code in your documentation does not imply that your application includes every ISO country code. The following example is a country-specific heading: "(FRA) Hiring an Employee."

The PeopleSoft Currency Code table (CURRENCY_CD_TBL) contains sample currency code data. The Currency Code table is based on ISO Standard 4217, "Codes for the representation of currencies," and also relies on ISO country codes in the Country table (COUNTRY_TBL). The navigation to the pages where you maintain currency code and country information depends on which PeopleSoft applications you are using. To access the pages for maintaining the Currency Code and Country tables, consult the online help for your applications for more information.

Region and Industry Identifiers

Information that applies only to a specific region or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in the PeopleSoft Online Help:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in the PeopleSoft Online Help:

- USF (U.S. Federal)
- E&G (Education and Government)

Translations and Embedded Help

PeopleSoft 9.2 software applications include translated embedded help. With the 9.2 release, PeopleSoft aligns with the other Oracle applications by focusing our translation efforts on embedded help. We are not planning to translate our traditional online help and PeopleBooks documentation. Instead we offer very direct translated help at crucial spots within our application through our embedded help widgets. Additionally, we have a one-to-one mapping of application and help translations, meaning that the software and embedded help translation footprint is identical—something we were never able to accomplish in the past.

Using and Managing the PeopleSoft Online Help

Click the Help link in the universal navigation header of any page in the PeopleSoft Online Help to see information on the following topics:

- What's new in the PeopleSoft Online Help.
- PeopleSoft Online Help accessibility.
- Accessing, navigating, and searching the PeopleSoft Online Help.
- Managing a locally installed PeopleSoft Online Help website.

Contact Us

Send your suggestions to PSOFT-INFODEV_US@ORACLE.COM. Please include release numbers for the PeopleTools and applications that you are using.

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Chapter 1

Getting Started with PeopleSoft Cloud Manager

Understanding PeopleSoft Cloud Manager on Oracle Cloud Infrastructure

This topic discusses:

- PeopleSoft Cloud Manager overview
- PeopleSoft Cloud Manager features
- PeopleSoft Cloud Manager process flow
- Minimum requirements for PeopleSoft Cloud Manager
- Common abbreviations

PeopleSoft Cloud Manager is an orchestration framework to provision and manage PeopleSoft environments on Oracle Cloud Infrastructure (OCI). The PeopleSoft Cloud Manager can help creating task specific environments that can last as long as the task is needed. PeopleSoft Cloud Manager will enable you to focus more on business and less on infrastructure management by taking away all the complexities involved in acquiring and managing the infrastructure to run PeopleSoft on OCI.

PeopleSoft Cloud Manager is an application available on the Oracle Cloud Marketplace. Any existing PeopleSoft customer can use it by taking advantage of the Oracle Cloud Service resources.

OCI is a set of complementary cloud services that enable you to build and run a wide range of applications and services in a highly available hosted environment.

Common Abbreviations

<i>Term</i>	<i>Description</i>
DPK	PeopleSoft Deployment Packages
PCM	PeopleSoft Cloud Manager
PI	PeopleSoft Image
PRP	PeopleSoft Release Patchset
PUM	PeopleSoft Update Manager

Term	Description
OCI	Oracle Cloud Infrastructure
AD	Availability Domain
VCN	Virtual Cloud Network
TDE	Transparent Data Encryption
OCID	Oracle Cloud ID

Minimum Requirements for PeopleSoft Cloud Manager

Listed below are the minimum requirements for using PeopleSoft Cloud Manager:

- Minimum Apps version for managed environments is 9.2.
- Minimum PeopleTools version for managed environment is 8.55.12. For provisioning COBOL and Elasticsearch, the minimum tools version is 8.55.13.
- COBOL provisioning with PeopleTools is supported from 8.56.09 onward.
- Minimum shape of Cloud Manager for OCI is VM.Standard 1.1.

Note: Some shapes may not be available in new tenancies.

- Minimum file server capacity is 250 GB.
- Prepare the tenancy for PeopleSoft applications deployment. As part of preparing the tenancy, the following must be created:
 - At least one compartment for PeopleSoft deployments.
 - A OCI user with sufficient privileges to create and manage resources in the identified compartment.
 - A Virtual Cloud Network (VCN) with required number of subnets and security lists with proper ingress and egress rules.
 - An object storage bucket.
- Oracle Cloud Infrastructure subscriptions.
 - A subscription to Oracle Cloud Infrastructure Compute is mandatory.
 - A subscription to Oracle Cloud Infrastructure Object Storage is mandatory.
 - A subscription to Oracle Database Cloud Service is optional.

PeopleSoft Cloud Manager – An Overview

Cloud Manager provides a framework for customers to provision and administer the life cycle of PeopleSoft environments on OCI. Cloud Manager brings in the agility to rapidly bring up PeopleSoft environments on demand, based on your infrastructure requirements.

Features of PeopleSoft Cloud Manager

PeopleSoft Cloud Manager provides the ability to:

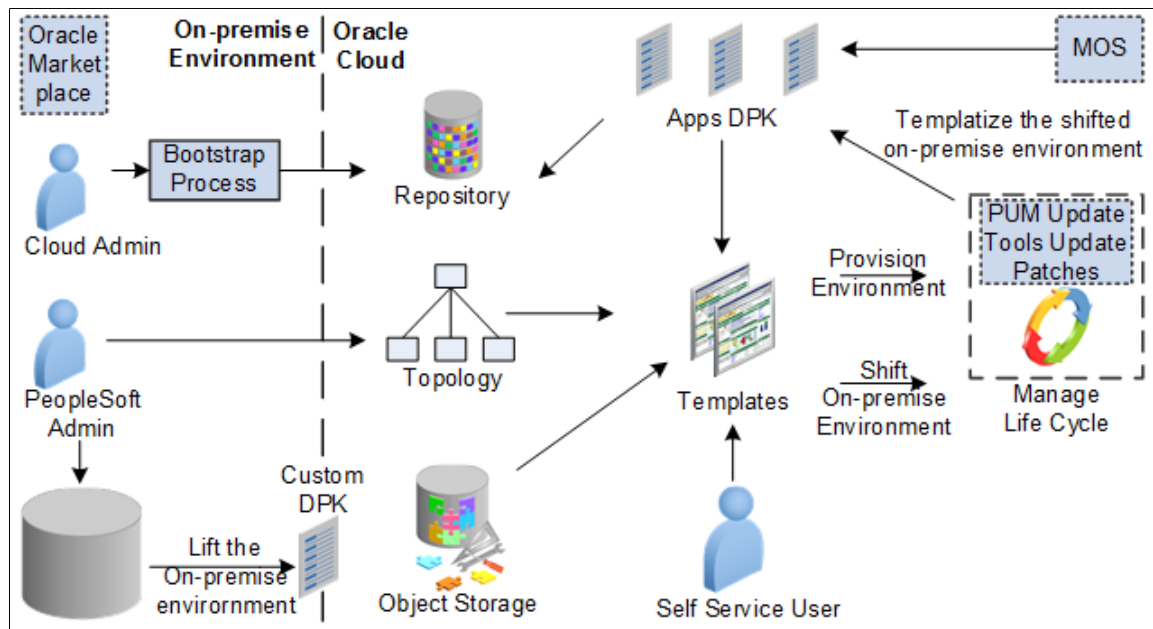
- Provision PeopleSoft environments on OCI.
- Automate migration of on-premise environment to OCI.
- Support lifting and shifting of unicode or non-unicode database.
- Support lifting and shifting of PeopleSoft application environments which have TDE encrypted databases. The on-premise environments must be TDE encrypted before migrating.
- Orchestrate deployment of PeopleSoft 9.2 applications on OCI.
- Subscription model to auto download application PIs and PRPs.
- Create repeatable deployment templates.
- Self service provisioning of PeopleSoft environments.
- Fully automate deployment which is immune to manual errors and process delays.
- Manage multiple environments from a single page.
- Perform on-demand health checks on environments.
- Enable application lifecycle management in Oracle Cloud.
- Clone environments by creating templates from running instances.
- Access log files through UI for easy troubleshooting.
- View the status of environment provisioning.
- REST API support, which allows customers and testers to automate their interactions with Cloud Manager, bypassing the web UI.
- Automated PRP updates for Cloud Manager instance.
- Define and configure web, app domains in topology/template definitions.
- Synchronize with the existing environment and ensure it has the most recent status.
- Automate PeopleTools upgrade and updates.
- Enable file server creation from PeopleSoft Cloud Manager UI.
- Migrate managed instances from Launchplan based APIs to Orchestrations.

PeopleSoft Cloud Manager – Process Flow

This diagram illustrates the overall process involved in creating environments and migrating them to OCI.

Image: PeopleSoft Cloud Manager Process Overview

This diagram illustrates the process flow of the PeopleSoft Cloud Manager process.



The process of using Cloud Manager to create, deploy, and manage PeopleSoft environments are explained in the following topics:

For more details, see the VFO on PeopleSoft Cloud Manager.



[PeopleSoft Cloud Manager](#)

Chapter 2

Configuring Cloud Manager

Configuring Cloud Manager

Installation documentation for OCI is posted on the PeopleSoft Cloud Manager Home Page (My Oracle Support DOC ID: 2231255.2), Installation and Implementation tab. [PeopleSoft Cloud Manager Home Page](#)

Pages Used to Configure Cloud Manager for OCI

<i>Page Name</i>	<i>Definition Name</i>	<i>Usage</i>
Cloud Manager Settings Tile	ECL_CMCONFIG_FL_GBL (CREF for the tile)	To access the Cloud Manager Settings page.
Cloud Manager Settings page	ECL_CMCFG_OCI_FL	To change the system settings as per requirements in OCI.
Infrastructure Settings page	ECL_OCICFG_OCI_FL	To configure OCI-related settings for environment provisioning and management.
File Server Configuration page	ECL_CMFILESERV_FL	To configure file server as repository for Cloud Manager in OCI.
Manage PUM Connections	ECL_CMUPDATE_FL	To configure a PUM sources for updating the Cloud Manager application.
Manage updates	ECL_CMSELFUPD_FL	To manage application updates delivered through PeopleSoft IH Updates and PRPs in OCI.
Logs	ECL_CM_FSLOGS_FL	To view Cloud Manager logs.

Cloud Manager Settings Tile

Use the Cloud Manager Settings tile (ECL_CMCONFIG_FL_GBL) to access the Cloud Manager Settings page.

Note: Only a Cloud Manager Administrator can view this tile on the Cloud Manager home page.

Navigation

The Cloud Manager Settings tile is delivered as part of the Cloud Manager home page.

Image: Cloud Manager Settings Tile

This example illustrates the Cloud Manager Settings tile.



Configuring Cloud Manager Settings for OCI

Configuring Cloud Manager

The steps involved in Cloud Manager Configuration for OCI are:

- Configuring Cloud Manager Settings
- Configuring Infrastructure Settings
- Configuring File Server
- Managing PUM Connections
- Managing Updates

Cloud Manager Settings Page

Use the Cloud Manager Settings page (ECL_CMCFG_OCI_FL) to change the system settings as per requirements.

Navigation

Click the Cloud Manager Settings tile on the delivered Cloud Manager Fluid home page. Cloud Manager Settings page is displayed. By default, the details that were provided during Cloud Manager bootstrap process are displayed.

Image: Cloud Manager Settings Page

This example illustrates the fields and controls on the Cloud Manager Settings Page. You can find definitions for the fields and controls later on this page.

My Oracle Support (MOS) Credentials

This refers to My Oracle Support (MOS) username and password inputs. Using this credential, Cloud Manager downloads the required updates, PIs and PRPs from MOS. Please ensure to read the MOS License information and click the links to read about the My Oracle Support terms of use and privacy policy.

User ID Enter the user ID for your My Oracle Support account.

URL Enter the URL: `https://updates.oracle.com`

Password Enter the password for your My Oracle Support account.

Note: Read the MOS License information. Click the links to understand My Oracle Support terms of use and privacy policy.

PeopleSoft Credentials for REST Services

REST services are standard IB REST services available in the Cloud Manager instance. These REST services are used internally by Cloud Manager modules to send/receive the results of long-running, asynchronous activities.

Important! User credentials must be manually updated on the Cloud Manager instance before updating here. Updating credentials here does not update the Cloud Manager instance.

User Name Enter the delivered Cloud Manager Administrator user name.

Password

Enter the Cloud Manager Administrator password.

Expand the User Credentials section and enter all the necessary passwords.

Image: REST Services - User Credentials

This example illustrates the fields for REST Services - User Credentials.

The screenshot shows the 'REST Services' configuration page. At the top, there is a 'Password' field with a masked value and a 'User Name' field with the value 'CLADM'. Below this is the 'User Credentials' section, which contains a table with 6 rows. The table has the following fields:

Row	Field Name	Value
1	Database Access Password	Masked
2	Gateway Administrator Username	administrator
3	Gateway Administrator Password	Masked
4	Database Operator Password	Masked
5	Database Connect Password	Masked
6	Database Administrator Password	Masked

Lift and Shift Container

This section refers to the Oracle Cloud Storage Container name in which the lifted DPKs (Lifted DPK means migrated environment from your on premise environment through Lift process.) are stored. It is from this container that the list of lifted environments are displayed on the Lift and Shift page.

Container Name

Displays the container name. In the current version of Cloud Manager this name cannot be changed.

Cobol License

The Consolidated COBOL DPK contains both Server Express and Visual COBOL. The Consolidated COBOL DPK is included in the PeopleTools DPKs starting with PeopleTools 8.56.16 and PeopleTools 8.57.06. Visual COBOL is only supported for PeopleTools patches that include the Consolidated COBOL DPK.

Use this section to provide COBOL license details. COBOL installation is enabled on the topology by selecting COBOL field value as *Yes* in the Features section of Edit Node modal window. For details on topology, see [Enabling Topology with Cobol Feature as Yes](#). To enable COBOL in the template, the topology for the template must have COBOL enabled. See [Configuring Custom Attributes](#)

Note: Oracle is the exclusive reseller of the Micro Focus COBOL compiler for use with PeopleSoft applications. Contact your Oracle sales representative for a license.

Server Express**Serial Number**

Enter your COBOL serial number. For example, PEOPLESOFT-XXXXXX.

License Key

Enter your COBOL license key. For example, 010xx xxxxx
xxxxx xxxxx xxxx xLA.

Visual Cobol**License Type**

License Type can be:

- Authorization Code
- File
- Server

License

The license depends on the license type:

- Authorization Code

Enter the authorization code.

- File

The license file must be copied to the Cloud Manager VM and placed in a location that is accessible to psadm2 user.

Enter the path to the license file

Note: There is a 30 character limitation on the field for license type file.

- Server

Enter the hostname or IP address of the license server. The server must be accessible from the current machine.

Infrastructure Settings Page

Use Cloud Manager Settings – Infrastructure Settings page (ECL_OCICFG_OCI_FL) to configure OCI related settings for instance provisioning and management.

Navigation

Click the Cloud Manager Settings tile on the delivered Cloud Manager Fluid home page. Cloud Manager Settings page is displayed. On the Cloud Manager Settings page, click the Infrastructure Settings link displayed on the left panel.

Image: Cloud Manager Settings – Infrastructure Settings Page

This example illustrates the fields and controls on the Cloud Manager Settings – Infrastructure Settings Page.

The screenshot shows the 'Infrastructure Settings' page in the Cloud Manager. The left sidebar lists navigation options: Cloud Manager Settings, Infrastructure Settings (highlighted), File Server, Manage PUM Connections, Manage updates, and Logs. The main content area is titled 'Oracle Cloud Infrastructure Service' and includes buttons for 'Refresh OCI Metadata' and 'Save'. The settings are organized into sections: 'Tenancy' (Tenancy Name: IntPstEngt, Tenancy OCID: ocid1.tenancy.oc1..XXX), 'User & Signing Keys' (User Name: usern.xxxx@example.com, User OCID: ocid1.user.oc1..XXX, API Signing Public Key, Fingerprint, API Signing Private Key, API Signing Prv Key Passphrase), 'API Version & Region' (API Version: 20160918, Home Region: us-ashburn-1, Deployment Region: us-ashburn-1), and 'Operating System Images' (Linux Image, Windows Image).

Tenancy OCID

Unique Oracle Cloud Identifier (OCID) for the tenancy. Tenancy is the root compartment that contains all your organization's compartment and other OCI Cloud resources.

If you use the Oracle Cloud Infrastructure API, you will need your tenancy's OCID in order to sign the API requests. You will also use the tenancy ID in some of the IAM API operations. You can find your tenancy's OCID displayed at the bottom of the Oracle Cloud Infrastructure Console pages.

See [Locating OCI Credentials](#).

User OCID

Unique OCID for the user. You can find the user's OCID in the Oracle Cloud Infrastructure Console page showing the user's details.

See [Locating OCI Credentials](#).

API Signing Public Key and API Signing Private Key

RSA key pair in PEM format.

Your API requests will be signed with your private key, and Oracle Cloud Infrastructure will use the public key to verify the authenticity of the request.

Note: For details on the creation and usage of the API signing keys, refer the *PeopleSoft Cloud Manager Installation Guide*.

Important! It is not recommended to modify these values without completely understanding the impact. If in case the public keys are required to be changed, then manually update the public keys for the user using the OCI Console.

API Signing Prv Key Passphrase

Displays the API signing private key encrypted with a passphrase.

API Version

API version is the Rest API version for OCI.

The base path of the endpoint includes the desired API version (for example, 20160918).

Home Region

When you sign up for Oracle Cloud Infrastructure, Oracle creates a tenancy for you in one region. This is your home region. Your home region is where your IAM resources are defined. When you subscribe to a new region, your IAM resources are replicated in the new region, however, the master definitions reside in your home region and can only be changed there.

Deployment Region

The region where the PeopleSoft environments will be provisioned by Cloud Manager. Cloud Manager and the file server instance also reside on this same region.

Save

Click the Save button to save your settings.

Refresh OCI Metadata

Once all the Infrastructure settings are entered and saved, click the Refresh OCI Metadata button.

When this button is clicked, the Cloud Manager will run a process scheduler job (Process Name: ECL_OCI_SYNC) which will fetch all the OCI-specific metadata required for the Cloud Manager to function properly.

For details on the fields and explanations for the Operating System Image see [Cloud Manager Settings Page](#)

Note: For OCI, you may need to input OCIDs in the OS Image section. Note that these OCIDs for the custom linux and windows image will be using to provision environments through CM.

Operating System Image

This refers to OS images in Oracle Cloud that CM uses to provision VMs during environment creation. For details on how windows image gets the path from Oracle Cloud console, refer the *PeopleSoft Cloud Manager Installation Guide*.

Note: You need to configure Linux Image prior to configuring Operating System Image section. For details on obtaining Linux image, refer the *PeopleSoft Cloud Manager installation Guide*.

Note: While deploying a PI image which has PeopleTools 8.56, then a Windows image which is updated with latest Windows updates and patches must be used. If not, provisioning of PeopleSoft Client will fail. For details on Windows image update, refer the *PeopleSoft Cloud Manager Installation Guide*.

Image: Operating System Image

This example illustrates the fields and controls on the Operating System Image section of the Infrastructure Settings page. You can find definitions for the fields and controls later on this page.

Operating System Images

▼ **Linux Image**

Image OCID: ✓

Image Name: OCI_X86_64_PSFTBASE_OL_6.9_01

Compartment Name: cminteg

▼ **Windows Image**

Image OCID: ✓

Image Name: cmwindows2012r2

Compartment Name: xxx-test-compartment

Windows Server Password:

To access the OCID for the Oracle Linux Image and the Windows Image:

1. Sign on to the OCI Console.
2. Select Compute, Custom Images.
3. Select the image (Oracle Linux or Windows).
4. In the details, click the Copy link for the OCID.
5. Paste the OCID in the appropriate Operating System Image.

Linux Image Image OCID	Enter the OCID for the Linux Image.
	The image name and compartment will be displayed.
Windows Image Image OCID	Enter the OCID for the Windows Image.
	The image name and compartment will be displayed.
Windows Server Password	Enter the password that you specified when creating the Windows custom image.

File Server Page

Use Cloud Manager Settings – File Server page (ECL_CMFILESERV_FL) to configure file server as repository for Cloud Manager.

Navigation

Click the Cloud Manager Settings tile on the delivered Cloud Manager Fluid home page. Cloud Manager Settings page is displayed. On the Cloud Manager Settings page, click the File Server link displayed on the left panel.

Image: Cloud Manager Settings – File Server Page

This example illustrates the fields and controls on the Cloud Manager Settings – File Server page.

The screenshot shows the 'Cloud Manager Settings' interface with the 'File Server Configuration' tab selected. The left sidebar lists navigation options: Cloud Manager Settings, Infrastructure Settings, File Server (highlighted), Manage PUM Connections, Manage updates, and Logs. The main content area is titled 'File Server Configuration' and includes a subtitle 'Create and configure file server as repository for Cloud Manager.' Below this, there are several input fields: 'File Server Name' (text input), 'VM Size' (dropdown menu), 'Boot Volume Size' (text input with a unit 'GB' selector), 'Data Volume Size' (text input with a unit 'GB' selector), 'Oracle Linux Image' (text input), and 'Status' (text input). An 'Advanced' section is expanded, showing a toggle for 'Use existing fileserv volume' set to 'NO'. A note below the toggle explains the advanced option: 'Enable below option to re-use an existing file server volume. Snapshot the existing volume and restore it to a new volume. Provide full path of newly restored volume as input. For e.g. /Compute-myaccount/user.name@org.com/snapfsvol.'

File Server Name

Name of the File Server which you want to configure as repository.

VM Size

Standard VM shapes are available for creating file server in OCI. The list of VM shapes on the drop-down menu depends on the custom Linux image that is specified in the Infrastructure Settings page. See [Infrastructure Settings Page](#)

Boot Volume Size

Size of the boot volume. Boot volume size must be at least 5% higher than the size of the machine image that you are associating with the storage volume. The size of the machine image is the “Uncompressed Size”. For example, suppose the compressed size of the machine image is 1 GB, but the uncompressed size might be 15 GB. In this case, the boot volume size must be 5% more than 15 GB.

Data Volume Size

Size of the data volume. All downloads are stored on the data volume.

Note: The size of the data volume should be large enough to accommodate future needs. The sizing should consider the need for downloading additional PeopleSoft update images and size of the lifted DPKs since during shift operation, the lifted DPKs are temporarily downloaded to the file server.

Oracle Linux Image

Linux image in Oracle Cloud that CM uses to provision VMs during environment creation.

Note: The Oracle Linux Image path is automatically taken from 'OS Image' section in the 'Cloud Manager Setting's page. It is a prerequisite to configure OS image in 'Cloud Manager Setting's page.

Status

File Server status. Different statuses are: Not Configured, Configured, Failed, and Validation Failed.

- Not Configured: The OS image and boot volume size in Cloud Manager Settings page is not configured. User cant

initiate fileserver creation or re-use existing one without providing boot volume size and Oracle Linux Image in CM Settings page (under OS section). Create button is enabled in this state and status field will be empty.

- **Configured:** This status is displayed once the user sets the OS image and boot volume size. In this state, the user can create or reuse existing fileserver, if the remaining values are provided and if the validation check is successful. Create button is enabled in this state and status field will be empty. If the user clicks on Create button, backend validation and cloud admin call will be done in the order. us field will be shown as 'In progress'.
- **Failed:** This status is displayed when there is a failure in Cloud Admin. In this case, Delete button is enabled. On clicking of delete button, status will be changed to 'Clean up in progress' and Delete button would be disabled and greyed out.
- **Validation Failed:** This status is displayed when the OS image provided is invalid or instance name already available in OPC or there will be an authentication failure in OPC. In this case, instead of Create button, Delete button is displayed. The user can clean the metadata (database entries) using delete button and retry the provision. You cannot initiate OPC (Oracle Public Cloud) calls at this stage.

If the user clicks on delete button, the status is changed to 'Clean up in progress' and Delete button is disabled and greyed out. If the previous status was 'Validation failure', only the metadata will be deleted and Create button will get enabled. If the previous status was 'Failed', the cloud admin call (python program) will be initiated and metadata will be deleted only if cloud admin is executed successfully. If the previous state was 'Deletion Failed', only the metadata is cleaned up. Due to some reason, if deletion is failed in cloud admin, the user can click on Delete button again to clear the metadata. User need to manually delete the file server through OPC Webconsole UI. If the cleanup completes successfully (without deletion failure) the page will move to initial state (after CM instance is up).

Use existing file server volume

Select 'Yes' in this field to reuse file server volume.

Note: If you are reusing an existing file server volume, it is not recommended to use the old file server name. If an old file server's name is provided in the File Server Name field, then the provisioning of new file server will fail.

For details on reusing existing file server volume, refer Installation Guide OBE for Cloud Manager.

Existing Data Volume

This field is only displayed when 'Use existing file server volume' is set to 'Yes'.

Please provide the OCID of the existing data volume.

User can either provide the OCID of an existing data volume of an old file server instance or they can backup an existing data volume, create a volume from it and then provide that OCID here.

Configure PUM Source Page

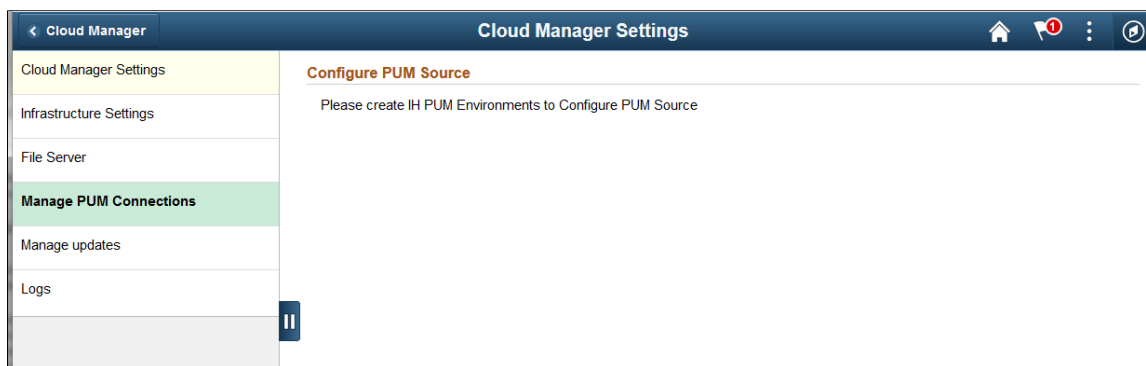
Use Cloud Manager Settings – Manage PUM Connections page (ECL_CMUPDATE_FL) to configure PUM sources for updating Cloud Manager application. For details on updating Cloud Manager, see [Automatically Applying Updates Using Manage Updates](#).

Navigation

Click the Cloud Manager Settings tile on the delivered Cloud Manager Fluid home page. Cloud Manager Settings page is displayed. On the Cloud Manager Settings page, click the Manage PUM Connections link displayed on the left panel.

Image: Cloud Manager Settings – Manage PUM Connections Page

This example illustrates the fields and controls on the Cloud Manager Settings – Manage PUM Connections Page. You can find definitions for the fields and controls later on this page.



A Cloud administrator, has to first create an IH PI environment using the Cloud Manager. After creating the environment, it will be available on this page as a potential PUM source.

Once the PUM source is available, the Cloud administrator can apply updates. See [Automatically Applying Updates Using Manage Updates](#).

Manage Updates Page

Use Manage Updates page to apply Cloud Manager updates delivered through PeopleSoft IH Updates and PRPs.

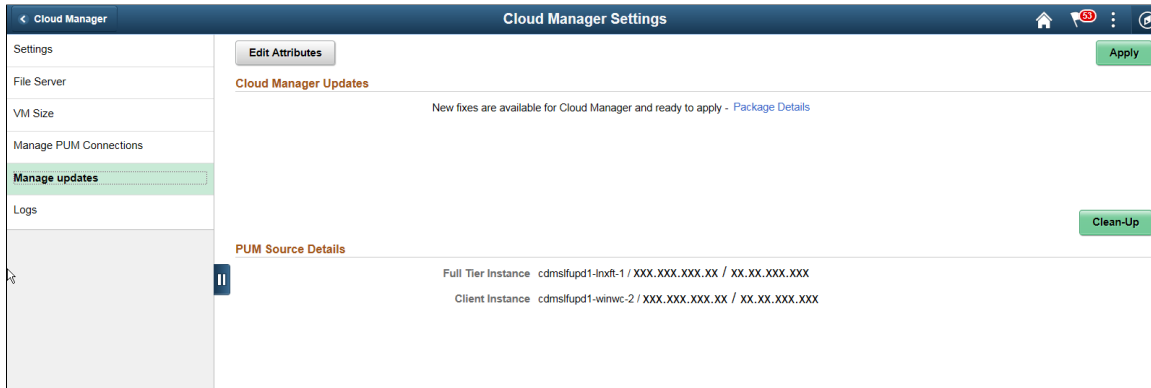
Note: This feature is meant for the Cloud Manager application update only.

Navigation

Click the Cloud Manager Settings tile on the delivered Cloud Manager Fluid home page. Cloud Manager Settings page is displayed. On the Cloud Manager Settings page, click the Manage Updates link displayed on the left panel.

Image: Cloud Manager Settings – Manage Updates Page

This example illustrates the fields and controls on the Cloud Manager Settings – Manage Updates page listing a configured environment for the tablet.



Click Edit Attributes button, if you want to edit any environment attributes. This displays the Environment Update Attribute Page as shown, wherein you can edit the required attributes.

Image: Environment Update Attribute page

This example illustrates the fields and controls on the Environment Update Attribute page. You can find definitions for the fields and controls later on this page.

Environment Update Attribute Page

Template Name CDMSLFUPD7683

Environment Name CDMSLFUPD7683

Regions and Availability Domain

5 rows

#	Attribute	Value
1	Region	<input type="text" value=""/>
2	Primary Availability Domain	<input type="text" value=""/>
3	Compartment	<input type="text" value=""/>
4	Virtual Cloud Network	<input type="text" value=""/>
5	Subnet For Primary Instance	<input type="text" value=""/>

Custom Attributes

10 rows

#	Attribute	Value
1	Database Operator Id	<input type="text" value=""/>
2	Database Operator Password	<input type="text" value=""/>
3	Gateway Administrator Password	<input type="text" value=""/>

Note: The Database Operator Id field value should always be set as VP1.

Click Save to save the changes.

Click the Apply button on the Manage Updates page to initiate Cloud Manager update. This displays the Manage Updates page as shown.

Image: Manage Updates page – After applying the updates

This example illustrates the fields and controls on the Manage Updates page – After applying the updates.

Cloud Manager Settings

Manage updates

Cloud Manager Updates

Update Step	Status	Step Details
1 Create new environment template to deploy PUM source	Pending	?
2 Deploy PUM source environment	Pending	?
3 Install Change Assistant and configure PUM source and target database	Pending	?
4 Apply PRP to PUM source	Pending	?
5 Define a make me current change package	Pending	?
6 Create make me current change package from definition	Pending	?
7 Apply change package to Cloud Manager target database	Pending	?
8 Update files on Cloud Manager target	Pending	?

PUM Source Details

Full Tier Instance cdmslfupd1-inxt-1 / xxx-xxx-xxx
 Client Instance cdmslfupd1-winw-2 / xxx-xxx-xxx

Configuring My Settings

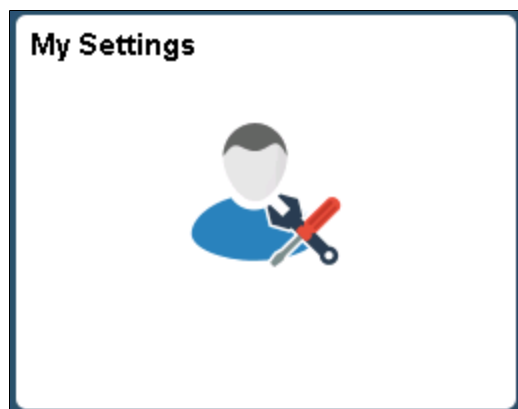
Use the My Settings tile (ECL_INFO_HOME_FL_GBL) to access My Settings page.

Navigation

My Settings tile is delivered as part of the Cloud Manager home page.

Image: My Settings tile

This example illustrates the My Settings tile.



My Settings Page

Use the My Settings page (ECL_INFO_HOME_FL) to enter or edit the public SSH key. The SSH key provided here can be used to input user's own SSH keys or any administrators SSH keys to help manage or troubleshoot issues by connecting over SSH.

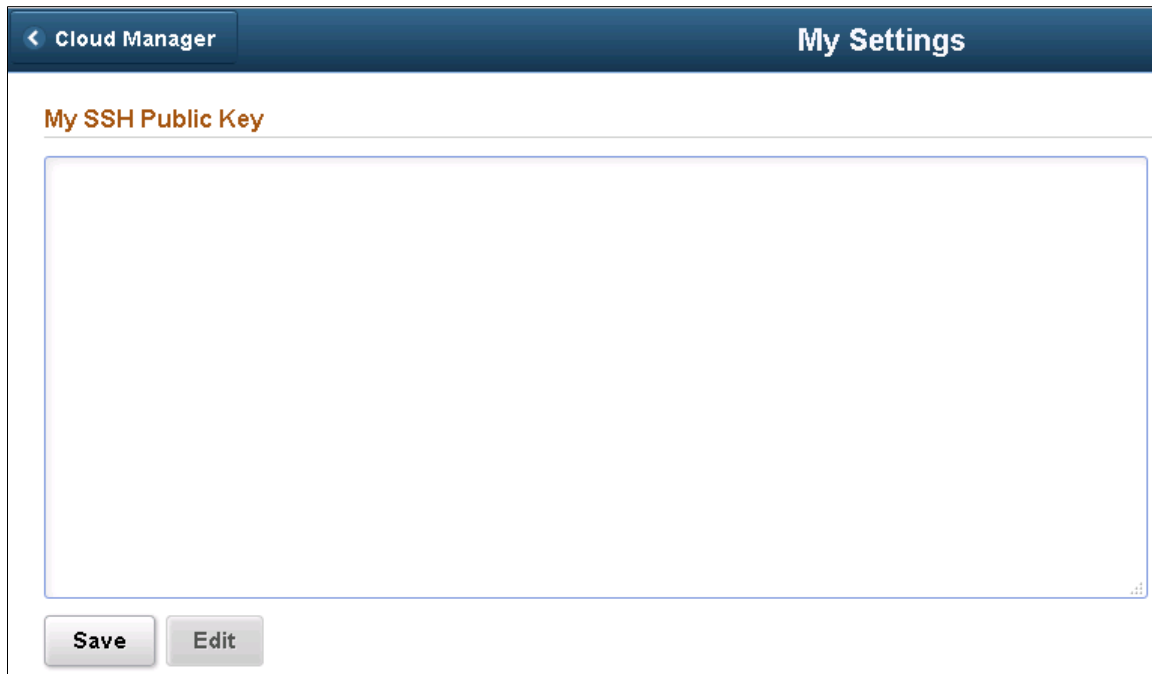
Note: The SSH key will be auto injected into all environments that will be created by the user after adding this key here.

Navigation

Click the My Settings tile on the delivered Cloud Manager Fluid home page. The My Settings page is displayed.

Image: My Settings page

This example illustrates the fields and controls on the My Settings page for the tablet.



My SSH Public Key

Enter the SSH public key value.

Click Save to save the details.

Note: To edit existing key details, click the Edit button and replace the text; then click Save.

Provisioning Environment In PeopleSoft Cloud Manager

Managing Repository

Cloud Manager provides an easy way to automatically download and manage PeopleSoft Application Update Images (PIs), PeopleSoft Release Patchsets (PRPs), PeopleTools Product Patches and PeopleSoft Custom Images. Cloud Manager uses file server created during bootstrap as an NFS repository to store downloaded artifacts from MOS. To streamline and automate downloads of various PeopleSoft application images and PRPs, Cloud Manager has introduced the new concept of Subscription Channels. Each PeopleSoft application has an associated Channel, which an administrator can choose to subscribe in order to download the latest PIs and PRPs for that particular PeopleSoft application. Cloud Manager is delivered with channels for PeopleSoft applications, which are available after you complete the installation and configuration. An administrator can subscribe to multiple channels and download all necessary PIs and PRPs that his organization needs.

Cloud Manager uses an application called Download Manager to download updates from MOS, which is invoked through process scheduler in asynchronous mode every time a channel is subscribed.

On the Repository tile, Administrators can:

- Subscribe to release channels for latest PeopleSoft application updates.
- Manage downloaded PeopleSoft Images and PRPs.

Pages Used to Manage Cloud Manager Repository as an Administrator

Page Name	Definition Page	Usage
<u>Repository Tile</u>	ECL_REPOSITORY_FL_GBL (CREF for tile)	Access the various features such as, Channel Subscriptions and Download History, and functions such as, downloading logs and deleting downloads.
<u>My Downloads Page</u>	ECL_REPO_AMYDLS_FL	View the PRPs and PIs downloaded. New entries are added as soon as new artifacts are downloaded.
<u>Download Subscriptions Page</u>	ECL_REPO_BCHNL_FL	Create download channels and subscribe them to initiate downloads. You can also use predefined download channels to initiate downloads.
<u>Download History Page</u>	ECL_REPO_BDLHIS_FL	View the history of downloads, say PIs and PRPs downloaded.

Page Name	Definition Page	Usage
Logs Page	ECL_REPO_MLOG_FL	View the download manager logs.
Upload Custom Scripts Page	ECL_UPLD_CUST_SCR	Upload Custom Scripts

Repository Tile

Use the Repository tile to access the following features and functions:

- View downloaded artifacts
- Channel subscriptions
- Download history
- Download logs
- Filter and delete downloads
- Manage custom scripts.

Navigation

The Repository tile (ECL_REPOSITORY_FL_GBL) is delivered as part of the Cloud Manager home page.

Image: Repository Tile

This example illustrates the Repository Tile.



My Downloads Page

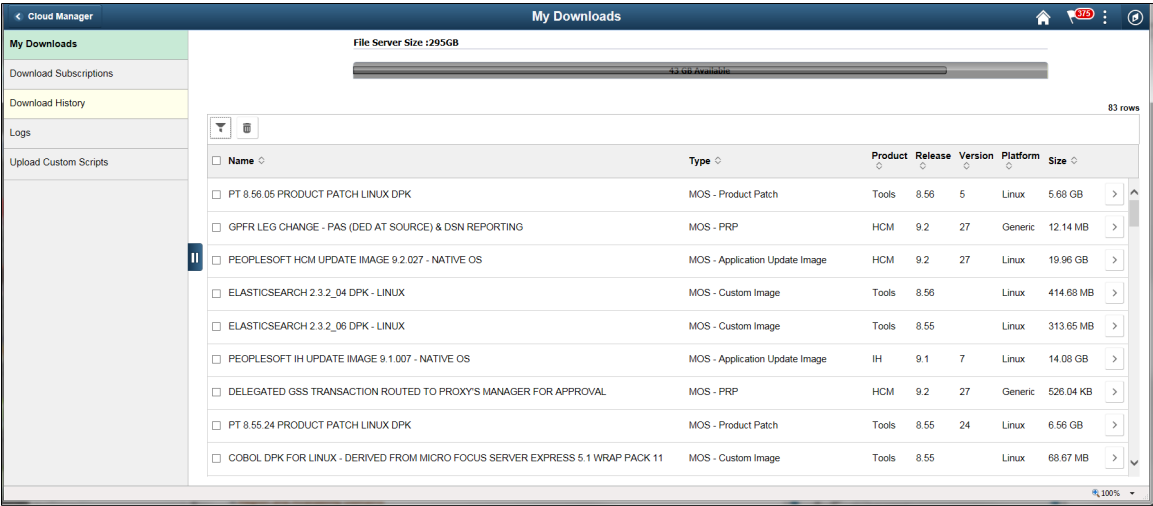
Use the My Downloads page (ECL_REPO_AMYDLS_FL) to view the artifacts downloaded. New entries are added as soon as new artifacts are downloaded.

Navigation

Click the Repository tile on the delivered Cloud Manager Fluid home page. My Downloads page is displayed by default.

Image: My Downloads page

This example illustrates the fields and controls on the My Downloads page.



Note: Clicking on an item in the My Downloads page displays additional details of the downloaded artifact.



Use the Filter icon to refine the search results based on search criteria.



Use the Delete icon to delete downloaded PIs and PRPs. Select the check box corresponding to the row you want to delete, and then click Delete button.

File Server Size

File Server capacity is a graphical display of the space available on the file server. You can manually increase the file server size as per requirement.

Name

Name of the downloaded artifact.

Type

Indicates the artifact type such as PI, PRP, Custom Image, and so on.

Product

Indicates the PeopleSoft application product pillar.

Release

Indicates the PeopleSoft application release.

Version

Indicates the application PI version.

Platform

Indicates the Operating System platform, such as Linux, or Windows.

Size

Total size of the PI or PRP.

Download Subscriptions Page

Use the Download Subscriptions page (ECL_REPO_BCHNL_FL) to subscribe to download channels and initiate downloads.

Note: Cloud Manager delivers default channels and those channels are available in the unsubscribed list of the Download Subscriptions page.

Navigation

Click the Repository tile on the delivered Cloud Manager Fluid home page. Select the Download Subscriptions tab in the left panel of the Cloud Manager home page.

Image: Download Subscriptions page

This example illustrates the fields and controls on the Download Subscriptions page. You can find definitions for the fields and controls later on this page.



Channel Name	Description	Status	Latest Updates	Product	Release	Platform	Source
CS_92_Linux	PeopleSoft CS 9.2 Linux			CS	9.2	Linux	MOS
Tools_857_Linux	PeopleSoft PeopleTools 8.57 Linux			Tools	8.57	Linux	MOS



To subscribe or unsubscribe channel, click the Related Actions button corresponding to channel name. If you select the Subscribe option, Cloud Manager starts monitoring for any new PIs or PRPs and downloads them from My Oracle Support.

If you select the Unsubscribe option, Cloud Manager will no longer monitor or download latest PIs or PRPs.

When a release channel is subscribed, Cloud Manager invokes the download manager application, which connects to MOS and downloads latest updates for the release channel. Please note that artifacts, such as Update Images, are large in size and can take few hours to download. User can view the status of active downloads from the Download History page.

Subscribed tab

Click this tab to view a list of subscribed channels.

When you select the Related Action to subscribe a channel, that channel will be added to the Subscribed tab.

Note: This operation will renew the channel subscriptions for all channels present in the Subscribed tab. This means that the Cloud Manager will check for updates and download them for all channels present in the Subscribed tab.

Unsubscribed tab

Click this tab to view a list of unsubscribed channels. By default, newly created download channels are listed under the Unsubscribed tab.

Status

Status will indicate current state.

- Success



The Success icon indicates the download was successful. No further action is necessary.

- In-progress



The In-progress icon indicates the update is downloading. Click on the icon to view the status of the download.

- Error



The Error icon indicates the download failures. Click the icon to open the Download Error page.

Image: Download Subscriptions – Unsubscribed page

This example illustrates the fields and controls on the Download Subscriptions – Unsubscribed page. You can find definitions for the fields and controls later on this page.

Download Subscriptions								
<div> <div>Cloud Manager</div> <div>Download Subscriptions</div> <div>9 rows</div> </div>								
<div>My Downloads</div> <div>Download Subscriptions</div> <div>Download History</div> <div>Logs</div> <div>Upload Custom Scripts</div>	<div> <div>+</div> <div>Subscribed</div> <div>Unsubscribed</div> </div>							
	Channel Name	Description	Status	Latest Updates	Product	Release	Platform	Source
	CRM_92_Linux	PeopleSoft CRM 9.2 Linux			CRM	9.2	Linux	MOS
	CS_92_Linux	PeopleSoft CS 9.2 Linux			CS	9.2	Linux	MOS
	ELM_92_Linux	PeopleSoft ELM 9.2 Linux			ELM	9.2	Linux	MOS
	FSCM_92_Linux	PeopleSoft FSCM 9.2 Linux			FSCM	9.2	Linux	MOS
	HCM_92_Linux	PeopleSoft HCM 9.2 Linux			HCM	9.2	Linux	MOS
	IH_91_Linux	PeopleSoft IH 9.1 Linux			IH	9.1	Linux	MOS
	PCM_91_Linux	PeopleSoft Cloud Manager 9.1 Linux			PCM	9.1	Linux	MOS
	Tools_856_Linux	PeopleSoft PeopleTools 8.56 Linux			Tools	8.56	Linux	MOS

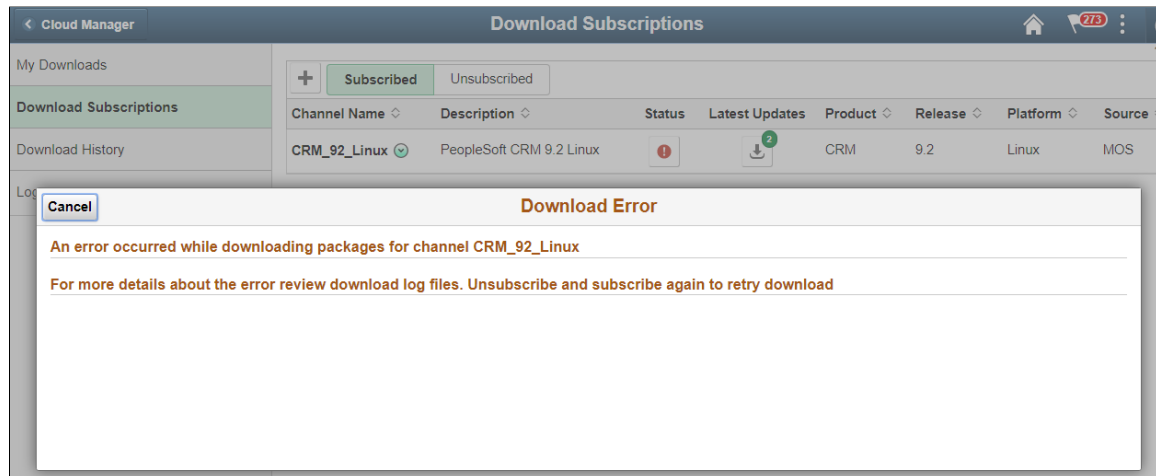
Use the action button to subscribe to a channel.

Download Error Page

Click the failed icon on the Download page to view the Download Error popup page. There are 2 types of error popup pages, one for standard errors and another for invalid password. The invalid password popup only applies to password protected downloads.

Image: Download Error page

This example illustrates the fields and controls on the Download Error page. You can find definitions for the fields and controls later on this page.



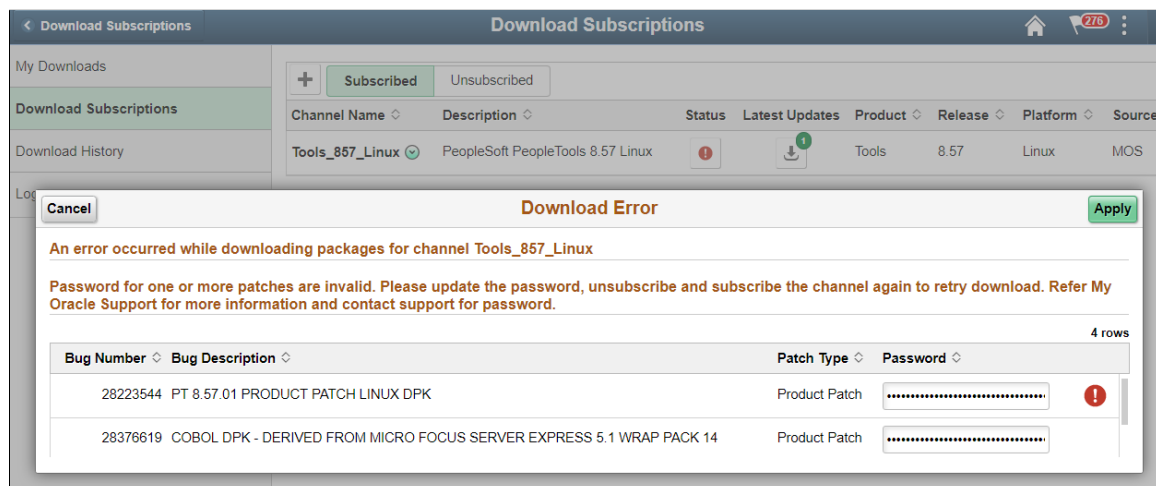
The download error message will indicate the error and direct the user to review the download log files. Error could be due to issues occurring during the download, such as network connection disruption (unable to reach MOS) or if there is no space available on the file server to save downloads.

Password Protected Subscription Password Error

When you subscribe to the a password protected download channel, the DownloadAssist file is downloaded from MOS to Cloud Manager. The DownloadAssist file contains the password required to download the packages.

Image: Download Error for Password Error

This example illustrates a Download Error page displaying a password error.



This message will only appear if Cloud Manager is unable to retrieve the password due to an error in MOS. If this does occur, the user will need to request the password from Support and update it manually on this page.

If the issue is due to an expired password, user can do a unsubscribe to the channel and then re-subscribe to the channel. Any password changes will be updated in the DownloadAssist file that is posted in MOS. On re-subscribing to a channel, the new password should get automatically updated in Cloud Manager.

If a re-subscribing doesn't solve the problem, then there could be issues in Cloud Manager that is failing to retrieve and update the password automatically or an unforeseen issue in MOS which is not allowing the download of the DownloadAssist file. In such a scenario, the user is expected to get the password from support and update the same on the Download Error page.

Note: The next scheduled download will renew the subscription and include any password changes in the DownloadAssist file. See [Changing Download Interval](#)

Downloading PeopleTools Patches

Cloud Manager can download previous PeopleTools patch releases for the PeopleTools channel. But for Application channels, only latest patches get downloaded.

In case of Tools channel subscription, you are presented with a modal window for selecting the patch version you want to download.

Navigation

Click the Unsubscribed tab. Select any Tools channel. Click the Related Options menu and select Subscribe.

Image: Download Filter Modal Window

This example illustrates the fields and controls in Download Filter modal window.

Enter the required product patch version in the Minimum Product Patch Number field. For example, if user enters 11 in this field, then CM will download tools patches 8.55.11, 8.55.12, 8.55.13 up to latest.

Download History Page

Use the Download History page (ECL_REPO_BDLHIS_FL) to view the history of downloads.

Note: The entries in Download History page are updated in every four minutes. Clicking on an entry in the Download History page displays the current state of the download channel (that is, a list of files already downloaded, another list of files in the download queue and those that are currently downloading).

Navigation

Click the Repository tile on the delivered Cloud Manager Fluid home page. Select the Download History tab in the left panel of the Cloud Manager home page.

Image: Download History page

This example illustrates the fields and controls on the Download History page. You can find definitions for the fields and controls later on this page.

Channel Name	Updates	Start Time	End Time
HCM_92_Linux	10	11/15/18 1:16PM	11/15/18 3:01PM
Tools_857_Linux	3	11/05/18 3:44AM	11/05/18 4:12AM

Channel Name Name of the download channel.

Updates Number of updates downloaded.

Start Time and End Time Indicates the time when downloads are started/finished for the release channel.

Logs Page

Use the Logs page (ECL_REPO_MLOG_FL) to view the download logs corresponding to the subscribed channels. It displays download logs for all the files that get downloaded.

Navigation

Click the Repository tile on the delivered Cloud Manager Fluid home page. Select the Logs tab in the left panel of the Cloud Manager home page.

Image: Logs page

This example illustrates the fields and controls on the Logs page. You can find definitions for the fields and controls later on this page.

Channel Name:

*Log File:

Number of Lines to Display:

Search String:

Default Value: 10

Regex Search:

Log Data

```
[DEBUG] download_manager 2018-11-14 00:30:31.973 (MainThread) Skipping download... PEOPLETOOLS-LNX-8.57.02_3of4.zip is latest.
[DEBUG] download_manager 2018-11-14 00:30:31.973 (MainThread) Skipping download... PEOPLETOOLS-LNX-8.57.02_4of4.zip is latest.
[DEBUG] download_manager 2018-11-14 00:30:31.974 (MainThread) Skipping download... ESK-DPK-LNX-6.1.2_01.zip is latest.
[DEBUG] download_manager 2018-11-14 00:30:31.974 (MainThread) Skipping download... ESK-DPK-LNX-6.1.2_02.zip is latest.
[DEBUG] download_manager 2018-11-14 00:30:31.975 (MainThread) Skipping download... COBOL-DPK-MF-SE-LNX-5.1.WP15_00.zip is latest.
[DEBUG] download_manager 2018-11-14 00:30:31.975 (MainThread) Skipping download... ILOG-CPLX-12.7.1_00.zip is latest.
[DEBUG] download_cm 2018-11-14 00:30:31.976 (MainThread) Sync finished on all artifacts for the channel : Tools_857_Linux607
[DEBUG] download_cm 2018-11-14 00:30:31.976 (MainThread) Sending download status update.
[DEBUG] download_cm 2018-11-14 00:30:31.976 (MainThread) {'status': 'Sync finished for the channel', 'channel_name': 'Tools_857_Linux607', 'overall_status': 'Complete', 'patches': []}
```

Channel Name Name of the subscribed channel.

Log File	Log files are generated when a channel is subscribed. Select an appropriate log file in this field.
Number of Lines to Display	Indicates how many lines of the selected log file to be displayed.
Search String	Used to search for specific keywords in the log file. When user inputs a keyword, such as "ERROR" as an example, then only those lines are displayed which has an Error string in it. Here, only the specified number of lines are displayed.
Regex Search	Enables advanced searching, where a user can provide Unix style regular expressions.
Fetch Logs button	Click this button to fetch log data based on the input provided by the user in the Logs page.
Log Data	Data from the logs.

Re-synchronizing Repository Data with Downloaded List

Sometimes even after subscribing to a channel user may not able to see some of the downloaded patches in Repository > My Downloads page. The logs may show that the downloads are being skipped. This indicates a situation where the patches are already downloaded but their metadata is not synced with the Cloud Manager. In such situations re-sync the downloaded patches metadata with the Cloud Manager using the following steps.

1. Go to Repository > Download Subscriptions page and un-subscribe all channels that are currently subscribed.
2. Navigate to PeopleTools > Process Scheduler > System Requests page and run the process "ECL_REPODM".
3. Once the process finishes execution, you should be able to see the missing patches in Repository > My Downloads page.

Subscribing Channels using the Cloud Manager Repository

This section details the process flow for subscribing channels using the Cloud Manager Repository.

Note: Cloud Manager has a process scheduler recurring job defined, which invokes the download manager for all the subscribed release channels once a week. This will make sure that latest updates for all the subscribed release channels are downloaded every week without any user interaction.

Prerequisites

The administrator needs to define My Oracle Support credentials prior to subscribing channels using the Cloud Manager Repository. For this, perform the following:

1. Select the Cloud Manager Settings tile.
2. Edit the value in the User ID field and My Oracle Support password field in the My Oracle Support (MOS) Credentials section.

3. Click Save Settings to save the details.
For details on the Cloud Manager settings, see [Cloud Manager Settings Page](#).

Note: This is a one-time setup.

Perform the following steps to subscribe channels using the Cloud Manager Repository tile:

1. Click the Repository home page available on the Cloud Manager home page.
2. Select Download Subscriptions on the left panel. The Download Subscriptions page is displayed.
3. Click Unsubscribed.
4. To subscribe to the release channel, perform the following:
 - a. Click the Related Actions button corresponding to the channel name.
 - b. Select Subscribe action. If there are any new updates, then the system starts downloading the new updates.

Changing Download Interval

By default, Cloud Manager polls My Oracle Support for new updates every week. The recurrence definition for download channel subscriptions is **CloudManager Repository Update**. To modify the download schedule to meet your organizational needs, modify the recurrence pattern to a pattern that meets your needs.

For example, if you want to poll for updates on alternate days, you would perform the following:

1. In Cloud Manager, navigate to PeopleTools, Process Scheduler, Recurrences.
2. Select the recurrence CloudManager Repository Update.
3. Select Recurrence Pattern to *Weekly*.
4. Select the days.

Note: It is recommended to select alternate days.

5. Save the page.

Image: Recurrence Definition – CloudManager Repository Update

This example illustrates the fields and controls on the Recurrence Definition – CloudManager Repository Update where the occurrence is set to alternate days..

Recurrence Definition | Recurrence Exception

Recurrence Definition

Recurrence Name: CloudManager Repository Update

Description: CloudManager Repository Update

Schedule Next Recurrence when

☐ Current request is initiated

☒ Prior recurrence has completed

Recurrence Pattern

☐ Daily ☒ Sunday ☐ Monday ☒ Tuesday ☐ Wednesday

☒ Weekly ☒ Thursday ☐ Friday ☐ Saturday

☐ Monthly

☐ Customize Dates

Start Request

Date: 01/01/1999

Time: 12:30:00AM

End Request

Date:

Time:

Repeat

Every: 0 Minutes

For: 0 Hours

☒ Do not schedule any processes missed from the recurrence pattern.

Run on Specific Dates

Run Date (From)	Run Date (To)	Effective Until (Year)	Description

Save Return to Search Notify Add Update/Display

For more information on setting up recurrence schedules, see Product documentation for *PeopleTools 8.56: Process Scheduler*; “Defining PeopleSoft Process Scheduler Support Information”, Defining Recurrence Definitions.

Upload Custom Scripts Page

Starting with Cloud Manager Image 8 custom scripts can be run before or after provisioning a PeopleSoft environment.

This table lists the script types and which tiers they can run on.

<i>Script Type</i>	<i>Where you can run the script</i>
Python	Full Tier Middle Tier Database Tier PeopleSoft Client Elastic Search Server Database as a service (dbaas)
Shell	Full Tier Middle Tier Database Tier Elastic Search Server Database as a service (dbaas)
Batch	PeopleSoft Client

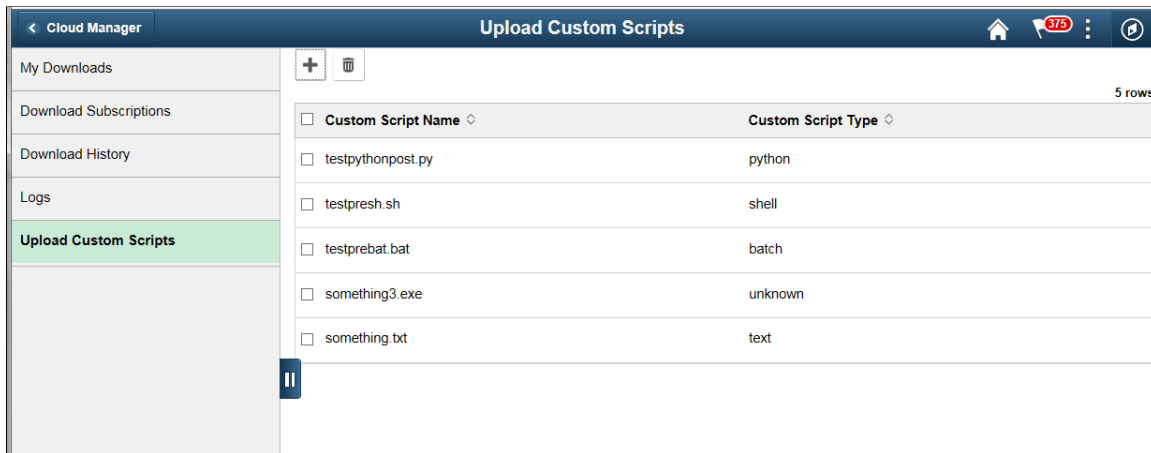
Scripts can call other scripts or multiple scripts from within the scripts and execute them. For example, a shell script can invoke multiple shells, Python or other scripts. You can also upload any kind of supporting files that are used by the scripts.

To upload a custom file:

1. From Cloud Manager homepage select the Repository tile.
2. Select Upload Custom Scripts.
3. Click the Add icon.
4. The File Attachment pop up appears where you can choose files from your device by clicking on My Device option available.
5. Once you have selected the file, the Upload option appears.
6. Click the Upload button to upload the file to Cloud Manager.
7. When upload is complete, click Done to complete the process.

Image: Upload Custom Scripts page

This example illustrates the fields and controls on the Upload Custom Scripts page. You can find definitions for the fields and controls later on this page.



Environment Variables Allowed in Custom Scripts

Custom scripts provide an ability to extend Cloud Manager's provisioning flow. During provisioning orchestration, Cloud Manager provides access to following environment variables inside the custom scripts.

BASHOPTS

BASH_LINENO

BASH_SOURCE

MAIL PATH

PIPESTATUS

PPID

PSFT_ACCESS_ID

PSFT_ACCESS_PWD

PSFT_ADMIN_PWD

PSFT_APP_DOMAINS

PSFT_APP_TYPE

PSFT_COBOL_SETUP

PSFT_CONNECT_ID

PSFT_CONNECT_PWD

PSFT_CUSTOMIZATION

PSFT_CUSTOMIZATION_DATA

PSFT_DB_INSTANCE_TYPE
PSFT_DB_IS_ML
PSFT_DB_NAME
PSFT_DB_PORT
PSFT_DB_SERVICE
PSFT_DB_TYPE
PSFT_ELASTIC_SEARCH
PSFT_EM_AGENT
PSFT_ENV_TYPE
PSFT_ES_ADMIN_PASSWD
PSFT_ES_HOSTNAME
PSFT_ES_PORT
PSFT_ES_PROXY_PASSWD
PSFT_GW_ADMIN_USER
PSFT_GW_ADMIN_USER_PWD
PSFT_INFRA_AVAILDOMAINPRIMARY
PSFT_INFRA_COMPARTMENT_ID
PSFT_INFRA_HOST
PSFT_INFRA_HOST_OS
PSFT_INFRA_PRIVATE_IP
PSFT_INFRA_PUBLIC_IP
PSFT_INFRA_REGION
PSFT_INFRA_SSH_PRIVATE_KEY_PATH
PSFT_INFRA_SUBNET_ID
PSFT_INFRA_TENANCY_ID
PSFT_INFRA_VCN
PSFT_OPR_ID
PSFT_OPR_PWD
PSFT_PIA_DOMAINS
PSFT_PI_IMAGE

PSFT_PI_NUMBER
PSFT_POST_PROVISION_CUST_SCRIPT
PSFT_PRCs_DOMAINS
PSFT_PRCs_PRCs01_APPENG
PSFT_PRCs_PRCs01_APPLICATION_ENGINE
PSFT_PRCs_PRCs01_COBOL_SQL
PSFT_PRCs_PRCs01_MAXAPIAWARE
PSFT_PRCs_PRCs01_MSTRSRV
PSFT_PRCs_PRCs01_OPTIMIZATION_ENGINE
PSFT_PRCs_PRCs01_PSAESRV_MAX_INSTANCES
PSFT_PRCs_PRCs01_PSAESRV_MIN_INSTANCES
PSFT_PRCs_PRCs01_PSDSTSRV_MAX_INSTANCES
PSFT_PRCs_PRCs01_PSDSTSRV_MIN_INSTANCES
PSFT_PRCs_PRCs01_SQR_PROCESS
PSFT_PRCs_PRCs01_SQR_REPORT
PSFT_PRCs_PRCs01_XML_PUBLISHER
PSFT_PRE_PROVISION_CUST_SCRIPT
PSFT_PSFT_BASE PSFT_WEBLOGIC_ADMIN_PWD
PSFT_WEBLOGIC_ADMIN_USER
PSFT_WEBPROFILE_USER_PWD
PSFT_WEB_WEBSERVER01_AUTH_TOKEN_DOMAIN
PSFT_WEB_WEBSERVER01_PEOPLESOFT01_APPSERVER_CONNECTIONS
PSFT_WEB_WEBSERVER01_WEBSERVER_HTTPS_PORT
PSFT_WEB_WEBSERVER01_WEBSERVER_HTTP_PORT
PWD
PYTHONPATH
SHELLOPTS
SHLVL
SUDO_COMMAND

How to Access Environment Variables in or from Custom Scripts

This section shows some examples of using the environment variables..

Example for Python:

```
os.environ['PSFT_ACCESS_ID'] = 'xyz"
```

Example for Shell:

```
$PSFT_ACCESS_ID=xyz
```

Example for Batch:

```
%PSFT_ACCESS_ID% = xyz
```

Sample Batch File

This sample batch file will print the PATH and PSFT_DB_NAME and store it in a file.

```
set file=C:\temp\script_batch.log
@echo off
@echo Starting the provisioning script > %file%
@echo The value for variable PATH is:  >> %file%
@echo %PATH% >> %file%
@echo The value for variable PSFT_DB_NAME is:  >> %file%
@echo %PSFT_DB_NAME% >> %file%
@echo Ending the provisioning script >> %file%
```

Sample Python Script

This sample python script will print the PATH and PSFT_DB_NAME and store it in a file.

```
import os, time
millis = int(round(time.time() * 1000))
file_name = '/tmp/post-provision_python_{}.log'.format(millis)
f = open(file_name, 'w+')
f.write('Starting post-provisioning script')
f.write('The variable PATH value is: {}\n'.format(str(os.environ.get('PATH'))))
f.write('The variable PSFT_DB_NAME value is: {}\n'.format(str(os.environ.get('PSFT_⇒
DB_NAME'))))
f.write('Ending post-provisioning script')
f.close()
```

Sample Shell Script

This sample python script will print the PATH and PSFT_DB_NAME and store it in a file.


```

now=$(date +%d%m%Y%H%M%S)
file=/tmp/prov_$now.log

echo "Starting the provisioning script" > $file

echo "The value for variable PATH is: " >> $file

echo $PATH >> $file

echo "The value for variable PSFT_DB_NAME is: " >> $file

echo $PSFT_DB_NAME >> $file

echo "Ending the provisioning script" >> $file

```

Managing Topology

Topology defines the infrastructure layout that will be created on Oracle Cloud by the Cloud Manager. Essentially, a topology defines a set of nodes, which is an abstraction of a virtual machine. While defining a node, you can set the values for node attributes, such as OS, VM shape, disk capacity, and PeopleSoft components to be installed.

The PeopleSoft administrators create topologies for PeopleSoft applications as per their organization requirements. By default, the Cloud Manager is delivered with the following topologies:

- Lift and Shift
- Lift and Shift - DBaaS
- PUM Fulltier

Note: Users are not allowed to delete lift and shift topologies that are used for lift and shift process.

Pages Used to Manage Topology as an Administrator

<i>Page Name</i>	<i>Definition Name</i>	<i>Usage</i>
<u>Topology Tile</u>	ECL_TOPOLOGY_FL	To access the Topology landing page.
<u>Topology Page</u>	ECL_TOPO_COMP_FL	To create new topologies, edit or clone existing topologies.
<u>Topology Definition Page</u>	ECL_TOPO_COMP_FL	Create a new topology.

Topology Tile

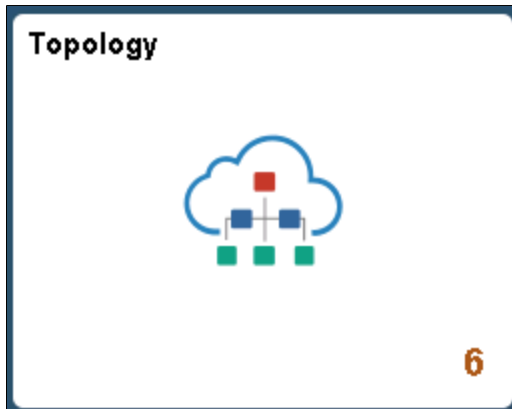
Use the Topology tile to access the Topology landing page.

Navigation

The Topology tile is delivered as part of the Cloud Manager home page.

Image: Topology Tile

This example illustrates the Topology Tile.



Topology Page

Use the Topology page (ECL_TOPOLOGY_FL) to perform the following:

- Create a new topology
- Edit an existing topology
- Clone an existing topology
- Delete an existing topology

Navigation

Click the Topology tile on the delivered Cloud Manager Fluid home page. The Topology page is displayed.

Image: Topology Page

This example illustrates the fields and controls on the Topology Page. You can find definitions for the fields and controls later on this page.

Topology	
<div> <div>Cloud Manager</div> <div>Topology</div> <div> <div>Home</div> <div>Search</div> <div>Menu</div> <div>Help</div> </div> </div>	
<div> <div>Topology Definitions</div> <div> <div>Clone</div> <div>6 rows</div> </div> </div>	
Topology Name	Topology Description
<input type="radio"/> Development (Small)	Minimum size for Development Environment
<input type="radio"/> Test (Small)	Minimum size for Test Environment
<input type="radio"/> Production (Small)	Minimum size for Production Environment
<input type="radio"/> Lift and Shift - DBaaS	Lift and Shift topology where database is deployed on Database as a Service.
<input type="radio"/> PUM Fulltier	Full-tier topology with one Linux node and one Windows Client.
<input type="radio"/> Lift and Shift	Default topology for Lift and Shift.

Topology Name

Name of the topology.

Topology Description

Meaningful description for the topology.

Topology Definition Page

Use the Topology Definition page (ECL_TOPO_COMP_FL) to create a new topology.

Navigation

Click the Add New Topology button on the upper-right corner of the Topology page to access the Topology Definition page.

Image: Topology Definition page

This example illustrates the fields and controls on the Topology Definition page.

Add Node Page for OCI

Use Add Node page to add nodes for creating a topology.

Image: Add Node Page for OCI

This example illustrates the fields and controls on Add Node page for OCI.

Operating System

Select the operating system (Linux or Windows) used to create the topology.

Environment Type

Select the PeopleSoft software components to be deployed on the node. Different environment types available are:

- **DB Systems:** DB systems are dedicated instances running Oracle Linux, optimized for running one or more Oracle databases. A DB System is a Database Service resource. Cloud Manager supports provisioning of databases on OCI DB Systems. CM provisions 1 and 2 node DB systems on virtual machines.

The shape for DB systems can be BM (Bare metal) or VM.

- **Database Tier:** Deploys the PeopleSoft database on a compute node.
- **Elasticsearch Server:** Sets up Elasticsearch (ES) on the node.

Note: ES node configuration is automatically done by Cloud Manager. For information on how to deploy and configure Elasticsearch refer Elasticsearch Home Page on My Oracle Support (Doc ID 2205540.2).

- **Full Tier:** Deploys Database, Appserver, Webserver and Process Scheduler on the node.
- **Middle Tier:** Deploys Appserver, Webserver and Process Scheduler on the node.
- **PeopleSoft Client:** Deploys windows client components on the node.

The above mentioned options are displayed based on the Operating System that is selected.

Note: For applying PeopleTools patch to an environment, it is mandatory to have a PeopleSoft client defined in the topology used to deploy the environment.

Shape Name

Select the required VM shape.

For DB systems, BM shapes are supported, as well as VM shapes.

For non-DB system nodes, the list of VM shapes depends on the custom linux and windows image that is specified in the "Infrastructure Settings" page. In OCI, whenever a user creates a custom linux or windows image, a set of shapes get associated with that image. CM shows that set of shapes, when end-user creates or modifies the nodes in a topology.

Note: The list of shapes will not appear until user does a Refresh of OCI Metadata after configuring the Operating System images in the Settings page. Some shapes may not be available in new tenancies.

BM shapes are supported for DB Systems.

Disk Space (GB)

Select the amount of disk space attached to the machine.

Note: Assume that if the lifted DPK is K size, then the disk size should be 2.5 times K.

Note: For DB System, only a limited set of pre-defined disk sizes are supported. The allowed disk sizes are:

- 256 GB
 - 512 GB
 - 1024 GB
 - Multiples of 1024 GB
-

Note: For BM DB system shapes, this field is not visible.

Middle Tier Nodes

When you add a middle tier node, the tiers section is displayed.

Image: Add Node page for Middle Tier

This example illustrates the fields and controls on the Add Node page for Middle Tier. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Add Node' page for a Middle Tier node. The page has a title bar with 'Cancel', 'Add Node', and 'Done' buttons. Below the title bar, there are four dropdown menus: '*Operating System' (Linux), '*Environment Type' (Middle Tier), 'Shape Name' (VM.Standard1.1), and 'Disk Space(GB)' (100). Below these is a section titled 'Tiers' with three toggle switches: 'Appserver' (Yes), 'Webserver' (No), and 'Process Scheduler' (No). At the bottom is a section titled 'Features'.

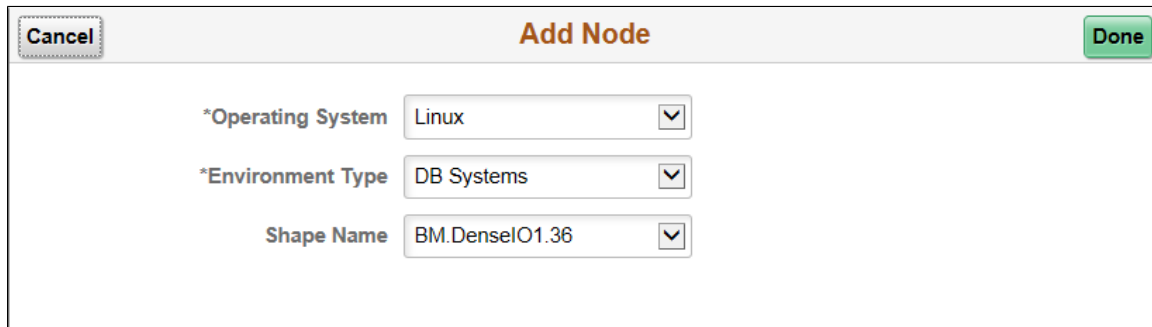
Select the tier or tiers for this node.

Database System Node on Bare Metal

When you select a bare metal shape for the DB Systems, disk space is not displayed.

Image: Add Node page for DB Systems on Bare Metal

This example illustrates the fields and controls on the Add Node page for DB Systems on Bare Metal.



The screenshot shows the 'Add Node' page for DB Systems on Bare Metal. The page has a title bar with 'Cancel', 'Add Node', and 'Done' buttons. Below the title bar, there are three dropdown menus: '*Operating System' with 'Linux' selected, '*Environment Type' with 'DB Systems' selected, and 'Shape Name' with 'BM.DenseIO1.36' selected.

Creating a New Topology

1. Click the Add New Topology button available on the upper-right corner of the Topology page.
2. In the Topology Definition page, enter the topology name and the corresponding description.
3. Click the Add Node button to create a node. This opens the Add Node page. Use the Add Node page to set the values for node attributes like OS, sizing parameter, disk to be attached, and the PeopleSoft component to be installed.
4. Click Save to save the details.

Validation Rules for Topology

The following are the set of current validation rules for topology:

If there is a full tier node, then you:

- Cannot have another full tier node.
- Cannot have a mid-tier node.
- Cannot have a database node.
- Cannot have a Database as a Service node.

If there is a mid-tier node, then you:

- Cannot have a full tier node.
- Must have either a Database as a Service node or a database node.

If there is a database node, then you:

- Cannot have another database node.
- Cannot have a Database as a Service node.
- Cannot have a full tier node.

If there is a Database as a Service node, then you:

- Cannot have another Database as a Service node.
- Cannot have database node.
- Cannot have a full tier node.

Apart from this, user may have a Windows Client Node in all the above mentioned cases and an optional Elasticsearch Server Node.

Creating Multi Domain and Multi Middle Tier Node Configurations

Cloud Manager Image 8 and above supports both horizontal and vertical elasticity by allowing multi node and multi domain configuration for the PeopleSoft environment.

Cloud Manager supports multiple middle tier and PIA domains on single node as well on multiple nodes. It also provides an option to enable IB in one Application domain in an environment . This Domain Configuration feature extends the existing provisioning environment feature in Cloud Manager.

A node can have up to five domains in any of the following supported combinations:

<i>Application Server</i>	<i>PIA</i>	<i>Process Scheduler</i>
Yes	Yes	Yes
Yes	No	Yes
Yes	No	No
No	Yes	No
No	No	Yes

Image: Example Multi Domain Topology

This example illustrates the fields and controls on the Topology page for a topology with multiple middle tiers.

The screenshot shows the 'Topology' page in the PeopleSoft Cloud Manager interface. The page title is 'Topology'. There is a 'Save' button in the top right corner. Under 'Topology Information', the 'Topology Name' is 'Multidomain' and the 'Description' is 'Example multi domain topology'. Below this is a 'Nodes' section with a '+ ' button and a table showing 7 rows of node configurations.

Environment Type	Shape Name	Operating System	Node Description	Disk Space(GB)
1 Database Tier	VM.Standard1.1	Linux		100
2 Middle Tier	VM.Standard1.1	Linux	APPSERVER	100
3 Middle Tier	VM.Standard1.1	Linux	APPSERVER	100
4 Middle Tier	VM.Standard1.1	Linux	PIA	100
5 Middle Tier	VM.Standard1.1	Linux	PIA	100
6 Middle Tier	VM.Standard1.1	Linux	PRCS	100
7 Middle Tier	VM.Standard1.1	Linux	PRCS	100

Editing an Existing Topology in OCI

To edit an existing topology in OCI, perform the following:

1. Click any existing topology in the Topology page. This displays the Topology Definition page of the topology which you want to edit.

Image: Topology Definition – Edit Page in OCI

This example illustrates the Topology Definition – Edit Page in OCI.

The screenshot shows the 'Topology' page in OCI. At the top, there's a header with a back arrow, the title 'Topology', and icons for home, notifications, and settings. Below the header, there are 'Delete' and 'Save' buttons. The main content area is divided into two sections: 'Topology Information' and 'Nodes'.

Topology Information:

- Topology Name:** PUM Fulltier
- Description:** Full-tier topology with one Linux node and one Win

Nodes:

A table with 2 rows and 4 columns: Environment Type, Shape Name, Operating System, and Disk Space(GB). There is a '+' icon to add new nodes.

	Environment Type	Shape Name	Operating System	Disk Space(GB)
1	Full Tier		Linux	100
2	PeopleSoft Client		Windows	30

2. You can edit the description, if required.
3. Click + to add new nodes.

See [Add Node Page for OCI](#)

4. To edit any node attribute value, click on any node row. This displays the Edit Node modal window.

Image: Edit Node modal window for OCI

This example illustrates the fields and controls on the Edit Node modal window for OCI.

The screenshot shows the 'Edit Node' modal window. It has a 'Cancel' button on the top left and a 'Done' button on the top right. The main content area contains the following fields:

- *Operating System:** Linux (dropdown menu)
- *Environment Type:** Full Tier (dropdown menu)
- Shape Name:** (dropdown menu)
- Disk Space(GB):** 100 (text input)

Features:

- Cobol:** No (toggle switch)

At the bottom center, there is a 'Delete' button.

5. Edit the fields as per requirement.

- Click Done to save the edited details.

Enabling Topology with Cobol Feature as Yes

COBOL can only be enabled in the node only when environment type is Full Tier or Mid Tier with Process Scheduler Enabled.

Image: Example Middle Tier node with Process Scheduler enabled.

This example illustrates a mid tier node with Process Scheduler enabled.

Cloning an Existing Topology

To clone an existing topology, perform the following:

- Select the radio button corresponding to a topology that you want to clone.
- Click Clone button in the Topology page. This displays the Clone Topology modal window.

Image: Clone Topology modal window

This example illustrates the fields and controls on the Clone Topology modal window.

- Enter a new topology name and click Clone. The new topology is added to the topology list.

Deleting an Existing Topology

To delete an existing topology, perform the following:

1. Click any existing topology in the Topology page. This displays the Topology Definition page of the topology.
2. Click Delete, to delete the topology.

Managing Template

An environment template is a repeatable blueprint that is used to deploy PeopleSoft environments using Cloud Manager. A template defines the topology to be used when deploying the PeopleSoft application DPK, which gets downloaded to the Repository. A template also defines environment attributes to enable streamlined deployments. Access to templates can be managed by defining security attributes of the templates.

Pages Used to Manage Environment Templates as a PeopleSoft Administrator

Page Name	Definition Name	Usage
<u>Environment Template Tile</u>	ECL_TEMPLATE_LP_FL_GBL (This is the CREF for the tile.)	Access the Environment Template landing page.
<u>Environment Template Page</u>	ECL_TEMPLATE_FL	Create new templates or edit, delete or clone existing templates.
<u>Environment Template – General Details Page</u>	ECL_TEMPL_GEN_FL	Enter the template name, description, and selecting a database.
<u>Environment Template – Select Topology Page for OCI</u>	ECL_TEMPL_TOP_FL	Select the topology that you have already defined.
<u>Environment Template – Define Security Page</u>	ECL_TEMPL_SEC_FL	Associate zones in which the environment is created and the roles that have access to the template.
<u>Environment Template – Summary Page</u>	ECL_TEMPL_REV_FL	Displays the summary of the environment template that the user is about to create.

Environment Template Tile

Use the Environment Template tile (ECL_TEMPLATE_LP_FL_GBL) to access Environment Template landing page.

Navigation

The Environment Template tile is delivered as part of the Cloud Manager home page.

Image: Environment Template Tile

This example illustrates the Environment Template Tile.



Environment Template Page

Use the Environment Template page (ECL_TEMPLATE_FL) to create a new template, and edit, delete or clone an existing template.

Navigation

Click the Environment Template tile on the delivered Cloud Manager Fluid home page. The Environment Template page is displayed by default.

Image: Environment Template page

This example illustrates the fields and controls on the Environment Template page. You can find definitions for the fields and controls later on this page.

Cloud Manager

Environment Template

360

Add New Template

Environment Template Definitions

6 rows

Clone

Delete

Template Name	Database	Default Topology	Description	
<input type="radio"/> pumhcm	PEOPLESFT HCM UPDATE IMAGE 9.2.027 - NATIVE OS	PUM Fulltier		>
<input type="radio"/> tempforcathy	PEOPLESFT HCM UPDATE IMAGE 9.2.027 - NATIVE OS	topoforcathy		>
<input type="radio"/> clonedtemp	pumtstarav2 LVSDb 20181101-062146	clonedtemp	Template for Environment with Stack id: 1540960731394-480270	>
<input type="radio"/> clonedtempforcathy	envtocloneara PSTDB 20181102-043039	clonedtempforcathy	Template for Environment with Stack id: 1541053458406-10295	>
<input type="radio"/> Lift and Shift		Lift and Shift	This template is used during the Shift process, in which a customer environment will be moved to Oracle Public Cloud.	>
<input type="radio"/> ImportTemplateCathy	PEOPLESFT HCM UPDATE IMAGE 9.2.027 - NATIVE OS	TestImportCathy		>

Note: The Lift And Shift template is the default template displayed in the Environment Template page with no database associated with it .

Template Name

Name of the template.

Database

Indicates the PeopleSoft application DPK that gets installed when the template is deployed.

Default Topology

Default topology associated with the template.

Description Meaningful description of the template.

Creating a Template

Use the Environment Template wizard to create a new template using a step by step guided process.

By default, the create template guided process involves the following steps:

1. Entering general details.

See [Environment Template – General Details Page](#)

2. Selecting topologies.

See [Environment Template – Select Topology Page for OCI](#)

3. Defining security.

See [Environment Template – Define Security Page](#)

4. Submitting the details.

See [Environment Template – Summary Page](#)

Environment Template – General Details Page

Use the Environment Template – General Details page to enter the template name, description, and select a database.

Navigation

Click the Add New Template button on the Environment Template landing page.

Image: Environment Template – General Details page

This example illustrates the fields and controls on the Environment Template – General Details page. You can find definitions for the fields and controls later on this page.

The screenshot displays the 'Environment Template' wizard interface. At the top, there's a navigation bar with four steps: 1. General Details (highlighted with a green circle), 2. Select Topology, 3. Define Security, and 4. Summary. Below the navigation bar, the 'General Settings' section contains two input fields: 'Name' with the value 'multidomain' and 'Description' with the value 'example'. The 'Select Database' section features a dropdown menu for 'Database' with 'PEOPLESOFT HCM' selected. The 'Details' section, which is expanded, shows four fields: 'Name' (HCM), 'Platform' (Linux), 'Release' (9.2), and 'Version' (27). The interface includes standard UI elements like an 'Exit' button, a 'Next >' button, and a search icon.

Name Name of the template which you want to create.

Description Meaningful description of the template.

Database

Select a PeopleSoft application DPK from the list of DPKs available in the Repository.

Details

Expand this section to display the database details.

Environment Template – Select Topology Page for OCI

Use the Environment Template – Select Topology page to select the topology that you have already defined. You may edit the default attributes associated with the selected topology.

Navigation

- Click Next in the Environment Template – General Details page.
- Click Step 2, Select Topology, at the top of the page to navigate to the Environment Template – Select Topology page in the guided process.

Image: Select Topology page

This example illustrates the fields and controls on the Select Topology page. You can find definitions for the fields and controls later on this page.

Default Topology

Users can mark one of the topology associated with the template as the default topology. During the environment creation process using a template, you can override this default topology and select any other topology associated with that template. If you don't want to override, then the default topology will get used automatically.

Click + to add more topologies. A new row of empty fields appears below the existing record. You can configure the fields based on the requirements.

Note: Be sure to select the topology under the Override Topology section and then continue with the template creation.

Topology Name

Select the required topology that you want to include in the template.

Note: While selecting a topology, the custom attributes associated with the selected topology is displayed. It is possible to override the default attributes based on the requirements.

Configuring Custom Attributes

1. Expand the Custom Attributes section.
2. Select the required topology.
3. Enter the required attributes and click Next.

Note: Cloud Manager allows users to add customization during template creation under Edit Custom Attributes section. This customization can be added only to middle tier and database tier. The customization will be available to users when they select this template. This facilitates the user to define custom attribute values for the environment being deployed.

4. After entering the required attributes, click the Validate Network button to ensure your infrastructure settings are correct and the network is valid.

This validates whether the port is open for an incoming/outgoing connection across different subnets and VCN. The connection can be:

- a. From Cloud manager to VM
- b. From VM to Cloud Manager
- c. From VM to VM

Some of the validations are based on user input (Jolt Port, WSL Port, Database Server Port, HTTP PIA Port, HTTPS PIA Port).

The following implicit validations are performed:

From	To
Every subnet	Cloud Manager subnet: NFS ports TCP - 2049, 111, 892, 32803
Cloud Manager subnet	Every subnet (including itself) except Windows VM subnet: ssh port 22
Cloud Manager subnet	Windows VM's subnet : WinRM TCP Ports 5985, 5986
Cloud Manager subnet	Windows VM's subnet: CIFS ports TCP 445, 139, 138, 137

Region and Availability Domains Section

Image: Region and Availability Domains section

This example illustrates the fields and controls on the Region and Availability Domains section. You can find definitions for the fields and controls later on this page.

Region and Availability Domains		4 rows
1	Region	us-ashburn-1
2	Primary Availability Domain	evQs:US-ASHBURN-AD-1
3	Compartment	psfdemo
4	Virtual Cloud Network	MyVCN

Region

A region is a localized geographic area, and an availability domain is one or more data centers located within a region. A region is composed of several availability domains.

Note: Cloud Manager will provision and manage environments only in the region where it is deployed. See [Infrastructure Settings Page](#).

Primary Availability Domain

Availability domain in OCI.

Compartment

Compartments allow you to organize and control access to your cloud resources. A compartment is a collection of related resources (such as instances, virtual cloud networks, block volumes) that can be accessed only by certain groups that have been given permission by an administrator.

Note: You must use a compartment that is directly under the root compartment. Nested compartments, that is, lower-level subcompartments, are not supported for Cloud Manager, or for environments that you provision with Cloud Manager.

Virtual Cloud Network

Virtual Cloud Network within OCI. A virtual cloud network is a virtual version of a traditional network—including subnets, route tables, and gateways—on which your instances run.

For details on setting up the OCI environment, refer to the OBE Installing PeopleSoft Cloud Manager in Oracle Cloud Infrastructure.

Note: In OCI, the templates will not have any default values for Region and Availability Domains section. All templates must be updated with these settings before using it for deployment using the [Create Environment Page](#).

Database Tier

The database tier includes general settings and subnet settings.

Image: Database Tier – General Settings

This example illustrates the fields and controls on the Database Tier – General Settings. You can find definitions for the fields and controls later on this page.

General Settings		
1	Database Server Port	1522
2	Database Connect Id	people
3	PeopleSoft Deployment Path	/u01/app/oracle/product
4	Enable EM agent	NO
5	Database Operator Id	PS
6	Database Access Id	SYSADM
7	Database Name	
8	Database Type	DEMO
9	Enable Multi Language	NO
10	Pre Provision Custom Script	
11	Post Provision Custom Script	
12	Is Database Unicode	YES

Database Server Port

Listener port number.

Database Connect ID

Connect Id for the database.

PeopleSoft Deployment Path

Location where the PeopleSoft application is deployed.

Enable EM agent

Select Yes to enable enterprise manager agent for creating the infrastructure that is required to deploy an EM agent.

Database Operator ID

Default database operator ID.

Database Access ID

Access ID for the database.

Database Name

Name of the database.

Database Type

Select the required database type. Available database types are DEMO or SYS.

Enable Multi Language

Select either Yes or No to enable multi language support.

Pre Provision Custom Script

Select an uploaded script to execute prior to provisioning the environment.

See [Upload Custom Scripts Page](#)

Post Provision Custom Script

Select an uploaded script to run post provisioning.

See [Upload Custom Scripts Page](#)

Is Database Unicode

Select either Yes or No.

DB Systems

DB Systems settings includes:

- General Settings
- Subnet Settings
- DB System Options

The DB System Options differ depending on whether the database system is on a vm or bare metal.

Image: DB Systems – General Settings

This example illustrates the fields and controls on the DB Systems – General Settings. You can find definitions for the fields and controls later on this page.

General Settings			13 rows
1	National Character set	UTF8	?
2	Database Operator Id	PS	?
3	Database Access Id	SYSADM	?
4	Database Server Port	1521	?
5	Character set	AL32UTF8	?
6	Database Connect Id	people	?
7	Enable EM agent	NO	?
8	Database Name		?
9	PDB Name	PSPDB	?
10	Database Type	DEMO	?
11	Enable Multi Language	NO	?
12	Pre Provision Custom Script		?
13	Post Provision Custom Script		?

National Character Set

The national character set for the database.

Database Operator ID

Default database operator ID.

Database AccessID

Access ID for the database.

Database Server Port

Listener port number.

Character Set

The character set for the database.

Database Connect ID

Access ID for the database.

Enable EM Agent

Select Yes to enable enterprise manager agent for creating the infrastructure that is required to deploy an EM agent.

Database Name

Name of the database.

PDB Name

Name of the Pluggable Database.

Database Type	Select the required database type. Available database types are DEMO or SYS.
Enable Multi Language	Select either Yes or No to enable multi language support.
Pre Provision Custom Script	Select an uploaded script to execute prior to provisioning the environment. See Upload Custom Scripts Page
Post Provision Custom Script	Select an uploaded script to run post provisioning. See Upload Custom Scripts Page

Image: DB Systems Section for VM

This example illustrates the fields and controls on the DB Systems section when the database system is on a vm. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Edit Custom Attributes' page for 'DB Systems'. It has three main sections: 'General Settings', 'Subnet Settings', and 'DB System Options'. 'Subnet Settings' has one row with a dropdown for 'Subnet For Primary Instance'. 'DB System Options' has seven rows with various fields: 'Software Release' (dropdown), 'Display Name' (text), 'Auto Backup' (toggle set to NO), 'License Type' (dropdown with 'License Included' selected), 'Node Count' (text with '1'), 'Software Edition' (dropdown), and 'Cluster Name' (text). Each row has a question mark icon for help.

Subnet for Primary Settings	A subnet is a subdivision of Oracle Cloud network. Subnets can be either public or private. You choose this during subnet creation, and you can't change it later. For details, refer OBE Installation Guide for Cloud Manager.
Software Release	Oracle database release version. The only supported version is Oracle Database 12c Release 1. The database release version must be chosen based on the database version in PeopleSoft Image or customer's lifted database version.
Display Name	Display name for the DB system. The name doesn't need to be unique. An Oracle Cloud Identifier (OCID) will uniquely identify the DB system.
Auto Backup	Displays whether automatic incremental backups for this database is enabled or disabled.

License Type

The type of license you want to use for the DB system. Your choice affects metering for billing. License included means the cost of the cloud service includes a license for the Database service. Bring Your Own License (BYOL) means you are an Oracle Database customer with an Unlimited License Agreement or Non-Unlimited License Agreement and want to use your license with Oracle Cloud Infrastructure. This removes the need for separate on-premises licenses and cloud licenses.

Node Count

The number of nodes in the DB system. The number depends on the shape you select. You can specify 1 or 2 nodes for virtual machine DB systems, except for VM.Standard2.1 and VM.Standard1.1, which are single-node DB systems.

Note: Some shapes may not be available in new tenancies.

- VM.Standard1.1: Provides a 1-node DB system with 1 core.
- VM.Standard1.2: Provides a 1- or 2-node DB system with 2 cores.
- VM.Standard1.4: Provides a 1- or 2-node DB system with 4 cores.
- VM.Standard1.8: Provides a 1- or 2-node DB system with 8 cores.
- VM.Standard1.16: Provides a 1- or 2-node DB system with 16 cores.
- VM.Standard2.1: Provides a 1-node DB system with 1 core.
- VM.Standard2.2: Provides a 1- or 2-node DB system with 2 cores.
- VM.Standard2.4: Provides a 1- or 2-node DB system with 4 cores.
- VM.Standard2.8: Provides a 1- or 2-node DB system with 8 cores.
- VM.Standard2.16: Provides a 1- or 2-node DB system with 16 cores.
- VM.Standard2.24: Provides a 1- or 2-node DB system with 24 cores.

Note: Except 1.1 and 2.1, all other shapes seem to be supported for RAC (2-node DB system).

Software Edition

The database edition supported by the DB system.

Cluster Name

A unique cluster name for a multi-node DB system. The name must begin with a letter and contain only letters (a-z and A-Z),

numbers (0-9) and hyphens (-). The cluster name can be no longer than 11 characters and is not case sensitive.

Example Database Systems on Bare Metal

Image: DB Systems – Subnet Settings and DB System Options for Bare Metal

This example illustrates the fields and controls on the DB Systems – Subnet Settings and DB System Options. You can find definitions for the fields and controls later on this page.

DB System Options		
1	Total Node Count	1
2	CPU Core Count	
3	Data Storage Percentage	80%
4	Disk Redundancy	High
5	Software Release	
6	Display Name	
7	Auto Backup	NO
8	License Type	License Included
9	Software Edition	

Total Node Count

The number of nodes in the DB system. Only single node DB systems are supported for BM shapes.

CPU Core Count

Number of CPU cores enabled on the Database System. Cloud Manager does not validate the core count, therefore you must use the correct core count for the BM shape selected in the topology configuration or the deployment may fail.

Data Storage Percentage

Percentage assigned to DATA storage including user data and database files. The remaining percentage is assigned to RECO storage including database redo logs, archive logs, and recovery manager backups. Accepted values are 40% and 80%.

Disk Redundancy

Type of redundancy configured for the Database System. Normal is 2-way redundancy. High is 3-way redundancy. Allowed values are High and Normal

Software Release

Oracle database release version. The only supported version is Oracle Database 12c Release 1. The database release version must be chosen based on the database version in PeopleSoft Image or customer's lifted database version.

Display Name

Display name for the DB system. The name doesn't need to be unique. An Oracle Cloud Identifier (OCID) will uniquely identify the DB system.

Auto Backup

Displays whether automatic incremental backups for this database is enabled or disabled.

License Type

The type of license you want to use for the DB system. Your choice affects metering for billing. License included means the cost of the cloud service includes a license for the Database service. Bring Your Own License (BYOL) means you are an Oracle Database customer with an Unlimited License Agreement or Non-Unlimited License Agreement and want to use your license with Oracle Cloud Infrastructure. This removes the need for separate on-premises licenses and cloud licenses.

Software Edition

The database edition supported by the DB system.

Example Full Tier Node

Based on the topology selected, the middle tier will contain the appropriate settings for the node. The examples in this section display Fulltier.

Image: Full Tier - General Settings

This example illustrates the fields and controls on the Full Tier - General Settings. You can find definitions for the fields and controls later on this page.

Environment Template			
1 General Details		2 Select Topology	3 Define Security
		4 Summary	
General Settings			
1	Weblogic Administrator Username	system	?
2	PeopleSoft Deployment Path	/u01/app/oracle/product	?
3	Database Access Id	SYSADM	?
4	Database Connect Id	people	?
5	Enable EM agent	NO	?
6	Database Name	PSPDB	?
7	Gateway Administrator Username	administrator	?
8	Database Operator Id	PS	?
9	Database Server Port	1522	?
10	Database Type	DEMO	?
11	Enable Multi Language	NO	?
12	Pre Provision Custom Script		?
13	Post Provision Custom Script		?
14	COBOL Compiler Type	Visual COBOL	?

Weblogic Administrator Username

User name of the Weblogic administrator. This is used for accessing weblogic console.

PeopleSoft Deployment Path

Location where the PeopleSoft application is deployed.

Database Access ID	Access Id for the database.
Database Connect ID	Connect Id for the database.
Enable EM Agent	Select either Yes or No to enable or disable EM agent.
Database Name	Name of the database
Gateway Administrator Username	User Id of gateway administrator.
Database Operator ID	Database Operator ID.
Database Server Port	Listener port number.
Database Type	Select the required database type. Available database types are DEMO or SYS.
Enable Multi Language	Select either Yes or No to enable multi language support.
Pre Provision Custom Script	Select an uploaded script to execute prior to provisioning the environment. See Upload Custom Scripts Page
Post Provision Custom Script	Select an uploaded script to run post provisioning. See Upload Custom Scripts Page
Cobol Compiler Type	If COBOL is enabled in the selected topology, you must select the Cobol compiler type, Server Express or Visual COBOL.

Note: The COBOL license must be configured on the Cloud Manager Settings page. See [Cloud Manager Settings Page](#)

Image: Fulltier Subnet Settings

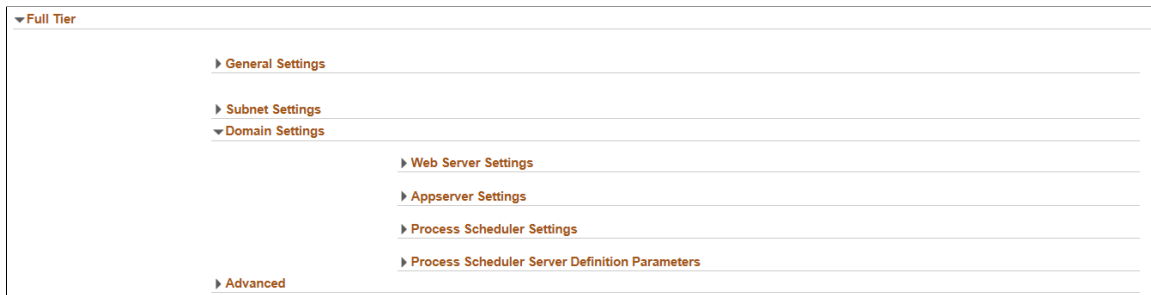
This example illustrates the fields and controls on the Fulltier Subnet Settings. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Full Tier' configuration page. Under the 'Subnet Settings' tab, there is a table with one row. The row has a column for the subnet name, which is 'ad3sub', and a checkbox that is checked. The table is labeled '1 row'.

Full Tier	
General Settings	
Subnet Settings	
1	Subnet For Primary Instance
	ad3sub
	<input checked="" type="checkbox"/>
Domain Settings	
Advanced	

Image: Full Tier – Domain Settings

This example illustrates the fields and controls on the Full Tier – Domain Settings. You can find definitions for the fields and controls later on this page.



Full tier includes Web Server, Appserver and Process Scheduler.

Web Server Settings

For Web Server setting see [Configuring WebServer Tier Settings](#).

Appserver Setting

For App Server Setting see [Configuring AppServer Tier Domain Settings](#).

Process Scheduler Settings

For Process Scheduler Setting see [Configuring Process Scheduler Domain Settings](#).

Process Scheduler Server Definition Parameters

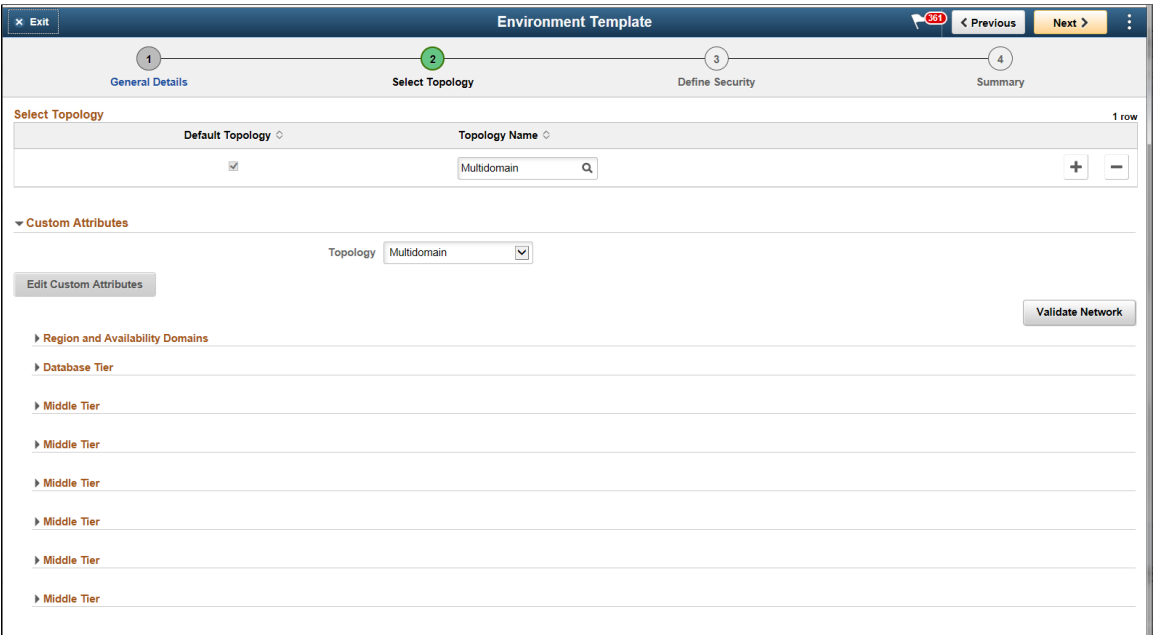
For Process Scheduler Setting see [Configuring Process Scheduler Domain Settings](#).

Configuring Distributed Middle Tier Environment Template Settings

For templates using a topology with multiple middle tiers, you will configure the custom attributes for each middle tier.

Image: Custom Attributes section

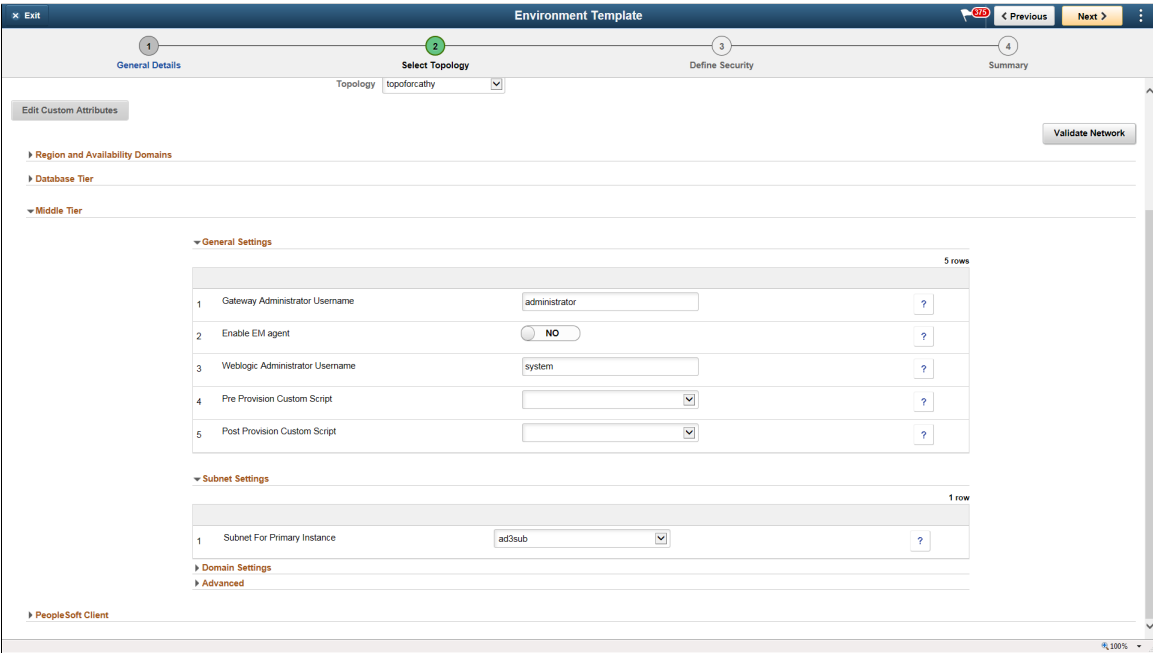
This example illustrates the fields and controls on the Custom Attributes section showing multiple middle tiers.



Configuring WebServer Tier Settings

Image: Middle Tier –General and Subnet Settings for Webserver

This example illustrates the fields and controls on the Middle Tier –General and Subnet Settings. You can find definitions for the fields and controls later on this page.



Gateway Administrator Username User Id of gateway administrator.

- Enable EM Agent

Select either Yes or No to enable or disable EM agent.
- Weblogic Administrator Username

User name of the Weblogic administrator. This is used for accessing weblogic console.
- Pre Provision Custom Script

Select an uploaded script to execute prior to provisioning the environment.

See [Upload Custom Scripts Page](#)
- Post Provision Custom Script

Select an uploaded script to run post provisioning.

See [Upload Custom Scripts Page](#)

Image: Domain Setting for Webserver tier

This example illustrates the fields and controls on the Domain Setting for Webserver tier. You can find definitions for the fields and controls later on this page.

▼ Middle Tier

► General Settings

► Subnet Settings

▼ Domain Settings

▼ Web Server Settings

4 rows

1	Number of Domains	<input type="text" value="2"/>	?
2	Authentication Domain	<input type="text"/>	?
3	HTTP PIA Port	<input type="text" value="8000,8010"/>	?
4	HTTPS PIA Port	<input type="text" value="8443,8453"/>	?

► Advanced

- Number of Domains

Enter the number of web server domains. Number of domains can be 1 to 5.
- Authentication Domain

The domain in which the portal is running and across which the single sign-on authentication token is valid.
- HTTP PIA Port

There will be as many ports, equal to the given number of domains, separated by comma.
- HTTPS PIA Port

There will be as many ports, equal to the given number of domains, separated by comma.

Configuring AppServer Tier Domain Settings

Image: Domain Settings for Appserver

This example illustrates the fields and controls on the Domain Settings for Appserver. You can find definitions for the fields and controls later on this page.

Appserver Settings		
1	Number of Domains	2
2	Number of App Server Instance (PSAPPSRV services) Per Domain	2
3	Number of Query Server Instances (PSQRYSRV services) Per Domain	1
4	Number of SQL Access App Server (PSSAMSRV services) Per Domain	1
5	Number of Jolt Listener (Jolt Handler) Per Domain	3
6	Jolt Port	9033
7	WSL Port	7000
8	Enable IB settings on first domain	YES
9	Number of App Server instance (PSAPPSRV services) for IB	2
10	Number of SQL Access App Server (PSSAMSRV services) for IB	1
11	Number of PSBRKIND instances for IB	1
12	Number of PSSUBIND instances for IB	1
13	Number of PSPUBIND instances for IB	1

Number of Domains

Number of application server domains. Number of domains can be 1 to 5.

Number of App Server Instance Per Domain

Number of PSAPPSRV instances required. This configuration is applied to all App Server domains.

Number of Query Server Instances Per Domain

Number of PSQRYSRV instances required. This configuration is applied to all App Server domains.

Number of SQL Access App Server (PSSAMSRV) Per Domain

Number of PSSAMSRV instances required. This configuration is applied to all App Server domains.

Number of Jolt Listener per Domain

Number of Jolt Listener per Domain

Jolt Port

There will be as many ports, equal to the given number of domains, separated by comma.

WSL Port

There will be as many ports, equal to the given number of domains, separated by comma.

Enable IB Domain on first Domain

If Yes is selected IB will be enabled in the first App Domain.

Number of App Server Instance (PSAPPSRV services) for IB

Number of App Server Instance (PSAPPSRV services) for IB

Number of SQL Access App Server (PSSAMRSRV services) for IB

Number of SQL Access App Server (PSSAMRSRV services) for IB

Number of PSBRKHND instances for IB

Number of PSBRKHND instances for IB

Number of PSSUBHND instances for IB

Number of PSSUBHND instances for IB

Number of PSPUBHND instances for IB

Number of PSPUBHND instances for IB

Configuring Process Scheduler General Setting

If the middle tier is Process Scheduler and COBOL is enabled in the topology, the General Setting will include Cobol Compiler Type.

Image: Process Scheduler Middle Tier - General Setting

This example illustrates a Process Scheduler middle tier node, where COBOL is enabled in the topology.

▼ Middle Tier

▼ General Settings

6 rows

1	Gateway Administrator Username	<input type="text" value="administrator"/>	?
2	Enable EM agent	<input type="radio"/> NO	?
3	Weblogic Administrator Username	<input type="text" value="system"/>	?
4	Pre Provision Custom Script	<input type="text"/>	?
5	Post Provision Custom Script	<input type="text"/>	?
6	Cobol Compiler Type	<input type="text" value="Visual Cobol"/>	?

Configuring Process Scheduler Domain Settings

Image: Domain Settings for Process Scheduler Settings and Process Scheduler Server Definition Parameters

This example illustrates the fields and controls on the Domain Settings for Process Scheduler Settings and Process Scheduler Server Definition Parameters. You can find definitions for the fields and controls later on this page.

Environment Template

1 General Details 2 Select Topology 3 Define Security 4 Summary

▼ Middle Tier

► General Settings

► Subnet Settings

▼ Domain Settings

▼ Process Scheduler Settings 3 rows

1	Number of Domains	2	?
2	Number of App Engine Server Instances(PSAESRV services) Per Domain	2	?
3	Number of App Engine Server Instances(PSDSTSRV services) Per Domain	2	?

▼ Process Scheduler Server Definition Parameters 7 rows

1	Application Engine	1	?
2	XML Publisher	1	?
3	COBOL SQL	1	?
4	Optimization Engine	1	?
5	SQR Process	1	?
6	SQR Report	1	?
7	Max Api Aware	1	?

Process Scheduler Settings

Number of Domains

Number of process scheduler domains.

Number of App Engine Server Instances(PSAESRV services) Per Domain

Number of application engines required.

Number of App Engine Server Instances(PSDSTSRV services) Per Domain

Number of application servers required.

Process Scheduler Server Definition Parameters

Application Engine

Number of application engine processes.

XML Publisher

Number of XML publishers.

COBOL SQL

Number of COBOL SQL processes.

Optimization Engine

Number of optimization engines.

SQR Process

Number of SQR processes.

SQR Report

Number of SQR reports.

Max Api Aware

Number of Max Api Aware.

Environment Template – Define Security Page

Use the Environment Template – Define Security page to associate the zone in which the environment is created and the role that will have access to the template.

Navigation

- Click Next on the Select Topology step.
- Click Step 3, Define Security, at the top of the page to navigate to the Environment Template – Define Security page in the guided process.

Image: Environment Template – Define Security Page

This example illustrates the fields and controls on the Environment Template – Define Security Page.

Environment Template							
1 General Details		2 Select Topology		3 Define Security		4 Summary	
Assign Template to Zone(s)							
Zone Name							
1	Test						
Assign Template to Role(s)							
Role Name							
1	PACL_CAD						
2	PACL_PAD						
3	PACL_SSC						

Zone Name

Indicates the zone in which the environment is created.

Role Name

Indicates the roles that have access to the template for creating environments. Only the users belonging to the role specified will be able to access the template while creating environment.

The delivered Cloud Manager roles are:

- Cloud Administrator (PACL_CAD)
- Cloud PeopleSoft Administrator (PACL_PAD)
- Self-Service User (PACL_SSC)

Environment Template – Summary Page

Use the Environment Template – Summary page (ECL_TEMPL_REV_FL) to review and submit the template details.

Navigation

- Click Next on the Define Security step.
- Click step 4, Summary, at the top of the page to navigate to the Environment Template – Define Security page in the guided process.

Image: Environment Template – Summary Page

This example illustrates the fields and controls on the Environment Template – Summary page.

The screenshot shows the 'Environment Template' wizard at the 'Summary' step. The progress bar at the top indicates four steps: 1. General Details, 2. Select Topology, 3. Define Security, and 4. Summary (which is the active step). The main content area is divided into three sections: General Details, Topology, and Security. The General Details section shows 'Template Name: IH Template', 'Description: Template for IH', and 'Database: DBAAS5PM PSPDB 20170120-172314'. The Topology section shows 'Selected topology: Lift and Shift - DBaaS'. The Security section shows 'Selected Zone: Test', 'Selected Role: ACM Administrator', and 'Auto-generate Passwords: No'. At the top right, there are buttons for 'Exit', 'Previous', and 'Submit', along with a notification icon showing '14'.

The details provided in all the pages in the Environment Template wizard is displayed here.

Submit

Click this button to submit the details for template creation.

Edit/Delete/Clone an Existing Template

User can edit, delete or clone the existing templates using the Environment Template landing page.

Note: It is recommended to recreate the existing templates to ensure that the new custom attributes are available in the template.

- To edit an existing template details, click a row and modify the details as per requirement.
- To delete an existing template, select the radio button corresponding to the template which you want to delete and click the Delete button. Users cannot delete a template, if it is already used for defining an environment.
- To clone an existing template, select the radio button corresponding to the template which you want to clone and click the Clone button available on the Environment Template landing page. The Clone Template modal window is displayed, wherein you can enter the new template name and click the Clone button. The new template is added to the template list.

Default Environment Templates

A default template is provided for Lift and Shift, which is used during environment shifting by default. This Lift and Shift template and its associated topology must be modified such that it is suitable for the

environment being shifted. The Lift and shift topology is fixed in terms of number of nodes, but the shape and disk space parameters can be modified. For any environment to be provisioned in CM, the administrator creates a template and a user uses that template to provision. In case of Lift and Shift, a default template is provided out of the box and there is no need to create any templates. When an administrator creates an environment on the Lift and Shift page, the process automatically chooses the default Lift and Shift template. This Lift and Shift template must be modified to suit the environment being shifted. For more details, see [Understanding the Lift and Shift Process](#).

Managing Environments

Cloud Manager provisions PeopleSoft environments on-demand with just a few clicks. The entire provisioning process is automated. At the end of provisioning, a ready-to-use environment is available within a short time. The environments can be created by a three step process:

1. Create Topology
2. Create Template
3. Create Environment

Note: Prior to creating an environment, ensure that the required DPKs are already downloaded in the Repository.

An administrator defines a template for creating an environment. The topology is encapsulated inside the template. Users can select a template, override topologies, change any attributes, if needed and provision PeopleSoft environments on demand.

Users are allowed to perform actions on a running environment, such as stop, view details, create new template from it, and so on. For details, see the Actions on the Environment section under the [Create Environment Page](#).

Note: Also, you must ensure to tune the servers, database, and PeopleSoft system for optimum performance once the deployment is completed.

Pages Used to Manage Environments Tile as an Administrator

<i>Page Name</i>	<i>Definition Name</i>	<i>Usage</i>
Environments Tile	ECL_ENVPROV_FL_GBL (CREF for tile)	Access the Environments landing page.
Environments Page	ECL_ENVPRO_FL	Access the Environments landing page.
Create Environment Page	ECL_ENV_ADD_SCF	Create a new environment.
Environment Details Page	ECL_ENV_DET_FL	Access more details of the environment from one location.

Page Name	Definition Name	Usage
Manage Attributes Page	ECL_ENV_RESET_FL	Update Cloud Manager with environment attributes, if a user modifies it outside Cloud Manager.
Manage PUM Connections Page	ECL_SA_MANAGEPM_FL	Manage PUM connections.
Apply PeopleTools Patch Page	ECL_ENV_PTCHUPD_FL	Apply latest patches.
Upgrade PeopleTools Page	ECL_ENV_UPGD_FL	Update PeopleTools version (major version changes).
Provisioning Status Page	PROV_DETAILS_DIAGR	View environment provisioning status.
Logs Page	ECL_ESEARCH_FL	View logs of all operations such as create, delete, actions performed on the environment, and the like.

Environments Tile

Use Environments tile (ECL_ENVPROV_FL_GBL) to access the Environments landing page.

Navigation

The the Environments tile is delivered as part of the Cloud Manager home page.

Image: Environments tile

This example illustrates the Environments tile.



Environments Page

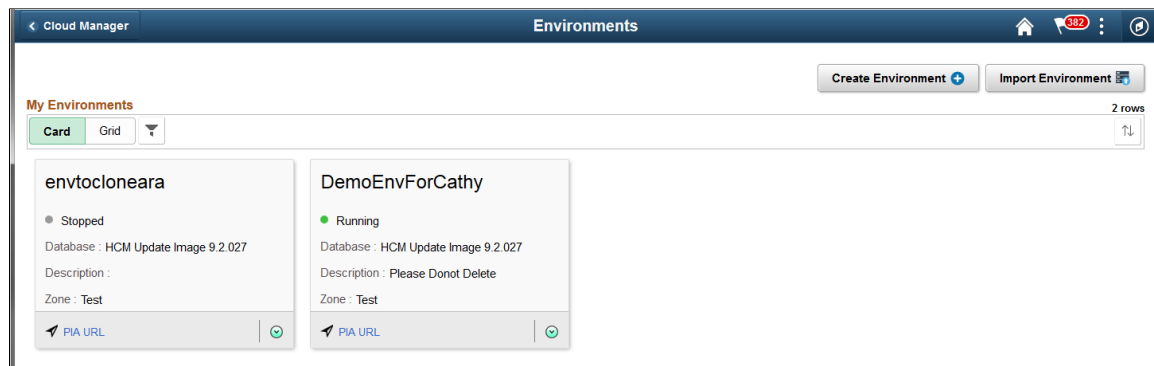
Use the Environments page (ECL_ENVPRO_FL) to access the Environments landing page.

Navigation

Click the Environment tile on the delivered Cloud Manager Fluid home page. The Environments page is displayed.

Image: Environments page

This example illustrates the fields and controls on the Environments page. You can find definitions for the fields and controls later on this page.



Name

Name of the environment.

Note: Length of Environment name and identity domain name should not exceed 20 characters in OCI.

Status

Status of the environment provisioned through Cloud Manager.

The different statuses associated with the environment are:

- Initiating – Environment provisioning is getting initiated.
- Provisioning – Environment is getting provisioned.
- Failed – The last action performed on the environment failed.
- Stopping – Environment is stopping.
- Starting – Environment is starting.
- Running – Environment is running.
- Suspended – Environment is suspended. This status is displayed only when you perform Clone to Template operation on the environment.
- Deleting – Environment is getting deleted.
- Applying PeopleTools Patch – PeopleTools patch is being applied on the environment.
- Upgrading PeopleTools

Description

Meaningful description of the environment.

Zone

Zone in which the environment is deployed.

PIA URL

Indicates the URL used to connect to the provisioned environment.

Create Environment button	Click this button to access the Create Environment page, where you can create new environments.
Related Actions button	Click this button to perform different actions for managing the environment as a whole. For details, see the Actions on the Environment section under the Create Environment Page .
Import Environment button	Click this button to import a database system environment. See Importing Environment

Create Environment Page

Use the Create Environment page (ECL_ENV_ADD_SCF) to create a new environment.

Important! Before creating an environment in OCI, ensure that the template is updated with OCI-specific Infrastructure Settings such as region, compartment, VCN and subnet settings.

Note: Deploying a PI image requires a Windows image which is updated with latest Windows updates and patches must be used. If the Windows image is not on the latest updates and patches the provisioning of PeopleSoft Client will fail. Refer to the OBE [Creating a Custom Windows Image for PeopleSoft Cloud Manager in Oracle Cloud Infrastructure](#)

Navigation

Click the Create Environment button on the Environments landing page.

Image: Create Environment page

This example illustrates the fields and controls on the Create Environment page. You can find definitions for the fields and controls later on this page.

Environment Name Name of the environment that you want to create.

Note: Length of environment name and identity domain name must not exceed 20 characters in OCI.

Description Meaningful description for the environment that you want to create.

Template Name Select a template and the zone. On selecting the template, zone options are automatically displayed.

For details on templates, see the Creating a Template section under [Environment Template Page](#).

Creating an Environment

Important! Before creating an environment in OCI, ensure that the template is updated with OCI-specific Infrastructure Settings such as region, compartment, VCN and subnet settings.

To create an environment:

1. Enter the required environment attributes and credentials.
2. Click Done to start environment provisioning.

Alternately, you can override the default topology and environment attributes while environment provisioning.

The default database operator id for each PeopleSoft PUM instance is listed below:

- For HCM, default database operator id is PS.
- For FSCM, default database operator id is VP1.
- For CRM, default database operator id is VP1
- For ELM, default database operator id is PS
- For IH, default database operator id is VP1
- For CS, default database operator id is PS

Overriding Default Topology and Attributes

If you want to override default topology and attributes, perform the following:

1. Select Yes in Override Topology field.

Image: Create Environment-Override Topology field

This example illustrates the fields and controls on the Create Environment-Override Topology field. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Create Environment' dialog box. The 'Environment Name' is 'IH' and the 'Description' is 'UI for IH'. The 'Template Name' is 'HCM PUMFT' and the 'Zone' is 'Development'. Under the 'Topology' section, the 'Override Topology' toggle is set to 'No' and is highlighted with a red box. Below it, the 'Topology' dropdown is set to 'PUM Fulltier'. Under 'Environment Attributes', the 'Full Tier' dropdown is expanded, showing 'PUM Fulltier' selected. At the bottom, the 'Credentials' section is visible with a table of 12 rows.

2. Select an appropriate Topology. Corresponding description is displayed in the below text area.
3. Input the required environment attributes. The different attributes are:
 - Full Tier: Full Tier is the VM where application server domain, process scheduler domain, and the web server domain are installed.
 - Middle Tier: Middle Tier is the VM where application server domain, process scheduler domain, and the web server domain are installed.
 - Database Tier: Database tier is the VM where the database (non-DbaaS) is installed for the new PSFT system.
 - PeopleSoft Client: PeopleSoft Client is the VM where PeopleTools client (for example, pside) and change assistant are pre-installed
 - Database as a Service: PeopleSoft database is deployed on DBaaS.
 - Elasticsearch Tier: Elasticsearch Tier is the VM where Elasticsearch server is installed.
4. Enter the PeopleSoft Client credentials and other required attributes.

Note: In case of OCI, the password for the PeopleSoft Client instance should meet the password complexity as per the OCI requirement.

Some custom attributes are displayed based on the selected topology nodes. If you select an elastic search node, then you need to provide a couple of input parameters and passwords. Currently, if you are using the ES DPK setup script for installing Elasticsearch, then system will not prompt for the admin and proxy usernames. Therefore, it is always esadmin and people for admin and proxy respectively. Password must be of at least 9 characters long and contain a numeric and one uppercase letter. Special characters are not accepted.

5. Click Done to start environment provisioning.

Note: Please ensure to tune the servers, database, and PeopleSoft system for optimum performance once the deployment is completed.

Actions on the Environment

You can perform a variety of actions on the environment by using the Related Actions button corresponding to each environment. The actions can be:

- Details: Select this option to view environment details and to perform additional actions on the environment such as performing a health check, applying a PeopleTools patch, viewing logs, and managing PUM connections.
- Start: Select this option to start all MT domains and database.
- Stop: Select this option to stop all MT domains and database.
- Delete: Select this option to remove the environment.
- Manage Node: Select this option to scale environment up or down.

- **Clone to Template:** Select this option to create a point-in-time copy of the environment in the form of DPKs out of the running environment and to automatically generate a template that can be used for provisioning again.

Environment Details Page

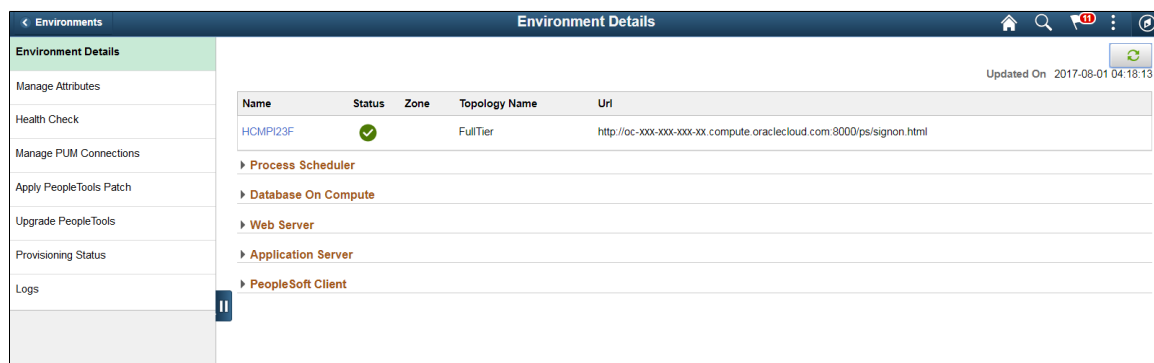
The Environment Details page (ECL_ENV_DET_FL) is a navigation collection that enables administrators to access more details of the environment from one location. It also enables the user to perform additional actions that can be performed on the environment such as performing a health check, applying a PeopleTools patch, viewing logs, and managing PUM connections.

Navigation

Click the Related Actions button corresponding to the environment. Select Details. The Environment Details page is displayed.

Image: Environments Details Page

This example illustrates the fields and controls on the Environments Details Page. You can find definitions for the fields and controls later on this page.



Refresh button

Click the Refresh button, at the upper-right corner of the page, to fetch the current status of the environment.

Process Scheduler

This section provides details of the process scheduler component of the deployed PeopleSoft application environment. 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.

Database on: Compute

This section provides details of the database server of the deployed PeopleSoft application environment. The 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 Interaction Hub.

Webserver

This section provides details of the web server component of the deployed PeopleSoft application environment.

Appserver

This section provides details of the application server component of the deployed PeopleSoft application environment. The application server acts as the business logic engine of the PeopleSoft system.

Database on: DBaaS

This section provides details of the database server of the deployed PeopleSoft application environment. The 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 Interaction Hub.

Note: The 'Database on: DBaaS' section is displayed only when a user selects 'Database as a Service' node in topology.

PeopleSoft Client

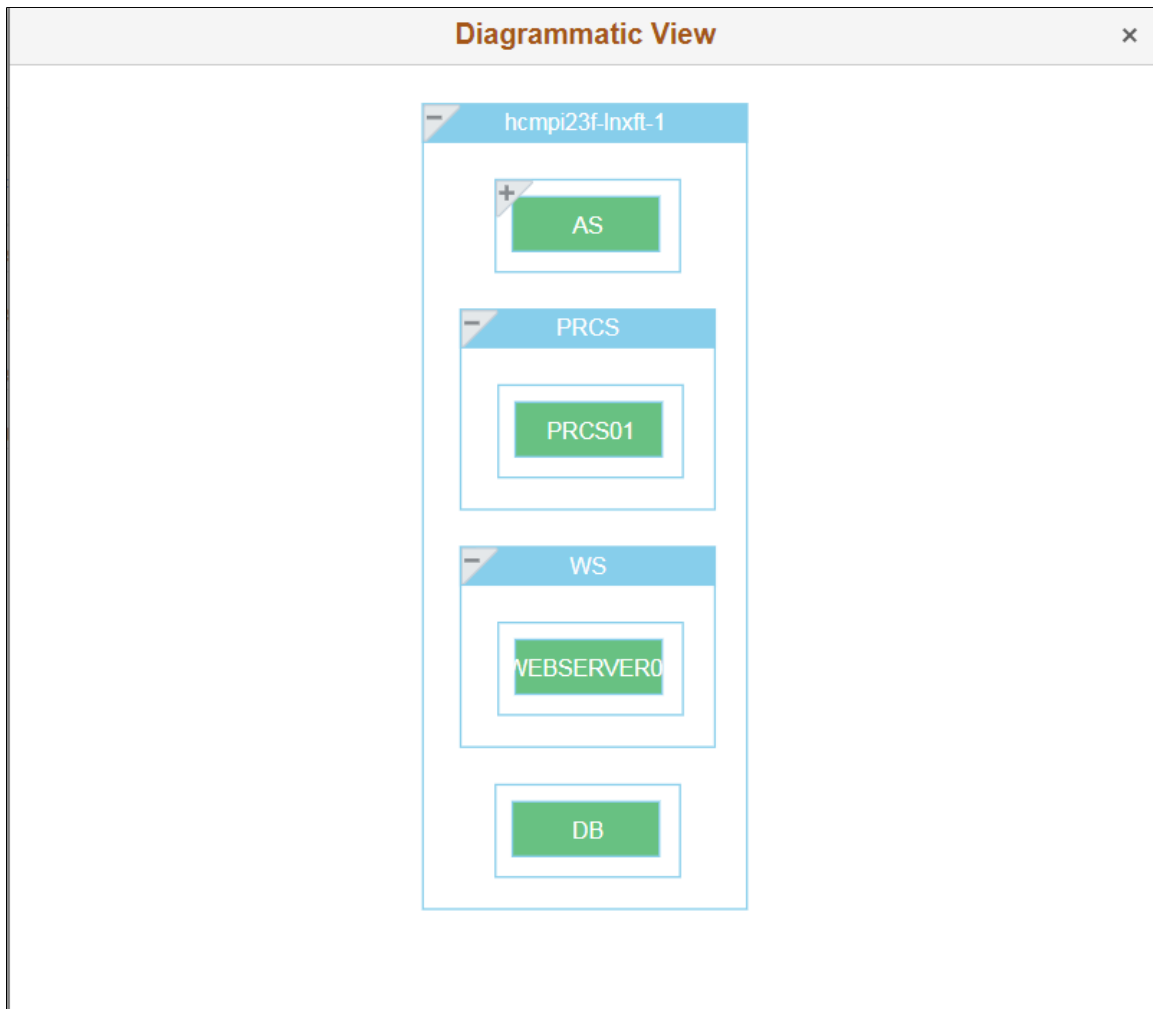
This section provides details of the Windows Client of the deployed PeopleSoft application environment. This is the Microsoft Windows virtual machine on which PeopleSoft Application Designer and PeopleSoft Change Assistant will be installed.

Note: To access PSIDE (PeopleSoft Application Designer) and Change Assistant applications for this environment, you need to RDP to Windows VM using the IP address or hostnames provided under the PeopleSoft Client section.

Click the environment name to view a diagrammatic representation of all the instances and domains running inside the VMs as shown.

Image: Diagrammatic View

This example illustrates the fields and controls on the Diagrammatic View page.

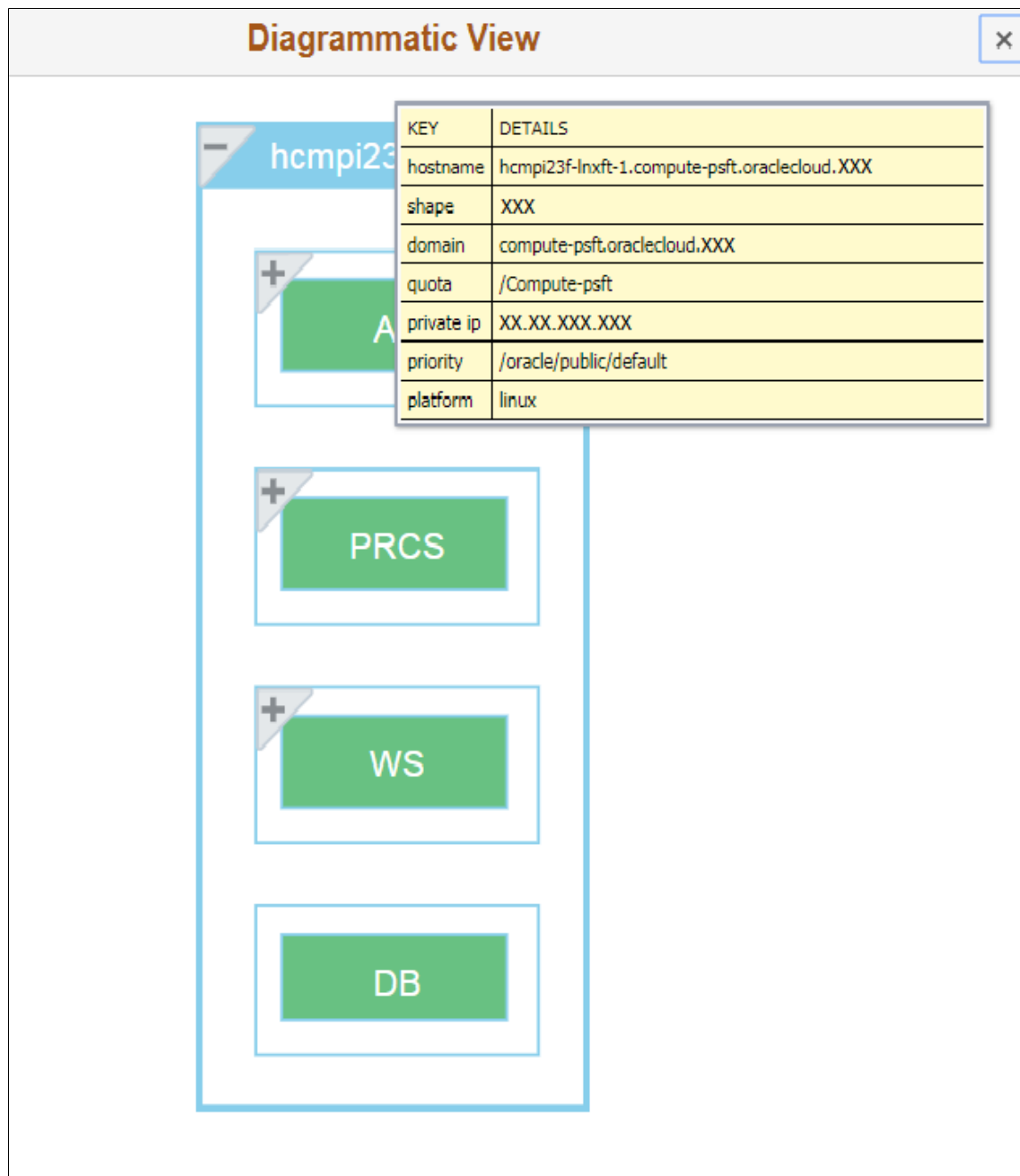


Hover the mouse over each instances for viewing the details.

You can view the status of different PeopleSoft services running within the VMs (application servers domains, process scheduler domains, web server domain, and the like) as shown:

Image: Diagrammatic View Instance Details

This example illustrates the fields and controls on the Diagrammatic View Instance Details page.



As an illustration, Process Scheduler domain details are described in the following section.

Process Scheduler Domain

This section provides details of the process scheduler component of the deployed PeopleSoft application environment. 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.

Navigation

Expand Process Scheduler available on the Environment Details page.

Image: Process Scheduler Section

This example illustrates the fields and controls on the Process Scheduler section.

Process Scheduler				
Instance : hcmpi23f-lnxft-1				
Name	Status	Type	Platform	Host Name
hcmpi23f-lnxft-1	✓	Full Tier Instance	linux	hcmpi23f-lnxft-1.compute-psft.oraclecloud.xxx
Domains				
Name	Status	procs_server_name	db_name	
PRCS01	✓	PRCS8091	PSPDB	

Instance Details Modal Window

Use Instance Details modal window to view more details about the virtual machine.

Navigation

Click on the instance name.

Image: Instance Details modal window

This example illustrates the fields and controls on the Instance Details modal window.

Instance Details: xxxxpi23f-xxxxx:1

✕

▼ Configuration

Attribute Name	Attribute Value
priority	/oracle/public/default
private ip	XX.XX.XXX.XXX
quota	/Compute-psft
domain	compute-psft.oraclecloud.xxx
shape	XXX

▼ Storage Volumes

Name	Status	Size
xxxxpi23f-XXXt-1_storage_2	Online	100 GB
xxxxpi23f-XXX-1_storage_1	Online	30 GB

Domain Details Modal Window

Use the Domain Details modal window to view domain details.

Navigation

Click on the domain name.

Image: Domain Details Modal Window

This example illustrates the fields and controls on the Domain Details Modal Window.

Domain Details: PRCS

▼ **Configuration**

Attribute Name	Attribute Value
db_name	PSPxxx
connect_id	people
prcs_server_name	PRCSxxx1
db_type	ORACLE
opr_id	PS

▼ **Enabled Features**

Name
Master Scheduler
App Engine
Perf Collator

Master Scheduler, App Engine, and Performance Monitor features can be enabled for the instance.

Accessing Provisioned Environments

To access PIA of provisioned environment, click on the PIA URL link on the environment card. This will launch PIA of the newly created environment. To view more details about the environment, refer to [Environment Details Page](#).

Note: If environments are provisioned on private subnets, then use a Bastion server or a Windows instance as a jump host. The bastion or the Windows instance must be set up on a public subnet accessible from Internet.

Linux instances can be accessed using SSH. SSH private keys are required to connect to the provisioned instances. There are two private keys that can be used:

1. Cloud Manager SSH Keys for Administration - This is the SSH key pair that is created by Cloud Manager and the public key is automatically injected into the newly provisioned instances. The SSH private key file `cm_adm_pvt_key` is available under `/home/psadm2/psft/data/cloud/ocihome/keys/`.

2. User SSH key - A Cloud Manager user can create a set of SSH key pair and configure the public key in My Settings page. Using the private key, user can connect to the provisioned instances. For more details refer [Configuring My Settings](#).

Windows instances can be accessed using RDP. Ensure to enable RDP ports in OCI security lists, as well as in the client side firewalls.

The IP addresses for Linux and Windows instances can be determined from the Environment Details Page. See [Environment Details Page](#).

Important! It is user's responsibility to backup SSH keys for Administration and User SSH Keys to avoid losing access to provisioned instances due to loss of Cloud Manager instance or any fatal failures.

Updating SSH Keys

In Oracle Cloud Infrastructure, SSH keys are used to provide secure access to all Linux instances. It is user's responsibility to manage and secure the SSH keys that are used in OCI. Cloud Manager also uses SSH keys for managing environment nodes. Cloud Manager injects two SSH public keys into any node that it provisions. The SSH keys are:

1. SSH keys for Administration

This key pair is generated by Cloud Manager at the time of installation (bootstrap). This key pair is used to connect and manage Linux instances provisioned as PeopleSoft environments. The key pair is available under the path - /home/psadm2/psft/data/cloud/ocihome/keys. The two files for this key pair are:

- Private key: cm_adm_pvt_key
- Public key: cm_adm_pvt_key.pub

2. User SSH keys

Users can create their own personal SSH key pair and configure an additional SSH key under [My Settings Page](#). This gets automatically configured in a newly provisioned node, enabling users to use their own keys to access PeopleSoft instances. This key is optional and will be injected into provisioned instances only if it is configured.

Note: SSH keys for Administration will be injected into all provisioned instances, irrespective of User SSH key configuration.

Updating SSH Keys for Administration

Cloud Manager uses SSH keys to connect to Linux instances deployed and managed by it. The public and private SSH key pair used by CM to manage instances are located under /home/psadm2/psft/data/cloud/ocihome/keys. The public key file is cm_adm_pvt_key.pub and the private key file is cm_adm_pvt_key. From time to time, an organization will want to update or rotate SSH keys. For example:

1. A employee who was a Cloud Administrator or Cloud Manager Administrator has left the organization.

2. As a company policy, it is mandated to update keys periodically.

In such situations, an administrator must ensure to update SSH keys on both Cloud Manager instance as well as on all the managed instances that were created by Cloud Manager. The administrator must create a new pair of Administration keys and update in two locations:

- On Cloud Manager

Backup the existing keys and replace the keys `cm_adm_pvt_key.pub` and `cm_adm_pvt_key` under `/home/psadm2/psft/data/cloud/ocihome/keys`. The file names should be retained as it is.

- Managed instances

Using the old private key, SSH into each of the instances provisioned by Cloud Manager as 'opc' user. On the managed instance, update the `/home/opc/.ssh/authorized_keys`. Remove the previous Administration public key entry and add the new public key.

Updating User SSH Keys

To update any user SSH keys that were injected by Cloud Manager:

1. Generate a new pair of user SSH keys.
2. Login to the managed instance using either the existing User SSH key or the Cloud Manager's SSH key for Administration.
3. Update the file `/home/opc/.ssh/authorized_keys` with new key and remove the existing key. Please ensure to remove the correct entry.

Generating New SSH Keys

Guidelines for generating new SSH keys:

1. New SSH key pair must be generated using the `openssh ssh-keygen` utility. If the key pair is generated using any other utility, then it must be converted to `openssh` format before using them in Cloud Manager.
2. Cloud Manager does not support encrypted ssh key. That is, ssh keys should not be protected by a passphrase.
3. When new SSH keys for Administration are generated, ensure to retain the same names for the private and public key files. The permissions of these files should be as shown below.

```
-r-x-----. 1 psadm2 oinstall 1675 Jan 21 08:08 cm_adm_pvt_key
-r-x-----. 1 psadm2 oinstall 382 Jan 21 08:08 cm_adm_pvt_key.pub
```

4. When new User SSH Keys are generated, the file names can be user defined but the permissions must be same as above.

Manage PUM Connections Page

Use the Manage PUM Connections page (`ECL_SA_MANAGEPM_FL`) for setting up environments for selective adoption. This page appears only for environments that were deployed using a PeopleSoft Update Image and has a PeopleSoft Client (Windows Client) as part of the environment. This environment can act as a PUM Source environment. You can manage target databases for the PUM

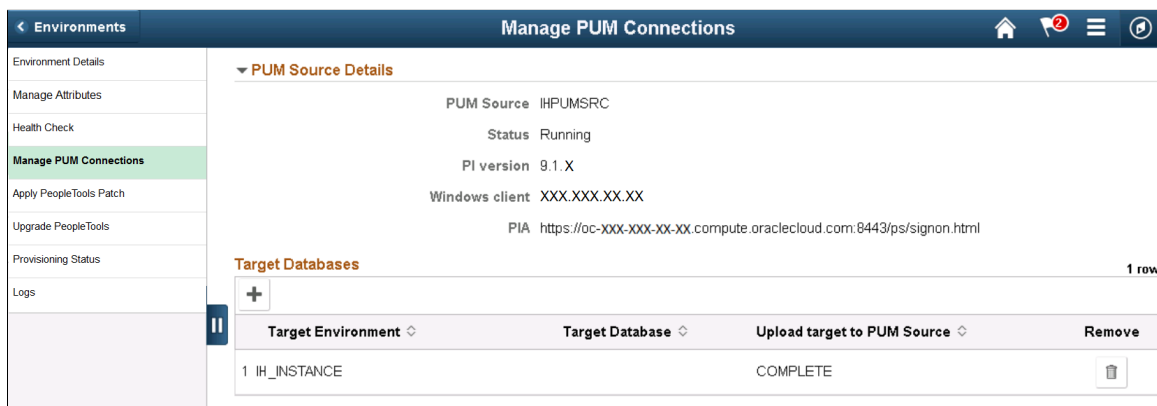
Source from this page, which will add or remove specified target databases to the PUM source environments. After adding target databases, administrators can use the PIA URL shown on this page to access PUM Dashboard to define change packages. To create and apply change packages, access Change Assistant that is installed on the PeopleSoft client. To access Change Assistant, use remote desktop (RDP) to Windows Client.

Navigation

Click the Manage PUM Connections link available on the left panel of the Environment Details page. The Manage PUM Connections page is displayed in the right panel.

Image: Manage PUM Connections Page

This example illustrates the fields and controls on the Manage PUM Connections Page.



Adding Target Databases

To add a target database which you want to update, perform the following:

1. Click Add target button available in the Target Databases section. This displays the Select Target modal window as shown.

Image: Select Target modal window

This example illustrates the fields and controls on the Select Target modal window.



2. Select the required target environment.
3. Click Add. This action starts the 'Add Target' and 'Upload to PUM Source' functionality. The status is displayed as either In progress, Complete or Failed.

Apply PeopleTools Patch Page

Use the Apply PeopleTools Patch page (ECL_ENV_PTCHUPD_FL) for applying latest PeopleTools patches.

Note: For applying PeopleTools patch, please ensure that the corresponding environment has a Windows client.

Navigation

Click the Apply PeopleTools Patch link available on the left panel of the Environment Details page. The Apply PeopleTools Patch page is displayed in the right panel.

Image: Apply PeopleTools Patch page

This example illustrates the fields and controls on the Apply PeopleTools Patch page. You can find definitions for the fields and controls later on this page.



Select a Patch to Apply

Select an appropriate PeopleTools patch to be applied on the target environment.

Apply

Click this button to apply the changes.

Note: User can select the patch update entry from the grid to see a window which shows the tasks executed for the patch update process and their real-time status. There is provision to mark failed tasks as complete so as to complete the patch update use-case in failure scenarios. This is applicable only for OCI.

Note: Ensure that the latest PeopleTools patch is already downloaded and available in the Repository.

Upgrade PeopleTools Page

Use Upgrade PeopleTools page (ECL_ENV_UPGD_FL) to update PeopleTools version (major version changes).

Note: Minimum supported PeopleTools 8.56 patch for shift, PeopleTools update or upgrade is 8.56.02.

Navigation

Click the Upgrade PeopleTools link available on the left panel of the Environment Details page. The Upgrade PeopleTools page is displayed in the right panel.

Note: The Upgrade PeopleTools link is available only if a PUM client is associated with the selected environment.

Note: PeopleTools upgrade to 8.56 requires user to login to the windows client VM at least once before starting the upgrade process.

Image: Upgrade PeopleTools page

This example illustrates fields and controls on the Upgrade PeopleTools page.

The screenshot shows the 'Upgrade PeopleTools' page. On the left is a navigation pane with options: Environment Details, Manage Attributes, Health Check, Manage PUM Connections, Apply PeopleTools Patch, Upgrade PeopleTools (highlighted), Provisioning Status, and Logs. The main content area has a title 'Upgrade PeopleTools' and a sub-header 'Select PeopleTools Release'. It displays 'Current PeopleTools version: 8.55.14' and an 'Upgrade to' dropdown menu. Below this, it says 'Microsoft Windows Client VM (Change Assistant)' and 'Windows Client VM of this environment will be used to apply selected PeopleTools patch.' It also shows 'Microsoft Windows Client VM: xxx-winwc-2'. A note at the bottom states: 'Note – Updated Change Assistant will be installed on this VM and will replace the existing version.' An 'Upgrade' button is located at the bottom left of the main content area.

Upgrade to

Select the major PeopleTools version.

Upgrade

Click this button to apply the changes.

Before doing Upgrade, user must ensure to take a backup of the environment.

After clicking the Upgrade button, a new job with status is displayed as shown.

Image: Upgrade PeopleTools Job Information Page

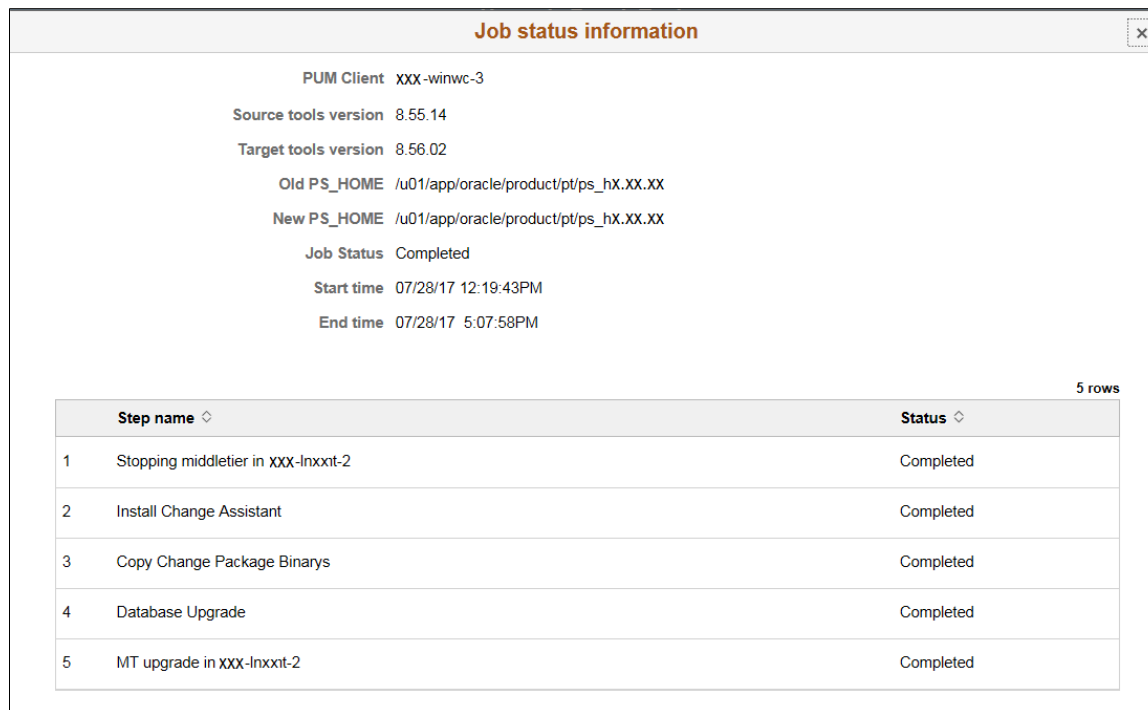
This example illustrates the environment upgraded to 8.57.01 version from 8.56.09.

The screenshot shows the 'Upgrade PeopleTools' page after the upgrade process. The navigation pane is the same. The main content area shows 'Current PeopleTools version: 8.57.01' and an 'Upgrade to' dropdown menu. Below this, it says 'Microsoft Windows Client VM (Change Assistant)' and 'Windows Client VM of this environment will be used to apply selected PeopleTools patch.' It also shows 'Microsoft Windows Client VM: xxx-winx-3.subnet.mycn.com'. A note at the bottom states: 'Note – Updated Change Assistant will be installed on this VM and will replace the existing version.' An 'Upgrade' button is located at the bottom left of the main content area. Below the main content area, there is a table with job information. The table has columns: Job, Status, and Delete History. The table contains one row: 'PeopleTools 8.56.09 upgrade to 8.57.01 on 09-10-2018 8:19:52', 'Completed', and a 'Delete History' button.

Click on the job status, the Job Status Information modal window is displayed where you can view detailed information regarding the job.

Image: Job Status Information Modal Window

This example illustrates the fields and controls on the Job Status Information Modal Window.



You can view upgrade process details such as jobs executed successfully, jobs which are in pending status, and failed jobs.

Provisioning Status Page

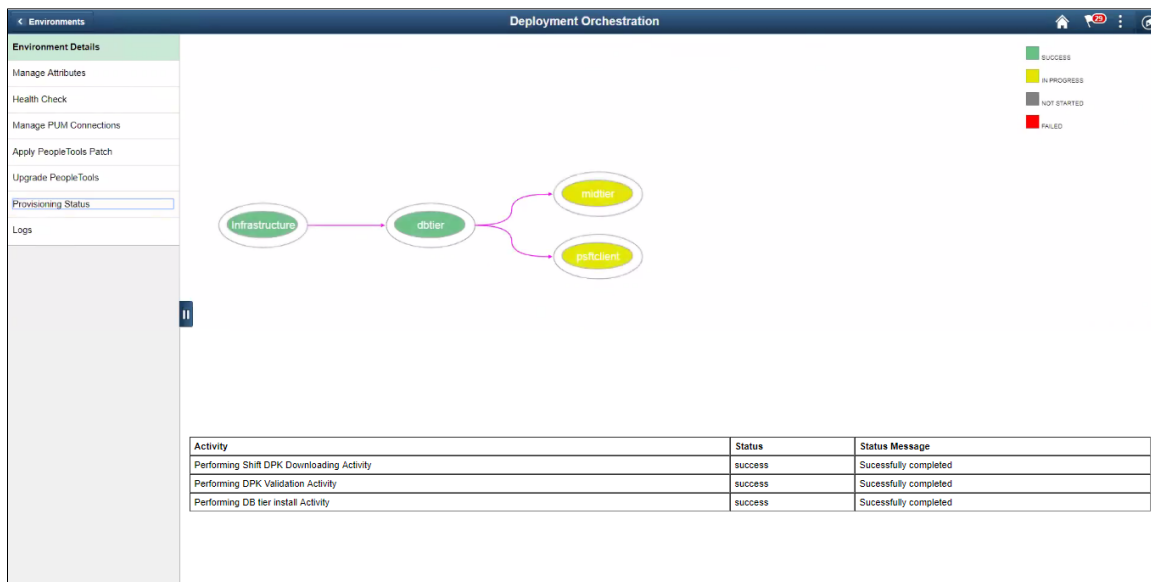
Use Provisioning Status page (PROV_DETAILS_DIAGR) to access provisioning details and error summary, if the provisioning failed.

Navigation

Click the Provisioning Status link available on the left panel of the Environment Details page. The Provisioning Status page is displayed in the right panel.

Image: Provisioning Status Page in OCI

This example illustrates the fields and controls on the Provisioning Status page in OCI. You can find definitions for the fields and controls later on this page.



The successfully processed tasks (In the example above see, Infrastructure and dbtier) are displayed in green. The In Progress tasks are displayed in yellow. For the green and yellow nodes, you can only view the status details. Right-click a green or yellow node, and then click the Status Details option to view the status information of that task in a grid below.

The failed tasks are displayed in red, and you can right-click the red node to view two options: Status Details and Manually Fixed. Click the Status Details option to view details of the errors in a grid below. The Manually Fixed option should be clicked only after fixing the errors manually. Provisioning continues from the next node and assumes all errors on the failed node were fixed.

Manually Fixing DB Errors in OCI

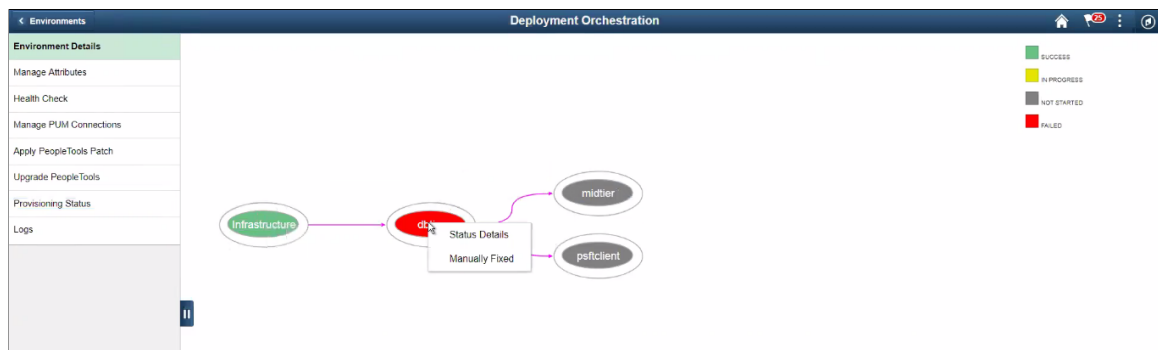
During Lift and Shift process, if any errors are encountered in the DB tier, the tasks of the dependent tiers also stop. Cloud Manager provides an option to manually fix these errors, so that the dependent tier's tasks can automatically start.

To manually fix the DB errors, perform the following:

1. Navigate to the Provisioning Status page of the failed environment.
2. Right-click the failed DB tier displayed in red.

Image: Provisioning Status page – failed node

This example illustrates the Provisioning Status page displaying a failed node.



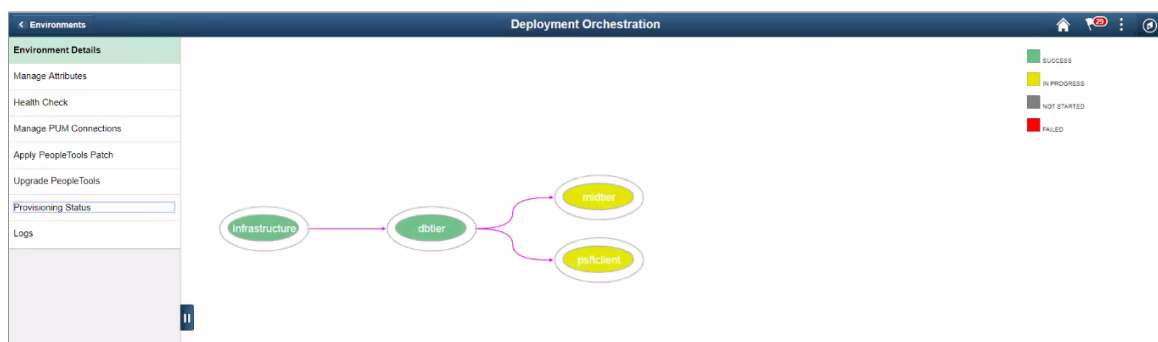
The successfully processed tasks (here Infrastructure) are displayed in green. For these you can only view the status details. The failed tasks are displayed in red, and you can view the two options: Status Details and Manually Fixed.

3. Click Status Details in the failed node to view the related activities and its status.
4. Based on the status messages of the failed activities, manually fix the errors. Manually fixing typically happens outside of Cloud Manager (e.g. user logs on into the DB machine, looks at the logs, fixes things etc, starts the database and then comes back to CM screen).
5. Once the errors are manually fixed, navigate back to the Provisioning Status page.
6. On the failed node, click the Manually Fixed option.

Manually refresh the Provisioning Status page. It might take several seconds for the new task to start so that it becomes green in color. The dependent nodes turn yellow, indicating the associated activities are in progress.

Image: Provisioning Status page – manually fixed

This example illustrates the Provisioning Status page displaying the dbtier node manually fixed.



Manage Attributes Page

Use the Manage Attributes page (ECL_ENV_RESET_FL) to update managed environment attributes, if user modified any parameter outside Cloud Manager and for adding PeopleSoft (Windows) Client.

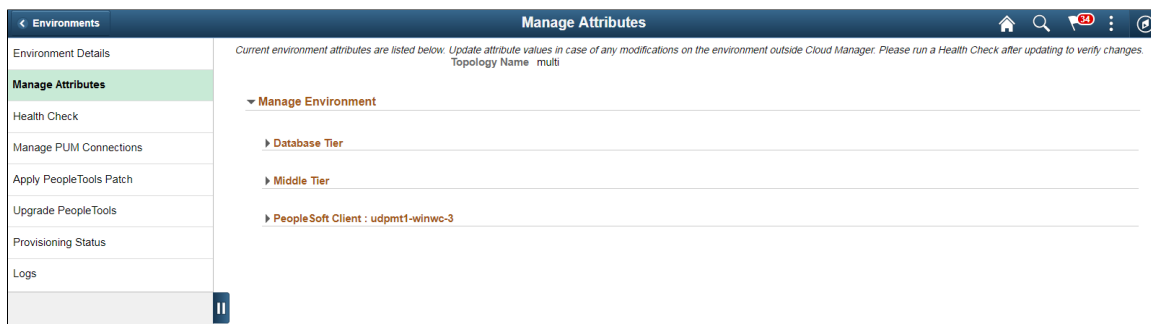
Note: The Manage Attributes page must be updated only when a user modifies the environment attributes directly on the instance. For example, if a user modifies the OPRID Password on the instance directly, then user must update and save the password for CM to store in its database. Otherwise, the password stored in CM will be stale and any operation that is dependent on this OPRID Password will fail. Click the Refresh button on the environment details page to fetch the current status of the environment node.

Navigation

Click the Manage Attributes link available on the left panel of the Environment Details page. The Manage Attributes page is displayed in the right panel.

Image: Environment Details — Manage Attributes Page

This example illustrates the fields and controls on the Environment Details — Manage Attributes Page.



You can edit the required parameters by expanding each domain and click save. For details on environment attributes, see Environment Attribute Details section in [Managing Template](#).

Logs Page

Use the Logs page (ECL_ESEARCH_FL) to view the logs for all actions that are performed on the environment.

Note: The contents of the log files are displayed in reverse (latest first) order.

Navigation

Click the Logs link available on the left panel of the Environment Details page. The Logs page is displayed in the right panel.

Image: Logs Page

This example illustrates the fields and controls on the Logs Page.

The screenshot shows the 'Logs' page in the PeopleSoft Cloud Manager interface. On the left is a sidebar with navigation links: Environments, Environment Details, Manage Attributes, Health Check, Manage PUM Connections, Apply PeopleTools Patch, Upgrade PeopleTools, Provisioning Status, and Logs (which is highlighted). The main content area is titled 'Logs' and contains several input fields: 'Action' (set to HEALTHCHECK), 'Log' (set to HEALTHCHECK_2017-01-10-07:55:49), 'Log File' (set to out.log), and 'Number of Lines to Display' (set to 10). There is also a 'Search String' field with a placeholder text 'Eg: {a-zA-Z} or {2016 or error/failure/exception}'. A green 'Fetch Logs' button is located below these fields. Below the button, a 'Log Data' section displays a list of log entries. The first entry is a debug message: '2017-01-10 07:58:16.461 DEBUG Environment action operation completed.' The second entry is a debug message: '2017-01-10 07:58:16.461 DEBUG POST /PSIGWREST/ListeningConnector/PSFT_PAEVENTPROCESS v1/event HTTP/1.1 200 20'. The third entry is an info message: '2017-01-10 07:58:16.227 INFO Starting new HTTP connection (1): oc-129-144-27-181.compute.oraclecloud.com'. The fourth entry is a detailed log message showing the results of a health check, including status, results, and sub-action status for various components like DBConnect, DBAccess, SYSADM, and PFDOM.

Clone to Template

The Clone to Template process creates a point-in-time copy of the environment in DPK format and saves it in the repository. Using the same DPKs a new environment template is created and saved under Templates. The environment used for cloning is taken offline and is unusable during the clone to template process.

Note: Ensure that the file server has enough capacity for 'Clone to Template' operation. The capacity required is 2.5 times the size of database that is being cloned.

To clone the template, perform the following:

1. Click the Related Actions button corresponding to the environment you want to clone. Select the Clone to Template option. This displays the Clone to Template modal window.

Image: Clone to Template modal window

This example illustrates the fields and controls on the Clone to Template modal window.

The screenshot shows the 'Clone to Template' modal window. It has a title bar with 'Cancel' and 'Clone' buttons. The main area contains a text input field labeled '* New Template Name'. Below the input field is a warning message: 'Warning: Cloning to Template operation Suspends the environment being cloned.'

2. Enter the new template name.

3. Click Clone.

Note: When the user clicks Clone button, the environment goes into the Suspended state.

After successful completion of the clone to template process, the new template is available under Environment Template. This template can then be modified to suit the needs by adding a topology, specify custom attributes and add user roles. This new template can then be used to deploy a new environment which is a clone of the environment that was used for 'clone to template'.

The template name generated after the cloning process will be in the format as mentioned below:

<UserInputFor Template Name> <Database Name> <data in YYYYDDMM-mmHHss>

For example, if the template name specified by the user is CLONETEMPL and the database name is PSDBD and Clone to Template process is initiated on 17th Jan 2017 at 3:18 PM, then the template name is displayed as "CLONETEMPL PSDBD 20170117-151847".

Important! When user performs a clone to template of a distributed MT environment with different PS_CUST_HOME contents in each MT node, Cloud Manager will backup PS_CUST_HOME of the first node only. When this cloned template is deployed, the backed up PS_CUST_HOME is cloned onto all MT nodes. The user must manually copy the correct PS_CUST_HOME contents to the newly created instances.

Importing Environment

Cloud Manager supports importing PeopleSoft Databases in Database Environment (DBS) that are deployed outside of Cloud Manager on Oracle Cloud Infrastructure (OCI), into Cloud Manager as a Cloud Manager managed instance. Only VM shapes are supported.

Note: Databases created manually on Compute (VM or Bare Metal) are not supported.

Important! If the database getting imported already has a middle tier, the middle tier must be shutdown. The middle tier can be retired after creating middle tiers through Cloud Manager using Manage Node option.

Prerequisites

You must perform the following prerequisites:

1. PS_APP_HOME and PS_CUST_HOME

Note: PS_CUST_HOME is not mandatory.

Copy the respective PS_APP_HOME and PS_CUST_HOME (if used) into the Cloud Manager File Server mount point cm_psft_dpks.

For example copy to /cm_psft_dpk/AppHome/ps_app_home/.

Note: PS_APP_HOME and PS_CUST_HOME directories are copied as is and should not be zipped.

2. OCI Credentials

Get the following OCI Credentials of target the Database from OCI Console:

- Database System OCID
- Database OCID
- Private IP

3. Cloud Manager access to Database Environment

- a. Login to the Cloud Manager putty as psadm2

```
sudo su – psadmin2
```

Open and copy the pub key from /home/psadm2/psft/data/cloud/ocihome/keys/cm_adm_pvt_key.pub

- b. After this, log into the Database system as opc, access .ssh/authorized_keys and copy the above key into it. This is required to authenticate Cloud Manager to access the Database environment to import the database details.

4. Make sure that the tns entry is present in tnsnames.ora on the Database System you are importing.

Importing Database System

To import a database systems environment:

1. From Cloud Manager homepage, select Environment Tile.
2. Select Import Environment button.
3. Enter required information in the Import Environment page.
4. Click Done.
5. The respective tile is added to the Environments page.
6. View the status of the import by select the Details action on the card.

Image: Import Environment page

This example illustrates the fields and controls on the Import Environment page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Import Environment' page. At the top, there are buttons for 'Cancel', 'Search', and 'Done'. Below these are input fields for 'Environment Name' (IMPORTDB), 'Environment Description' (Example import), and a dropdown for 'Instance Type' (Database System). Below these fields is a table with 14 rows. The table has two columns: a label column and a value column. The values are as follows:

Label	Value
Database System OCID	ocid1.dbssystem.oc1.iad.a
Database OCID	ocid1.database.oc1.iad.al
Private IP address	10.x.x.xxx
ssh User	opc
PeopleSoft Operator ID	PS
PeopleSoft Operator Password	••
PeopleSoft Connect ID	people
PeopleSoft Connect ID Password	••••••
PeopleSoft Access ID	SYSADM
PeopleSoft Access Password	••••••
DB Administrator Password	••••••••••
PDB Name	PSPDB
PeopleSoft Application Home	appHome/ps_app_home

Database System OCID

Database System OCID for the target database

Database OCID

Database OCID for the target database

Private IP Address

Private IP address for the target the Database environment

ssh User

ssh user on the database system being imported

PeopleSoft Operator ID

PeopleSoft Operator ID

PeopleSoft Operator Password

PeopleSoft Operator Password

PeopleSoft Connect ID

PeopleSoft Connect ID

PeopleSoft Connect Password

PeopleSoft Connect Password

PeopleSoft Access ID

PeopleSoft Access ID

PeopleSoft Access Password

PeopleSoft Access Password

DB Administrator Password

DB Administrator Password

PDB Name

Pluggable Database Name

This is the database name in the tnsnames.ora file.

PeopleSoft Application Home

Path for PS_APP_HOME folder relative to /cm_psft_dpks

For example: if PS_APP_HOME is under /cm_psft_dpks/HCM/APP_HOME, input HCM/APP_HOME

PeopleSoft Customization Home

Path for PS_CUST_HOME folder relative to /cm_psft_dpks

For example: if PS_CUST_HOME is under /cm_psft_dpks/HCM/CUST_HOME, input HCM/CUST_HOME

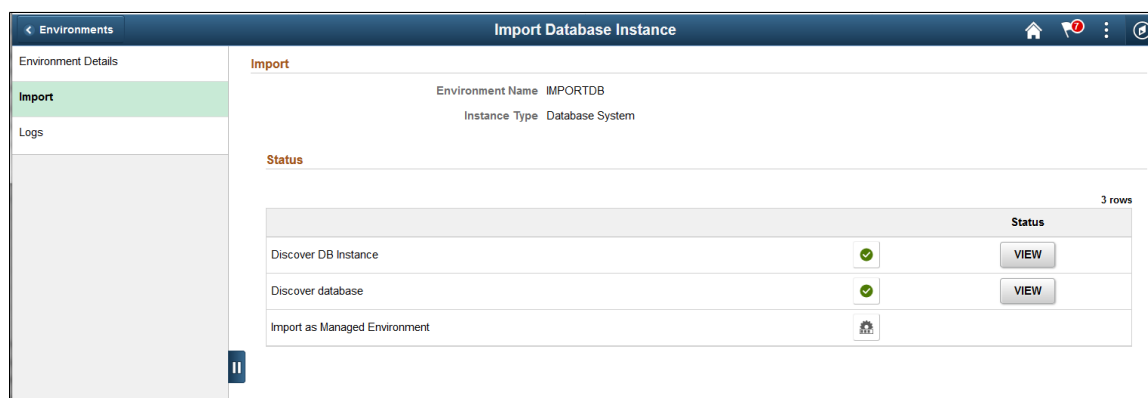
Environment Details — Import Status

The Detailed status page shows the progress of Import activity, which includes three steps:

- Discover DB instance
- Discover Database
- Import as managed instance

Image: Environment Details page - Status of Database being imported

This example illustrates the fields and controls on the Environment Details page - Status of Database being imported.



After the completion of each step, View button will be displayed to view the respective input parameters.

If there are any errors in a step, then Errors will shown and Edit button will be displayed to view & edit the respective input parameters.

Location of Database Import log files:

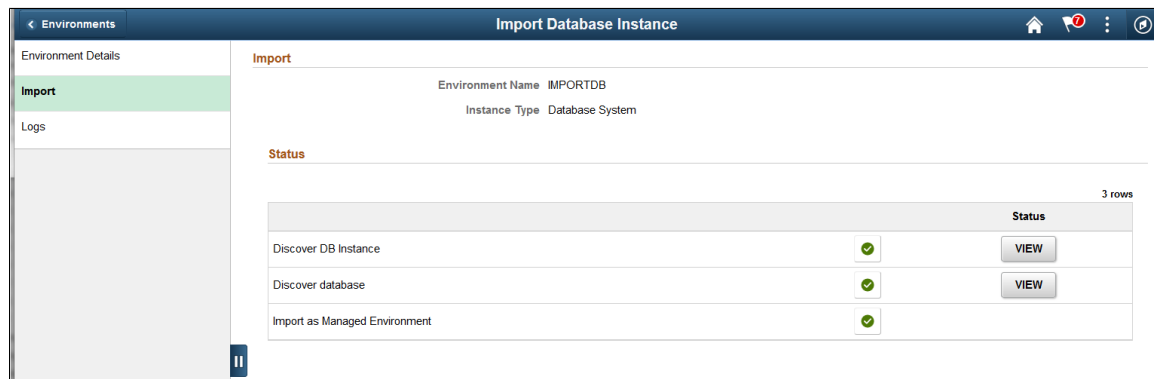
- Import Database instance — terraforma logs are located */home/psadm2/psft/data/cloud/cmlogs/envs/<Import envName>* . log on as psadm2 user.
- Import Database — psp.log is located */home/psadm2/psft/pt/8.57/appserv/prcs/PRCSDOM/LOGS*. Log on as psadm2 user.

Once edited, select Continue button to re-try the failed and subsequent steps.

If all three steps succeed target Database becomes a managed instance under the Cloud Manager.

Image: Import Database Instance Status

This example illustrates the fields and controls on the Import Database Instance Status.



Post Import Actions

Imported DB environment supports following functions:

- On Demand Scale Up and Scale down.

See [Managing Nodes](#)

- Start
- Stop
- Delete except the DB node
- Upgrade
- Update

Deleting Environment for Imported Database

If you select to delete an imported database in Cloud Manager, the following occurs:

- Deletes the scaled up environment
- Clean up Metadata stored in Cloud Manager.

Note: Database Systems node is not deleted.

Managing Nodes

Cloud Manager supports on-demand scaling in OCI, which is the ability to scale up or down (horizontal scaling) by adding or removing nodes to an active running PeopleSoft environment as necessary. Using Manage Nodes, you can:

- Add additional middle tiers to a running database or middle tier. (Scale up)
 - Middle tier nodes are added one at a time.

- Multiple middle tiers (Application Server, Web Server and Process Scheduler Server) are supported.

Note: Add or remove node is not supported for full tier environment.

- Remove middle tier node from an environment. (Scale down)
- Add one PeopleSoft Client if one does not exist.

Note: Multiple Windows PeopleSoft clients are not supported.

- Add an Elasticsearch node if one does not exist.

If you have upgraded to CM 08 from an older version using selective adoption, then adding Elasticsearch node to an already provisioned environment is currently not supported.

Adding an Elasticsearch node to an environment that was created after upgrade to CM 08 is supported.

Adding Elasticsearch node to an environment requires an IB domain that was configured in the environment by Cloud Manager. If not, the Elasticsearch option will not be available when adding a node through Manage Node option. In such scenario, add a new Middle Tier node with IB enabled and then add Elasticsearch node.

Note: Multiple Elasticsearch nodes are not supported.

Adding Nodes

To add a node to a running environment:

1. Click the Related Actions button corresponding to the environment.
2. Select Manage Node.
3. Select Add action.
4. Select Type.
5. If the type is Middle Tier then there is an option to select an existing MT node from which configuration/custom configuration can be copied for the node being added.
6. Enter the required credentials and settings.
7. Click Submit and confirm.
8. Scale Up process status are:
 - InitiatingScaleup
 - ScaleUpInProgress
 - Running

- ScaleupFailed

Navigation

Click the Related Actions button corresponding to the environment. Select Manage Node. The Manage Node page is displayed.

Image: Manage Node page

This example illustrates the fields and controls on the Manage Node page. You can find definitions for the fields and controls later on this page.

Cancel

Manage Node

Submit

▼ Select Actions

Select the action to perform. To add a new tier to existing environment select 'Add'. To remove a tier from existing environment, select 'Remove'.

Action

Add

Type

Middle Tier

▼ Settings

Select node to copy configuration or input custom configurations for the node being added.

Copy From

v855de15112cl-1xmmt-1 cr

▼ Region and Availability Domains

4 rows

1	Region	us-ashburn-1	?
2	Primary Availability Domain	UkAn-US-ASHBURN-AD-2	?
3	Compartment	cm-compartment	?
4	Virtual Cloud Network	cm-vcn	?

▼ Tier Settings

▼ Shapes

Shape Name

VM.Standard2.1

Disk Space(GB)

100

▼ Tiers

Appserver

Yes

Process Scheduler

Yes

Webserver

Yes

▼ Features

Cobol

No

▼ Custom Attributes

► Credentials

► General Settings

► Subnet Settings

► Domain Settings

Expand the sections.

Action

Available actions are:

- Add
- Remove

Type

Available Types are:

- Middle Tier
- PeopleSoft Client
- Elasticsearch

Note: The options are enabled based on which node is already available in the environment.

Copy From

If the type is Middle Tier then there is an option to select an existing MT node from which configuration/custom configuration can be copied for the node being added. This option is not available for PeopleSoft Client

Regions and Availability Domains

Defaults to the Regions and Availability settings of the environment to which new node is being added .

Tier Settings

Enter the required Shapes and Tiers.

See [Environment Template – Select Topology Page for OCI](#)

Custom Attributes

Enter Credentials, General Settings and Subnet settings.

See [Configuring Custom Attributes](#)

Removing Nodes

To remove a node:

1. Click the Related Actions button corresponding to the environment.
2. Select Manage Node.
3. Select Remove action.
4. Select Type.
5. Available Nodes will be displayed.

Note: Database node can not be deleted.

6. Select the node to remove.
7. Click Submit and confirm.

Image: Manage Node page

This example illustrates the fields and controls on the Manage Node page for removing a node.

CancelManage NodeSubmit

▼ **Select Actions**

Select the action to perform. To add a new tier to existing environment select 'Add'. To remove a tier from existing environment,select "Remove".

Action

Type

▼ **Select Node**

Select the node to be removed from the environment.

2 rows

Instance
<input type="radio"/> elvgp2204-lnxmt-1.ad3sub.myworldnet.oraclevcn.com
<input type="radio"/> elvgp2204-lnxmt-4.ad3sub.myworldnet.oraclevcn.com

Using the Lift and Shift Process to Migrate On-Premise Environments to Oracle Cloud

Understanding the Lift and Shift Process

The Lift and Shift process in Cloud Manager enables the automated migration of on-premise PeopleSoft environments to Oracle Cloud. Migration to Cloud is achieved in two steps:

- **Lift:** Using the lift utility provided in Cloud Manager, PeopleSoft Application environment data (for example, PS_APP_HOME, PS_CUST_HOME) and PeopleSoft Oracle database is packed into DPK format or RMAN backup and uploaded to Oracle Storage Cloud.

The Lift utility provided in Cloud Manager lifts the application tier (middle tier) and packages it into a DPK. The database tier is independently packaged into a separate DPK.

Starting with Cloud Manager 8 (OCI), Cloud Manager supports 2 types of database lift — hot backup and cold backup. Hot backup is performed with RMAN (Recovery Manager) using Oracle Database Cloud Backup Module (ODCBM). Cold backup is performed by taking a cold backup of PDB.

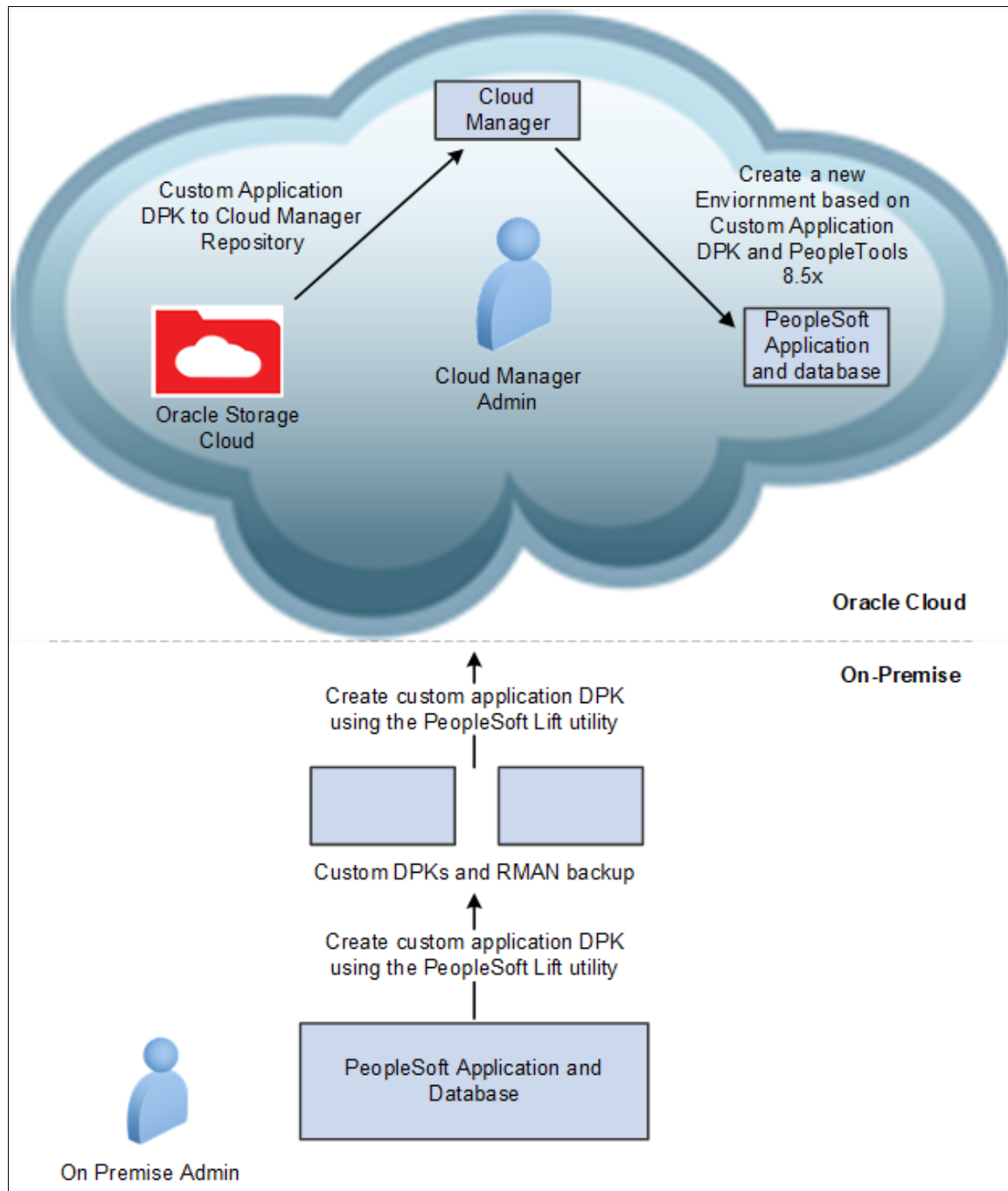
Note: The DPKs that were lifted using older versions of CM, may not be successfully shifted in later CM versions.

- **Shift:** Cloud Manager downloads the lifted DPKs and RMAN backup. It then creates a new environment on Oracle Cloud. Once shifted, customers can use the Oracle Cloud to further manage, scale up or scale down or clone these environments.

Note: Before doing a Shift action, Lift and Shift topology must be updated with the right VM shapes for each node.

Image: Lift and Shift Process

Overview of the Lift and Shift process



One of the most complex and difficult processes is migrating an environment from on-premise to the Cloud. Customers will download the Lift software from the Cloud Manager and run it on an on-premise environment to create and upload customer application DPKs to the Oracle Cloud Service. Then using Cloud Manager, they use the customer application DPK to create a running application environment intact with all the customizations that have been done on-premise. It is a two-step process that simplifies days of laborious tasks. The Lift and Shift process is helpful to migrate many of your different environments to the Oracle Cloud. Use it for demonstration, development, test, and training environments. Once an environment has been lifted, you can provision as many separate instances as you need.

To migrate a PeopleSoft environment from on-premise to Oracle Cloud using Cloud Manager, it must be on Linux (OEL/RHEL), running application version 9.2 or above. The database must be on Oracle 12c and PeopleTools version 8.55 or above.

Using the Lift Process to Migrate an Environment to the Oracle Cloud for OCI

The Lift Utility is used to create and upload customer application DPKs to the Oracle Cloud Service. You will need to run the lift utility once to create the database DPK and once to create the application DPK.

Use the Lift process to migrate your on-premise PeopleSoft environment to the Oracle Cloud.

Pages Used to Migrate the Environment to Oracle Cloud

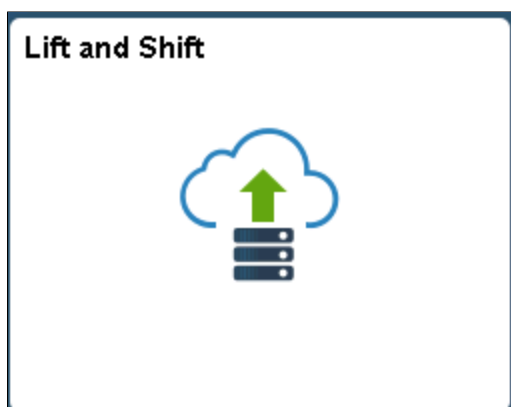
<i>Page Name</i>	<i>Definition Name</i>	<i>Usage</i>
<u>Lift and Shift Tile</u>	ECL_LAS_HOME_FL_GBL (CREF for the tile)	To access Lift and Shift landing page.
<u>Lift and Shift Page</u>	ECL_LAS_HOME_FL	The landing page containing the lift utility and the lifted containers.

Lift and Shift Tile

Use the Lift and Shift tile (ECL_LAS_HOME_FL_GBL) to access Lift and Shift landing page. The Lift and Shift tile is delivered as part of the Cloud Manager home page.

Image: Lift and Shift Tile

This example illustrates the Lift and Shift tile.



Lift and Shift Page

Use the Lift and Shift landing page (ECL_LAS_HOME_FL_GBL) to view and access the lifted environments (uploaded customer DPKs in Oracle Cloud for Cloud Manager).

Navigation

Click the Lift and Shift tile on the delivered Cloud Manager Fluid Home page. The Lift and Shift page is displayed.

Image: Lift and Shift page

This example illustrates the fields and controls on the Lift and Shift page.

	Name	TDE Enabled	Character Set	National Character Set	Type	Platform	Size	Uploaded On	Action
1	GP856	FALSE	UTF8	AL32UTF8	HCM	linux	2.20 GB	02/05/2018 19:43:54	Action
2	ELVINI	TRUE	UTF8	AL32UTF8	HCM	linux	3.17 GB	02/26/2018 07:52:39	Action
3	ELVINII	FALSE	UTF8	WE8ISO8859P1	HCM	linux	4.30 GB	02/26/2018 12:00:04	Action
4	IRWPDB3	FALSE	UTF8	AL32UTF8	HCM	linux	1.91 GB	02/02/2018 09:43:45	Action
5	NC85515	FALSE	UTF8	WE8ISO8859P1	HCM	linux	6.17 GB	01/08/2018 18:45:10	Action
6	NTDE855	FALSE	UTF8	AL32UTF8	HCM	linux	1.68 GB	01/08/2018 18:46:11	Action
7	NUN1856	FALSE	UTF8	WE8ISO8859P1	HCM	linux	12.39 GB	01/08/2018 18:45:10	Action
8	SNUTDE9	TRUE	UTF8	WE8ISO8859P1	HCM	linux	6.12 GB	03/12/2018 10:03:05	Action

Note: Currently, in PeopleSoft Cloud Manager, an updated version of the Lift utility is available that captures more details from on-premise environment. DPKs that were lifted earlier using older versions of Lift Utility can no longer be deployed in CM 08. Hence, you must delete those old DPKs and do a lift operation again on the on-premise environments.

Name	Name of the lifted environment
TDE Enabled	Whether the database has encrypted tablespaces or not.
Character Set	The database character set used for lift operation.
National Character Set	Whether the database is unicode or non unicode. AL32UTF8 indicates unicode database and the value WE8ISO8859P1 indicates non unicode database.
Type	Shows the PeopleSoft application product pillar.
Platform	Indicates the Operating System platform.
Size	Total size of the lifted DPKs.
Uploaded On	The date and time on which the DPKs were uploaded in Oracle Cloud.

Note: Assume that if the lifted DPK size is K, then the disk size should be 2.5 times K.

Action	Use this button to perform a variety of related actions, such as viewing the details of each of the lifted DPKs, provisioning a new environment, and to delete a lifted DPK.
List Object Store Items	Click this button to refresh the lifted application list and make it current.

Using the Lift Utility

The Lift Utility is used to create and upload customer application DPKs to the Oracle Cloud Service. You will need to run the lift utility once to create the database DPK and once to create the application DPK.

Downloading the Oracle Database Cloud Backup Module (ODCBM)

In order to use the hot backup method:

1. Subscribe to Oracle Database Backup Cloud Service.
2. Download the ODCBM and copy it to Cloud manager machine:
 - a. Download the Oracle Database Cloud Backup Module from [Oracle Technology Network \(OTN\)](#).
 - b. Accept the license agreement.
 - c. Click All Supported Platforms, and provide your OTN user name and password when prompted.
 - d. SCP (secure copy) the `opc_installer.zip` file to the `"/tmp/"` directory.
 - e. Access the Cloud Manager instance with SSH
 - f. Create a temporary directory, such as `"odcbm"`.


```
$ mkdir /tmp/odcbm
```
 - g. Extract the contents of `"opc_installer.zip"` to the `odcbm` directory.


```
$ unzip /tmp/opc_installer.zip -d /tmp/odcbm
```
 - h. Copy the `"opc_install.jar"` to the Cloud Manager:


```
$ cp /tmp/odcbm/opc_install.jar
/opt/oracle/psft/pt/ps_app_home/ cloud/instance/data/opc_install.jar
```
 - i. Now proceed to download the Lift Utility from Cloud Manager UI.

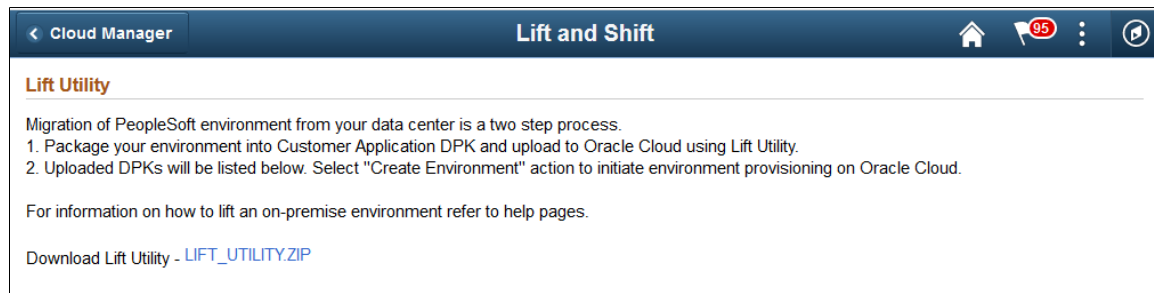
Note: Alternatively, you could copy the `opc_install.jar` to `<LIFT_BASE_DIR>/data`.

Downloading the Lift Utility

Navigate to the Lift and Shift page and click on the `LIFT_UTILITY.ZIP`. Please make sure you have applied any PRPs or fixes to Cloud Manager before download the utility. Copy the utility to the on-premise PeopleSoft system that needs to be migrated.

Image: Lift and Shift page

This example illustrates the fields and controls on the Lift and Shift page.



Installing Lift Prerequisites

Required Lift Prerequisites Applications

Lift prerequisite applications include:

- Python 3.6
- Yum Modules (gcc, libffi-devel, openssl-devel, zlib, wget)
- PIP Modules (oci-cli, pyyaml, xmltodict, requests, ensurepip)
- Java 1.8 (For database tier instance for RMAN)

Using the Automatic Lift Prerequisite Utility

The Lift prerequisite install feature will verify and install the applications required to perform Application Lift and Database (RMAN/Non-RMAN) Lift based on the user (input) environment.

This Lift prerequisite validation will be triggered (in silent mode) when the user triggers the Lift utility (psft-osl.sh) to validate the user environment before invoking the Lift to OCI

Warning! Automatically installing the pre-requisites may update or overwrite any existing version on the system. Please review the packages that will be installed automatically.

Requirements for using this utility:

- Ensure the necessary proxy and ports are set in order to access Internet, download and install the required prerequisite applications.
- Script must be triggered by the root user to install the applications.
- If the customer doesn't permit installation, the script will exit and the customer would need to install the prerequisites manually.

See [Manually Installing Lift Prerequisites](#)

- In an event of failure during the installation, the user will need to exit the script and install the failed application(s) manually.

See [Manually Installing Lift Prerequisites](#)

- 3rd party software is not bundled as it requires software distribution approval.
- Lift utility does not bundle the ODCBM module. It must be manually downloaded and copied to Cloud Manager Instance before downloading the Lift Utility onto on-premise systems. See [Downloading the Oracle Database Cloud Backup Module \(ODCBM\)](#)

To automatically install the Lift prerequisite applications:

1. Download and copy the Lift Utility to the On Premise instance.
2. Login as root to the On Premise instance.
3. Extract the Lift utility zip to a temporary folder and set full permissions to the folder.

```
$ mkdir /tmp/CM9_LIFT
$ unzip LIFT_UTILILITY.zip -d <LIFT_UTILILITY_PATH>
$ chmod -R 777 <LIFT_UTILILITY_PATH>
```

4. Navigate to the below path:

```
$ cd <LIFT_UTILILITY_PATH>/setup
```

5. Trigger the Lift Prerequisite install script.

```
$ sh psft-lift-setup.sh
```

6. Generate the Oracle Cloud Infrastructure Auth Token. See [Generating Oracle Cloud Infrastructure Auth Token](#).

Script Examples for Automatic Lift Prerequisite Utility

When you run the utility, it will ask if this is a database environment or an application environment.

```
Is <environment> a Database Environment: (yes/no):
```

- Application environment (answer no at above prompt)

The system will scan the environment and indicate the applications that need to be installed.

Image: Example PeopleSoft Lift Prerequisite Setup Script for Application Environment

This example illustrates applications that are required for an application lift.

```

=====
                        PeopleSoft Lift Pre-requisite Setup Script
=====
Scanning the environment to install PeopleSoft Lift Pre-requisite applications:
=====
Python 2.6.6
=====
=====> Need to Install Python 3.6.2
Python 2.6.6
=====
=====> Need to Install ensurepip oci-cli pyyaml xmltodict requests pip modules
=====
    Above are the identified applications that need to be installed.
    If installing these applications impacts the behaviour of elv3262603-lnxft-1 host
    please exit this script and manually install the above listed applications
=====
    Enter 'yes' to Confirm Installing the above applications: █

```

- Database environment (answer yes at above prompt)

The system will scan the environment and indicate the applications that need to be installed.

Image: Example PeopleSoft Lift Prerequisite Setup Script for Database Environment

This example illustrates applications that are required for a database lift.

```

=====
                        PeopleSoft Lift Pre-requisite Setup Script
=====
elv3262603-lnxft-1 is confirmed as a Database environment
=====
Do you want to setup elv3262603-lnxft-1 environment for RMAN Lift:(yes/no): yes
=====
Scanning the environment to install PeopleSoft Lift Pre-requisite applications:
=====
Python 2.6.6
=====
=====> Need to Install Python 3.6.2
Python 2.6.6
=====
=====> Need to Install ensurepip oci-cli pyyaml xmltodict requests pip modules
=====
=====> Need to Install Java 1.8
=====
    Above are the identified applications that need to be installed.
    If installing these applications impacts the behaviour of elv3262603-lnxft-1 host
    please exit this script and manually install the above listed applications
=====
    Enter 'yes' to Confirm Installing the above applications: █

```

- To confirm installing the applications, enter yes at the prompt.

Enter 'yes' to Confirm Installing the above applications:

- a. Remove any old Python files present within the lift base directory by executing the command.

```
rm -rf <LIFT_UTILITY_PATH>/lnx_python
mkdir -p <LIFT_UTILITY_PATH>/lnx_python
```

- b. Install the prerequisites by executing the following commands:

```
sudo yum install gcc
sudo yum install libffi-devel
sudo yum install openssl-devel
sudo yum install zlib
sudo yum install wget
```

- c. Download Python 3.6.2 by executing the following commands:

```
cd <LIFT_UTILITY_PATH>
wget https://www.python.org/ftp/python/3.6.2/Python-3.6.2.tgz
tar xzf Python-3.6.2.tgz
cd Python-3.6.2.tgz
```

- d. Configure and compile the source by executing this command:

```
./configure --prefix=<LIFT_UTILITY_PATH>/lnx_python
make altinstall
```

- e. Create a softlink for the Python executable by running the following commands:

```
cd <LIFT_UTILITY_PATH>/lnx_python
ln -s bin/python3.6 python
```

- f. Set environment variables. Do the following:

```
export PYTHON_HOME=<LIFT_UTILITY_PATH>/lnx_python
export PYTHONPATH=<LIFT_UTILITY_PATH>/lnx_python
export PATH=<LIFT_UTILITY_PATH>/lnx_python/bin:<LIFT_UTILITY_PATH>/lnx_py-
thon/:$PATH
export LANG=en_US.utf-8
export LC_ALL=en_US.utf-8
```

- g. Install pip with this command:

```
<LIFT_UTILITY_PATH>/lnx_python/python -m ensurepip
```

3. Install the below PIP packages.

- a. Install the oci-cli package with this command:

```
pip install oci-cli
```

- b. Install PYYAML with this command:

```
pip install pyyaml
```

- c. Install XMLTODICT with this command:

```
pip install xmldict
```

4. Install Java version 1.8 (JRE) using [Java Official Documentation](#).

Verify Java is Installed by running the below commands.

```
$ java -version
```



```

java version "1.8.0_144"
Java(TM) SE Runtime Environment (build 1.8.0_144-b01)
Java HotSpot(TM) 64-Bit Server VM (build 25.144-b01, mixed mode)
$ echo $JAVA_HOME
/usr/lib/jvm/java-1.8.0-openjdk/jre

```

5. Generate the Oracle Cloud Infrastructure Auth Token. See [Generating Oracle Cloud Infrastructure Auth Token](#).

Performing Application Lift

The one-step Lift automation enables customers to migrate their PeopleSoft Application (MidTier/ Application Tier) server and Database server tiers environments to the Oracle Cloud.

APP Lift means lifting of the middle tier or application instance (this is essentially the instance where the PeopleSoft Application Server or Process Scheduler is hosted) is running.

1. Lift is performed on the APP instance itself (Local Lift).
2. Be sure to use only the PeopleSoft Admin Owner user (for example, psadm2) to perform APP Lift.
3. Be sure to have sufficient free disk space for APP Lift (based on PS_APP_HOME and PS_CUST_HOME size). A minimum disk space of 10GB is required.
4. Ensure PS_APP_HOME and PS_CUST_HOME directories are available.
5. Make sure that the user running the Lift utility has the permission to create files or directories at the user's home directory, Lift utility directories, and the destination directory where the DPKs are saved, /tmp , PS_APP_HOME, and PS_CUST_HOME directories.

Note: Installing OCI-CLI is a prerequisite for the lift utility. See [Installing Lift Prerequisites](#)

To perform the one-step Lift automation procedure for the application:

1. Download the Lift utility from the Lift and Shift page. For this, perform the following:
 - a. Navigate to the Lift and Shift tile.
 - b. Copy the “LIFT_UTILITY.zip” utility to the target machine to perform lift.

Note: If you have recently updated Cloud Manager with any PRPs that has fixes to the lift utility, then SSH to the Cloud Manager instance and delete the stale zip file form /tmp/LIFT_UTILITY.ZIP.

2. Navigate to the below folder after extracting the LIFT_UTILITY.zip and set permissions:

```

chmod -R 777 <LIFT_UTILITY_PATH>
cd <LIFT_UTILITY_PATH>/setup

```

3. For Linux, run the **sh psft-osl.sh** command to perform lift.
4. At the prompt “Do you want to Lift the Application Environment”, enter “Y”.
5. To create the PeopleSoft App Server DPK, you need to provide the database name (or PDB name in case of Oracle 12c multi-tenant database) and destination directory.

Note: If the utility is unable to fetch the data from the environment (for example, `app_type/oracle_home`), it will prompt the user to input the same.

6. Choose any one of the below options:
 1. Create and Save DPK in APP/DB Environment
 2. Create, Save DPK in APP/DB Environment and Upload the DPK to Oracle Cloud Infrastructure (Object Storage)
7. If you select option 1. Create and Save DPK in APP/DB Environment, you will need to manually upload the DPK to Object Storage. See [Uploading the DPK Manually to Oracle Cloud Infrastructure \(Cold Backup\)](#).
8. If option 2 to upload the DPK to Oracle Storage Cloud is selected, then the script prompts the user to input the Oracle Cloud tenancy credentials as mentioned below in order to upload the DPK once created:

See [Locating OCI Credentials](#)

- Oracle Cloud Infrastructure Region Name
- Oracle Cloud Infrastructure Tenancy Name
- Oracle Cloud Infrastructure Tenancy ID
- Oracle Cloud Infrastructure User ID
- Private Key Location, indicates the API signing private key that was created during CM configuration and must be copied to the instance where lift utility will be run. This input refers to the full path to the file.
- Passphrase, refers to the passphrase that was used to encrypt the API signing keys.

Note: You need to manually copy the key file or copy the key file contents and save locally in machine where you perform a lift. This is the corresponding Private Key to the Public Key that was set in the API Keys of the user setting.

- Oracle Cloud Infrastructure Fingerprint

Note: Copy the fingerprint from the API Keys setting.

9. After APP Lift is complete, following APP DPK will be created based on the PeopleTools version on the application instance.
 - For 8.55: APP-DPK-<platform>-<app_type>-<db_name>-1of2.zip
 - For 8.56/8.57: APP-DPK-<platform>-<app_type>-<db_name>-1of3.zip.

Note: The APP-DPK*-3of3.zip will not be created as part of the Lift utility, however the APPDPK*-3of3.zip DPK will be available from the PeopleTools DPK when the shift is triggered from Cloud Manager.

The Lifted DPKs created are available in the destination directory. If you chose to create and upload DPK to Oracle Storage Cloud, then the uploaded DPKs are available in the Lift and Shift page of Cloud Manager and on Oracle Storage Cloud as well.

Performing the Database Lift

The Database lift can be run as a cold backup or a hot backup using RMAN.

Note: Database Lift using hot backup can only be performed on a database instance that has access to the Internet.

DB Lift means lifting of the Database Tier instance. This is the instance where the PeopleSoft Oracle Database is running. The Database lift can be run as a cold backup or a hot backup using RMAN.

Note: It is recommended to bring the database patch level of the on-premise environment equivalent to that of the database patch level of the Oracle Database Cloud Service before starting the Lift and Shift process.

If the patch levels are different, then Cloud Manager will try to either rollback or update the patch. It is possible that there could be some incompatibilities during lift and shift due to rollbacks or updates. Users will then need to manually verify and rectify it.

Note: Installing OCI-CLI is a prerequisite for the lift utility. See [Installing Lift Prerequisites](#).

Considerations Before Running Database Lift

1. Lift can be performed on the DB instance (Local Lift) itself.
2. Ensure to use only the Database Owner user (for example, Oracle) to perform DB Lift.
3. Ensure to have sufficient free disk space for DB Lift based on DB size.
4. The current supported Oracle versions are "12.1.0.1.0", and "12.1.0.2.0".

Note: Oracle 12c (Container DB) is recommended with latest SQL patches installed. Lift of Unicode and Non-Unicode Database is supported.

5. Ensure to take the back up of your Database environment and the RMAN configurations before performing DB Lift. Optionally, it is recommended to use a clone of the environment for the Lift operation if the environment being lifted needs to be available during the process.

Note: During the RMAN (ODCBM) Lift process, the ORACLE Database will not be shut down.

6. Ensure to back up the ORACLE_HOME.
7. Ensure that the user running the lift utility has permission to create files/directories at the user's home directory, Lift utility destination directory where the DPKs are saved, /tmp, and ORACLE_HOME directory.

8. If using hot backup method to lift database, ensure the OCDBM installer (opc_install.jar) was downloaded and copied into the Cloud Manager instance. See [Downloading the Oracle Database Cloud Backup Module \(ODCBM\)](#)

Note: If you want to encrypt database before lifting using TDE, see [Encrypting Tablespaces Using Transparent Data Encryption](#).

Running Lift Using Cold Backup (PDB)

To perform database lift using Cold Backup:

1. Download the Lift utility from the Lift and Shift page. For this, perform the following:
 - a. Navigate to the Lift and Shift tile.
 - b. Copy the “LIFT_UTILITY.zip” utility to the target machine to perform lift.

Note: If you have updated Cloud Manager with PRP (find PRP name/number), then SSH to Cloud Manager VM and delete the stale zip file from /tmp/LIFT_UTILITY.zip.

2. Navigate to the below folder after extracting the LIFT_UTILITY.zip and set permissions:

```
chmod -R 777 <LIFT_UTILITY_PATH>
cd <LIFT_UTILITY_PATH>/setup
```

3. For Linux, run the **sh psft-osl.sh** command to perform lift.
4. At the prompt “Do you want to Lift the Application Environment”, enter “N” to Lift the DB instance.
5. At the prompt Do you want to Perform Lift Using:
 1. Cold Backup (DBF-CDB/PDB) - The Database will be Shut Down during Lift process
 2. Hot Backup (RMAN-ODCBM) - The Database will be Active during Lift process
 - *. Enter any other key to exit:
6. Choose 1, Cold Backup.
7. Choose any one of the below options:
 1. Create and Save DPK in APP/DB Environment
 2. Create, Save DPK in APP/DB Environment and Upload the DPK to Oracle Cloud Infrastructure (Object Storage)
8. If option 1. Create and Save DPK in APP/DB Environment is selected, you will need to manually upload the DPK to Oracle Cloud Infrastructure. See [Uploading the DPK Manually to Oracle Cloud Infrastructure \(Cold Backup\)](#)
9. If the option to upload the DPK to Oracle Storage Cloud is selected, then the script prompts the user to input the Oracle Cloud account credentials as mentioned below in order to upload the DPK once created:
 - Oracle Cloud Infrastructure Region Name

- Oracle Cloud Infrastructure Tenancy Name
- Oracle Cloud Infrastructure Tenancy ID
- Oracle Cloud Infrastructure User ID
- Private Key Location, indicates the API signing private key that was created during CM configuration and must be copied to the instance where lift utility will be run. This input refers to the full path to the file.
- Passphrase, refers to the passphrase that was used to encrypt the keys.

Note: You need to manually copy the key file or copy the key file contents and save locally in machine where you perform a lift. This is the corresponding Private Key to the Public Key that was set in the API Keys of the user setting.

- Oracle Cloud Infrastructure Fingerprint

Note: Copy the fingerprint from the API Keys setting.

10. To create the PeopleSoft Database DPK, you need to provide the container database name (If the database is an Oracle 12c Container DB, else leave it blank), pluggable database name and destination directory.

Note: If the utility is unable to fetch the data from the environment, it will prompt the user to input the same.

11. The entire execution is logged into `psft_lift_session_<session_name>_<session_count>_<PID>.log` file.
12. After DB Lift is complete, the following DB DPK will be created based on the PeopleTools version on the database instance.
 - For PeopleTools 8.55: `APP-DPK-<platform>-<app_type>-<db_name>-2of2.zip`.
 - For PeopleTools 8.56/8.57: `APP-DPK-<platform>-<app_type>-<db_name>-2of3.zip`.

Using RMAN for Hot Backup Database Lift

RMAN Lift and Shift using ODCBM supports the following Oracle Database support items:

- Oracle 12C (12.1)
- Container Databases
- Unicode and Non-Unicode Databases
- Hot Backup of Database (Database is live during Lift process)
- Full RMAN Backup (L0)
- Compression of Lift (Backup) files (upload)
- Encryption of Lift (Backup) files (upload)

- Database on ASM
- Shift (restore) on Compute and DBS

During Lift and Shift with RMAN the Oracle Database Cloud Backup Module (ODCBM) is used under the hood to perform RMAN Backup and Restore operations.

During Database Lift with RMAN (ODCBM) the Lift Utility will create a fresh Bucket in the OCI Object storage and then the RMAN Backup of the source (On Premise) Database environment will be compressed and encrypted before being wired to the bucket in the OCI Object Storage. Along with the RMAN backup we will continue to create the "APP-DPK-<platform>-<app_type>-<db_name>-2of<X>.zip" to capture the sqlpatches, database parameter file and other metadata information.

In comparison with the previous (Cold Backup) Lift Process the "APP-DPK-<platform>-<app_type>-<db_name>-2of<X>.zip" will be a fraction of its size, since we are not packaging the Database files (*.dbf) within this zip

RMAN Lift and Shift (ODCBM) does not support:

- RAC Database
- RMAN (L1) Incremental Backup.
- TDE enabled Database

Note: It is recommended that the DB Tier Database is started with a spfile.

Note: Please ensure the Database “Archive Log Mode” is enabled (Oracle support Doc ID 371139.1).

Note: Please ensure the proxy (if needed) is correctly specified and the proxy authentication does not have any special characters.

Note: To perform an RMAN Lift of a PeopleSoft environment that was already lifted using the older version of CM (Lift Utility): Please ensure the existing Lift DPK is deleted from the CM "Lift and Shift" UI and then trigger a RMAN lift for the same.

Note: RMAN Lift and Shift relies heavily on the OCI Auth Token, Please ensure NOT to delete the OCI Token after performing a RMAN Lift.

Running Lift Using Hot Backup (RMAN)

To perform the Lift using Hot Backup (using RMAN (ODCBM), then:

1. Download the Lift utility from the Lift and Shift page. For this, perform the following:
 - a. Navigate to the Lift and Shift tile.
 - b. Copy the “LIFT_UTILITY.zip” utility to the target machine to perform lift.

Note: If you have updated Cloud Manager with PRP (find PRP name/number), then SSH to Cloud Manager VM and delete the stale zip file from /tmp/LIFT_UTILITY.zip.

2. Navigate to the below folder after extracting the LIFT_UTILITY.zip and set permissions:

```
chmod -R 777 <LIFT_UTILITY_PATH>
cd <LIFT_UTILITY_PATH>/setup
```

3. Export Java home.

```
export JAVA_HOME=/tmp/java18/jre
```

4. For Linux, run the **sh psft-osl.sh** command to perform lift.
5. At the prompt “Do you want to Lift the Application Environment”, enter “N” to Lift the DB instance.
6. At the prompt Do you want to Perform Lift Using:
 1. Cold Backup (DBF-CDB/PDB) - The Database will be Shut Down during Lift process
 2. Hot Backup (RMAN-ODCBM) - The Database will be Active during Lift process
 - *. Enter any other key to exit:
7. Choose 2. Hot Backup.
8. Ensure to Set the JAVA HOME (Install Java 1.8) in the environment variables, if not set then you need to provide the JAVA HOME Path (Example: tmp/java18/jre) in the Lift UI, during lift.
9. Performing Lift using Hot Backup (using RMAN (ODCBM)) requires the OCI details:

See [Locating OCI Credentials](#)

- Oracle Cloud Infrastructure Region Name
- Oracle Cloud Infrastructure Tenancy Name
- Oracle Cloud Infrastructure Tenancy ID
- Oracle Cloud Infrastructure User ID
- Private Key Location, indicates the API signing private key that was created during CM configuration and must be copied to the instance where lift utility will be run. This input refers to the full path to the file.
- Passphrase, refers to the passphrase that was used to encrypt the keys.

Note: You need to manually copy the key file or copy the key file contents and save locally in machine where you perform a lift. This is the corresponding Private Key to the Public Key that was set in the API Keys of the user setting.

- Oracle Cloud Infrastructure Fingerprint

Note: Copy the fingerprint from the API Keys setting.

- OCI User name
- OCI Token

Note: Ensure not to delete this OCI Token (for the user) from OCI console. As User name/Token will be used for Lift and shift process.

10. To create the PeopleSoft Database DPK, you need to provide (the following):

- Container Database name (Applicable only for Oracle 12C Multitenant database)
- Database name
- RMAN Backup Encryption Password
- DB environment Proxy Host (* If Any)
- DB environment Proxy Port (* If Any)
- Destination Directory

Note: If the utility is unable to fetch the data from the environment, it will prompt the user to input the same.

11. The Utility will prompt for the OCI Infrastructure Compartment ID to create the bucket, enter the OCID for the bucket.

12. The script will then display the details captured from the user and prompts for the user's confirmation to proceed. The utility allows the user to modify the above listed inputs, if required.

13. The entire execution is logged into `psft_lift_session_<session_name>_<session_count>_<PID>.log` file.

14. After DB Lift is complete, the following DB DPK will be created based on the PeopleTools version on the database instance.

- For PeopleTools 8.55: APP-DPK-<platform>-<app_type>-<db_name>-2of2.zip.
- For PeopleTools 8.56/8.57: APP-DPK-<platform>-<app_type>-<db_name>-2of3.zip.

Note: The APP-DPK*-3of3.zip will not be created as part of the Lift utility, however the APP-DPK*-3of3.zip DPK will be available from the PeopleTools DPK when the shift is triggered from Cloud Manager.

Uploading the DPK Manually to Oracle Cloud Infrastructure (Cold Backup)

During the process to upload the lifted APP/DB DPKs to OCI Object Storage, if you chose to only create and save the DPK in the APP/DB environment, you will need to manually upload the DPKs to Oracle Cloud Infrastructure (Object Storage).

To manually upload the DPKs to Oracle Cloud Infrastructure (Object Storage):

1. Set the following environment variables:

- a. `export PYTHON_HOME=<LIFT_UTILITY_PATH>/lnx_python.`
 - b. `export PYTHONPATH==<LIFT_UTILITY_PATH>/lnx_python.`
 - c. `export PATH=$PATH:=<LIFT_UTILITY_PATH>/lnx_python/bin.`
2. Create an OCI_Config file with the below contents:
 - a. [DEFAULT]
 - b. `user=<user OCID>`
 - c. `fingerprint=<Finger print>`
 - d. `key_file=<private key file location>`

Note: You can use the same API Signing Key pair that was created when setting up Cloud Manager, or you can create a new one. If you create a new pair then, you must add the newly created public API key under the user settings using OCI UI.

- e. `pass_phrase=<Passphrase for the private key>`
- f. `tenancy=<tenancy OCID>`
- g. `region=<region name>`

For example:

Image: Example of OCI_Config file

Example of OCI_Config file.

```
[DEFAULT]
user=ocid1.user.oc1..xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
fingerprint=f2:b1:01:87:04:fb:7c:1c:06:44:45:b7:59:16:eb:7f
key_file=/tmp/key.pem
pass_phrase=Kt@125G*jsad986#
tenancy=ocid1.tenancy.oc1..aaaaaaaayy35pigxxxxxxxxxas3tlt42nxg4idzrsui52gma5a
region=us-ashburn-1
```

3. If you are uploading for the first time, create the container **psft_oci_las** with the following command:

```
<LIFT_UTILITY_PATH>/lnx_python/bin/oci --config-file /tmp/oci_config os bucket⇒
create -ns <tenancy name> --name psft_oci_las --compartment-id <Compartment ID>.
```

For example,

```
<LIFT_UTILITY_PATH>/lnx_python/bin/oci --config-file /tmp/oci_config os bucket⇒
create -ns mycloud --name psft_oci_las --compartment-id ocid1.compartment.oc1⇒
..aaaaaaxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

4. Run the following command to upload the APP DPK. Replace the variables in the command with the actual file and path names:

Note: The <Bucket Name> should be *psft_oci_las*. Please do not specify any other bucket name.

```
<LIFT_UTILITY_PATH>/lnx_python/python upload_dpk_to_oci.py -d <Tenancy Name> ->
c psft_oci_las -s <Source folder containing DPK file> -t <Target Folder Name> =>
f <INI file location generated during lift operation> -g <Full path of oci con=>
fig file>
```

5. Run the following command to upload the DB DPK. Replace the variables in the command with the actual file and path names:

```
<LIFT_UTILITY_PATH>/lnx_python/python upload_dpk_to_oci.py -d <Tenancy Name> ->
c psft_oci_las -s <Source folder containing DPK file> -t <Target Folder Name> =>
-f <INI file location generated during lift operation> -g <Full path of oci co=>
nfig file>
```

Variable	Description
-d	Tenancy name to which the DPKs will be uploaded to.
-c	psft_oci_las - The container to which the DPKs will be uploaded. This value should not be changed.
-s	Source folder where the DPK files are saved during lift.
-t	Target folder Name on OCI. Should be Platform/AppType/DBName where AppType is application type [HCM,FSCM, ELS, ELM, CRM] and DBName is the name of the database. For example: linux/HCM/MYHCMDB. Important! Please ensure the target folder name to be as shown in the example above. There must be no preceding or trailing '/' in the target folder path.
-f	INI file location that was generated during lift operation.
-g	Path to OCI config file that will be used to connect to OCI to upload DPKs.

Performing Local Lift Silently (CLI Mode)

If you would like to perform lift without using the Lift UI, you can pass parameters in the command line as arguments to select/enable those options instead of entering them in Lift UI.

Before you can run the local lift silently, you need to either perform a Local Lift using the Lift UI or create the <LIFT_UTILITY_PATH>/data/psftinfra.yaml file.

This table lists the usage parameters for Local Lift:

Parameters	Description
psft-osl.sh -h	Displays the available usage parameters

Parameters	Description
psft-osl.sh -l	Invokes local lift.
psft-osl.sh -u	Disables upload of the DPK to Oracle Storage cloud and the DPK will be present in the destination directory.
psft-osl.sh -e <env_type>	Enables local lift to be performed based on env_type. Env_type is either: app – Application Lift db – Database Lift
psft-osl.sh -s	Enable local lift to confirm Lift details captured in <LIFT_UTILITY_PATH>/data/psftinfra.yaml file and continue performing lift without prompting user to provide their confirmation to proceed.

Examples

psft-osl.sh -l -u -e app

Initiates a local lift for application environment and the script will prompt only to capture the Lift Data

psft-osl.sh -l -u -s -e app

Initiate a local lift for application environment in silent mode. It will not prompt for any inputs from the user.

Note: The psinfra.yaml file needs to be available under the <LIFT_UTILITY_PATH> folder) .

Locating OCI Credentials

When performing the Lift process, you will be prompted for OCI credentials.

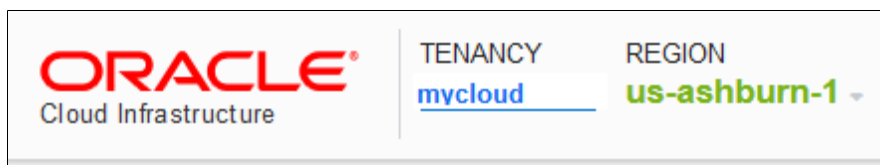
Locating Oracle Cloud Infrastructure Tenancy and Region Name

Oracle Cloud Infrastructure Tenancy and Region Name

When you log in to OCI, the tenancy and region are displayed.

Image: Tenancy and Region

This example illustrates where the Tenancy and Region names are displayed.

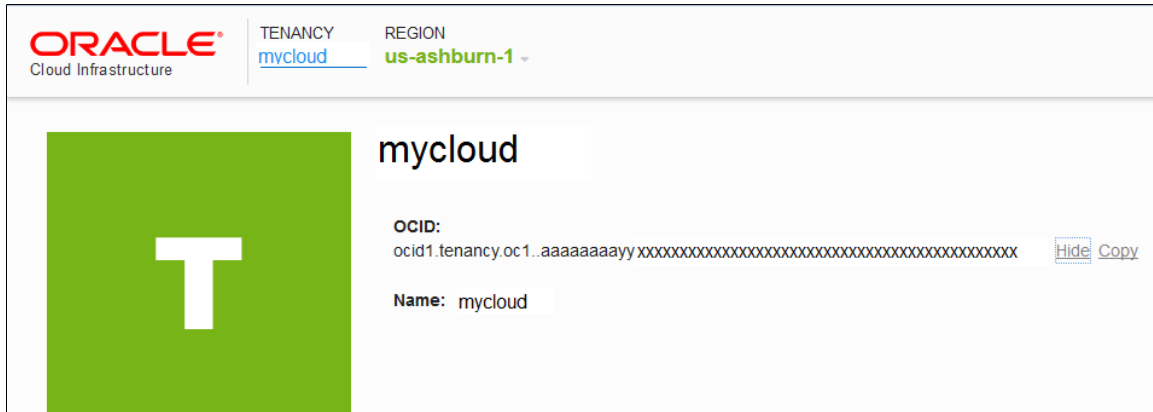


Oracle Cloud Infrastructure Tenancy ID

Click on the Tenancy name on the header to display the tenancy id.

Image: Tenancy ID

This example illustrates the Tenancy ID.



You can use the [Copy](#) link to copy the tenancy OCID.

Locating Oracle Cloud Infrastructure User ID

Mouse over on the user name on right top of the OCI console and select **User Setting** link.

Image: User Settings Link

This example illustrates the User Settings Link.

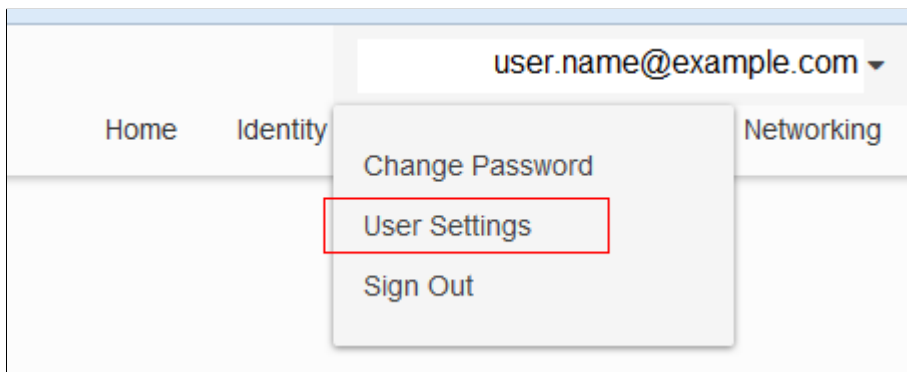
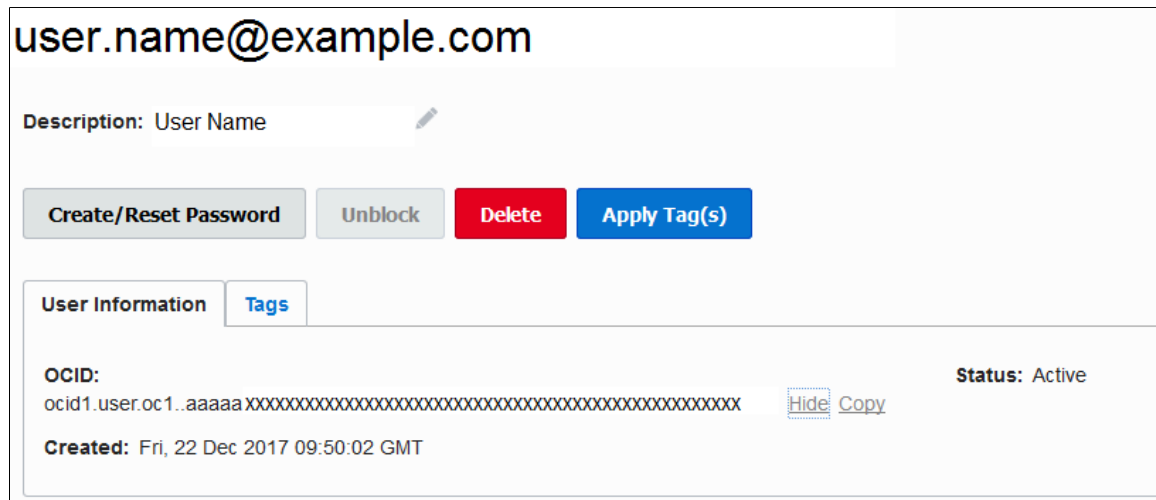


Image: User Information page

This example illustrates the User Information page.



You can use the [Copy](#) link to copy the user OCID.

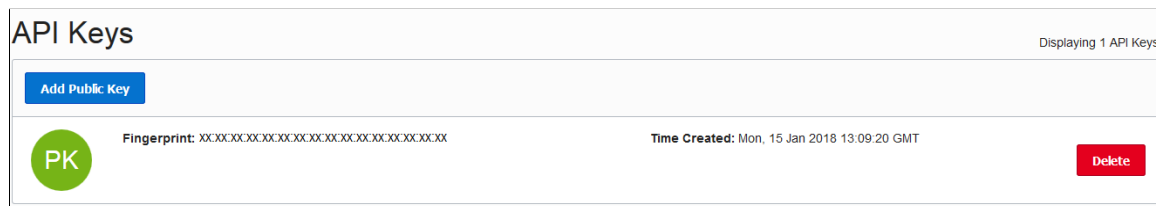
Locating Oracle Cloud Infrastructure Fingerprint

To locate the OCI fingerprint:

1. Click your username in the top-right corner of the Console, and then click User Settings.
2. Select API keys from the menu displayed on the left.

Image: API Keys

This example illustrates the API Keys page, which contains the fingerprint.



Generating Oracle Cloud Infrastructure Auth Token

To generate the OCI Auth Token:

1. Click your username in the top-right corner of the Console, and then click User Settings.
2. Select Auth Tokens from the menu displayed on the left.
3. Click on "Generate Token" and save the Auth Token displayed.

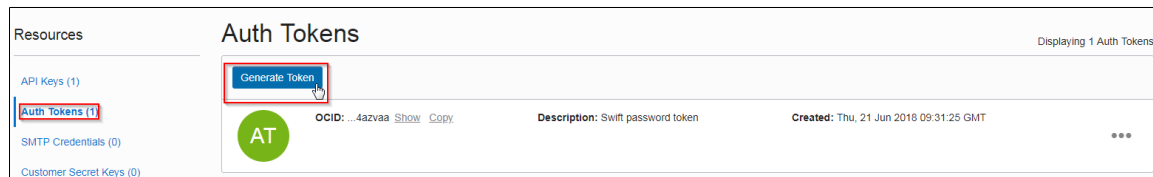
Important! Please ensure to write down and save the Auth Token immediately as you will not be able to retrieve the Auth Token once the page is closed.

This Auth Token will be needed for performing Lift and Shift.

Note: Please refrain from deleting the Auth Token After performing the Lift as this Token will be used to perform Shift. If Auth Token is deleted after performing a Lift, you will need to generate a fresh Auth Token and perform a fresh Lift using that Auth token.

Image: Auth Tokens

This example illustrates Auth Tokens page in OCI console.



Deleting Oracle Cloud Infrastructure Bucket and Objects

To delete the OCI Bucket Objects and the Bucket for RMAN Lift (ODCBM)

1. Delete all OCI Bucket Objects (Does not prompt for confirmation (--force))

```
oci os object bulk-delete -ns <Tenancy_Name> -bn <Bucket_Name> --config-file <=>
oci_config> --force
```

2. Delete all OCI Bucket

```
oci os bucket delete -ns <Tenancy_Name> --name <Bucket_Name> --config-file <o=>
ci_config>
```

Example:

```
Tenancy_Name = Intxxxxxx
Bucket_Name = PSPDB_1348135976_25092018
oci_config = <oci_config_filepath>
oci_config_filepath:
[DEFAULT]
user=ocidl.user.oc1..aaaaaaaas2j6qedkoucwpfgdku7e7cinwue2mz6vqv6nfmk2zjinb4bv=>
skha
fingerprint=36:d6:c7:9b:d4:21:d7:ad:10:70:4f:58:b7:70:0f:fb
key_file=/tmp/key.pem
pass_phrase=XXXXXXXXXX
tenancy=ocidl.tenancy.oc1..aaaaaaaayy35pigzces6ly7aslibgt7a4u7o3tlt42nxg4idzr=>
sui52gma5a
region=us-ashburn-1
oci_username=xxxxx.xxxx@oracle.com
oci_token=YYYYYYYYYYYYYY
oci_tenancy_name=intxxxxxx
```


Using the Shift Process to Provision the Migrated Environment from the Oracle Cloud

Use the Shift process to deploy packaged environment in Oracle Cloud.

Prerequisites

- The Lift and Shift topology must be modified with the required size and disk capacity of the database and middle-tier nodes. If shifting to DBaaS, then modify the Lift and Shift - DBaaS topology.

Note: The disk space of the database node must be configured based on the size of the lifted database. The recommended disk space on the database node is at least 2.5 times the lifted database size.

- During the Shift process, Cloud Manager can update the PeopleTools version of the lifted environment. To update the PeopleTools version during shift, be sure to have the required PeopleTools DPK already downloaded and available in the repository.
- The Shift process makes use of the latest PI for the application type. For example, if your lifted environment is an HCM environment, then make sure you have the latest HCM PI downloaded in your repository.
- Before shifting, the Lift and Shift related topologies must be edited and saved to add VM shape and disk capacity options. Only after this user can trigger a shift.
- The DB Admin password and the Wallet password are the same and if the customer wishes to change the Wallet password they would need to do that manually.
- The database operator Ids used during the Shift operation should have specific permissions to perform various actions. The permissions are listed below:
- For ACM (Automated Configuration Manager)— ACM administrator
- For IB (Integration Broker)— Integration administrator
- For ES (Elastic Search)— Search Administrator, Search Server, Search Developer
- For Process Scheduler — PeopleSoft Administrator, ProcessSchedulerAdmin, ReportDistAdmin
- For Portal — PeopleTools, Portal Administrator

Pages Used to Provision the Migrated Environment from the Oracle Cloud

<i>Page Name</i>	<i>Definition Name</i>	<i>Usage</i>
<u>Lift and Shift – Create Environment Wizard</u>	ECL_LAS_GENERAL_FL	Use the Lift and Shift – Create Environment wizard to perform shift operation by means of a guided process.
<u>Lift and Shift – Advanced Options Page</u>	ECL_LAS_ADV_FL	Use Lift and Shift – Advanced Options page for defining target database details.

Page Name	Definition Name	Usage
Lift and Shift – Custom Attributes Page for OCI	ECL_LAS_CUSTATR_FL	Use Lift and Shift – Custom Attributes page for defining the custom attributes as per the lifted environment.
Lift and Shift – Review and Submit Page	ECL_LAS_REVIEW_FL	Use Lift and Shift – Review and Submit page to review and submit the entered environment details.

Lift and Shift Page

Once an environment is lifted, it will be available on the Lift and Shift page. Click the List Object Store Items button to view all items.

Image: Lift and Shift page

This example illustrates the fields and controls on the Lift and Shift page. You can find definitions for the fields and controls later on this page.

Lift and Shift

Lift Utility

Migration of PeopleSoft environment from your data center is a two step process.
 1. Package your environment into Customer Application DPK and upload to Oracle Cloud using Lift Utility.
 2. Uploaded DPKs will be listed below. Select "Create Environment" action to initiate environment provisioning on Oracle Cloud.
 For information on how to lift an on-premise environment refer to help pages.
 Download Lift Utility - [LIFT_UTILITY.ZIP](#)

Available Application packages from Oracle Cloud Storage

[List Object Store Items](#)

	Name	TDE Enabled	Character Set	National Character Set	Type	Platform	Size	Uploaded On	Actions
1	GP856	FALSE	UTF8	AL32UTF8	HCM	linux	2.20 GB	02/05/2018 19:03:16	View Details, Create Environment, Delete
2	PSPDB	TRUE	UTF8	AL32UTF8	HCM	linux	1.03 GB	10/02/2018 03:10:16	Action
3	CAPHAT	FALSE	UTF8	WE8ISO8859P1	HCM	linux	4.34 GB	10/26/2018 13:24:32	Action
4	ELVINI	TRUE	UTF8	AL32UTF8	HCM	linux	3.17 GB	02/26/2018 07:52:39	Action
5	ELVINII	FALSE	UTF8	WE8ISO8859P1	HCM	linux	4.30 GB	02/26/2018 12:00:04	Action
6	HCMPI27	FALSE	UTF8	AL32UTF8	HCM	linux	0.01 GB	10/18/2018 12:44:25	Action
7	IRWPDB3	FALSE	UTF8	AL32UTF8	HCM	linux	1.91 GB	02/02/2018 09:43:45	Action
8	NC85515	FALSE	UTF8	WE8ISO8859P1	HCM	linux	6.17 GB	01/08/2018 18:45:10	Action

For description of this page see [Lift and Shift Page](#)

To verify if the lift was done using RMAN, select View Details from the action menu for the lifted environment. The type of the DB zip file (2of3.zip or 2of2.zip file) should be *db_rman*.

Image: Object Store Details

This example illustrates the fields and controls on the Object Store Details.

View Details ✕									
	File Name	Name	Type	TDE Enabled	Character Set	National Character Set	Product	Uploaded On	Version
1	APP-DPK-LNX-HCM-RMANRMAN-1of3.zip	RMANRMAN	app	NULL	NULL	NULL	HCM	10/25/2018 15:04:51	8.56.0
2	APP-DPK-LNX-HCM-RMANRMAN-2of3.zip	RMANRMAN	db_rman	FALSE	WE8ISO8859P15	UTF8	HCM	10/25/2018 13:30:26	8.56

Lift and Shift – Create Environment Wizard

Use the Lift and Shift – Create Environment wizard (ECL_LAS_GENERAL_FL) to perform the Shift operation by means of a guided process. The Shift operation facilitates provisioning a new environment using lifted DPKs.

In Lift and Shift provisioning, you can:

- Select the desired topology based on DB on Oracle Cloud (Compute or DBaaS).
- Modify the sizing and disk space.

Note: Before doing the Shift provisioning (create an environment using a lifted DPK), you must verify the Lift and Shift topology; be sure to select the right topology based on the choice of database to be created on Compute or on DBaaS. Along with that you also need to verify the sizing and disk space based upon the lifted DPK size and desired environment, a minimum allocation should be provided. For database node, you need to provide a size that is equivalent to 2.5 times of the actual lifted DPK size (not zipped).

Note: Shift needs the DB type set to DEMO in the Lift and Shift template, else it causes shift failure. By default the Lift and Shift template has DEMO as the DB Type and the value can be changed to SYS. You should not modify this value while editing the Lift and Shift template. This field does not appear in the lift and shift provision pages.

Navigation

Click the Related Action button corresponding to the lifted application. Select Create Environment option. By default, the Lift and Shift - General Details page is displayed.

Image: (Tablet) Lift and Shift - General Details Page

This example illustrates the fields and controls on the Lift and Shift - General Details page for the tablet.

Environment Name

Enter the name of the environment which you want to create.

Note: Length of environment name and identity domain name should not exceed 25 characters.

Description

Enter a meaningful description for the environment.

Template Name

Displays the default template to be attached with the environment.

Zone

Select the zone on which the environment is created.

Lift and Shift – Advanced Options Page

Use the Lift and Shift – Advanced Options page (ECL_LAS_ADV_FL) for defining target database details.

Navigation

Click step 2 or Advanced Options at the top of the Lift and Shift guided process.

Image: (Tablet) Lift and Shift – Advanced Options Page

This example illustrates the fields and controls on the Lift and Shift – Advanced Options page for the tablet.

Select the target database and PeopleTools version to be applied on the environment.

Lift and Shift – Custom Attributes Page for OCI

Use Lift and Shift – Custom Attributes page for defining the custom attributes as per the lifted environment.

Navigation

Click step 3 or Custom Attributes at the top of the Lift and Shift guided process.

Image: Lift and Shift - Custom Attributes page for OCI (1 of 3)

Lift and Shift - Custom Attributes page for OCI (1 of 3)

Name	Value
1 Weblogic Administrator Username	system
2 Weblogic Administrator Password	
3 Web Profile Password for user PTWEBSEVER	
4 Gateway Administrator Username	administrator
5 Gateway Administrator Password	

Image: Lift and Shift - Custom Attributes page for OCI (2 of 3)

Lift and Shift - Custom Attributes page for OCI (2 of 3)

Name	Value
1 Database Operator Id	PS
2 Database Operator Password	
3 Database Connect Id	people
4 Database Connect Password	
5 Database Access Id	SYSADM
6 Database Access Password	
7 Database Administrator Password	

Note: If the environment was lifted using RMAN, There will be an additional attribute for RMAN Backup Encryption Password.

Image: Lift and Shift - Custom Attributes page for OCI (3 of 3)

Lift and Shift - Custom Attributes page for OCI (3 of 3)

Name	Value
1 Windows Administrator Password	<input type="text"/>

Subnet Settings

Enter the custom attributes as per the lifted on-premise environment. It is recommended that the custom attribute values entered on this page match the on-premise configuration.

For details on custom attributes, see [Environment Attributes Details for OCI Environments Page](#).

Character Set Section

The Character Set and National Character Set attributes must be configured with values same as the on-premise database configuration.

Image: Character set section

This example illustrates the DBaaS character set field.

5 DBaaS Charset

Note: The database character sets to be used for the Shift operation are AL32UTF8 and National Character Set AL16UTF16. Possible values of National Character Set when character set is AL32UTF8 are AL16UTF16 and UTF8. There can be multiple possible values of character set such as UTF8 WE8ISO8859P15. If shifting to DBaaS, you need to modify the character sets based on the database selected.

If the customer is using the Cloud Manager UI to initiate a DBCS Shift; the “DBaaS Charset” and “DBaaS National Charset” configuration (under Database Tier section) should match with the “Charset” and “National Charset” of the Database environment where the DB Lift operation is performed.

If there is any mismatch in the Charset data, the DBCS shift will fail.

To find the Charset and National Charset information from the lifted environment, run the below SQL commands on the DB (lifted) environment.

```
select VALUE from nls_database_parameters where parameter='NLS_CHARACTERSET';
select VALUE from nls_database_parameters where parameter='NLS_NCHAR_CHARACTERSET';
```

Output:

```
SQL> SELECT value$ FROM sys.props$ WHERE name = 'NLS_CHARACTERSET' ;
```

VALUE\$

AL32UTF8

```
SQL> SELECT value$ FROM sys.props$ WHERE name = 'NLS_NCHAR_CHARACTERSET';
```

VALUE\$

UTF8

Lift and Shift – Review and Submit Page

Use the Lift and Shift – Review and Submit page (ECL_LAS_CUSTATR_FL) to review and submit the entered environment details.

Navigation

Click step 4 or Review and Submit at the top of the Lift and Shift guided process.

Image: (Tablet) Lift and Shift – Review and Submit Page

This example illustrates the fields and controls on the Lift and Shift – Review and Submit page for the tablet.

New Environment Information	
Environment Name	
Environment Description	
Zone	

Advanced Options	
Source Database	PSPDB
Target Database On	Compute
Target People Tools Version	

Environment Attributes	
Middle Tier	

Credentials	
1	Weblogic Administrator Username
2	Weblogic Administrator Password

Review the details that were entered for the environment.

Click the Submit button to initiate the creation of a lifted environment in Oracle Cloud based on the details provided.

Once the environment is ready, you are able to view it under the Environments tile. For details, see [Environments Tile](#).

Migrating TDE Encrypted Database to Oracle Cloud (OCI and OCI-Classic) using PeopleSoft Cloud Manager

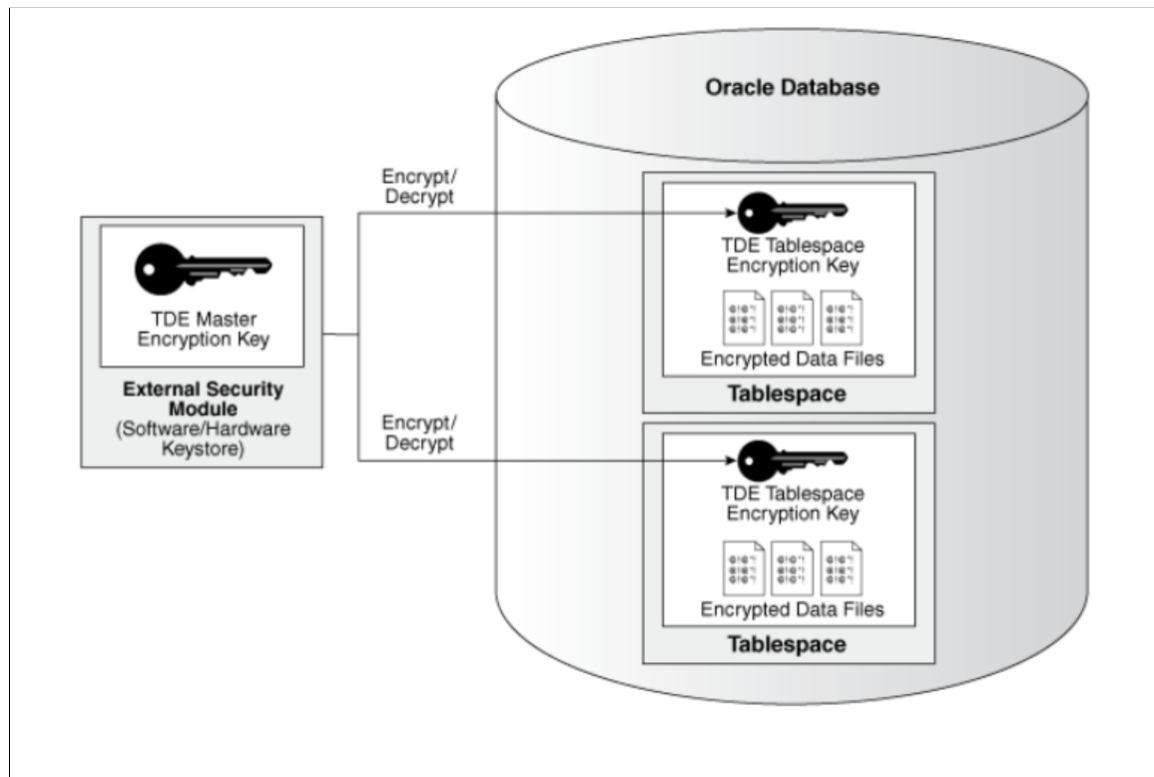
Transparent Data Encryption (TDE) enables customers to encrypt sensitive data, such as Personally Identifiable Information (PII), that are stored in tables and tablespaces.

After the data is encrypted, this data is transparently decrypted for authorized users or applications when they access this data. TDE helps protect data stored on media (also called data at rest) in the event that the storage media or data file is stolen.

Image: Transparent Data Encryption for Cloud Manager

This is a graphical representation of the Transparent Data Encryption for Cloud Manager.

Note: This flow diagram is specific to CM and is generic for TDE.



Prerequisites

Below requirements must be satisfied to successfully migrate a TDE enabled database.

- Database being migrated must have TDE enabled and required tablespaces already encrypted.
- Minimum PeopleTools version on the on-premise environment must be 8.55.20. On-premise environments on any version of PeopleTools 8.56 or 8.57 are supported.
- Minimum PeopleTools version on the Shifted environment must be 8.55.20.
- Database must be on Oracle 12c (12.1) container.
- Must be a Unicode, non-RAC and non-ASM database.
- Must have subscription to DBCS in Oracle Cloud Infrastructure. Migration of TDE encrypted database is supported only to DBCS. Migration to Compute instance is not supported.
- Remote lift not supported on TDE.

Lifting TDE Encrypted Database

After the lift process is completed, DPKs are created and the TDE Encryption Keys are exported to a file. This exported file must be securely stored and later provided as input when deploying the lifted DPKs.

1. Download the latest lift utility.
2. Copy and extract the utility on the on-premise environment.
3. Run the lift utility to package database and middle-tier environment into DPKs. The Lift utility when triggered on a TDE Enabled Database prompts for TDE Keystore (Wallet) Password and a TDE Masterkey secret password.
4. Lift utility uploads the DPKs to Oracle Cloud Infrastructure Object Storage.

See [Running Lift Using Hot Backup \(RMAN\)](#) or [Running Lift Using Cold Backup \(PDB\)](#).

If the database is lifted using cold backup method and the user selects to manually upload the DPKs to Object Storage, then follow the procedure to manually upload. See [Uploading the DPK Manually to Oracle Cloud Infrastructure \(Cold Backup\)](#).

5. The TDE encryption key is exported to a file and will be packaged on the on-premise system in a zip file under /<LIFT_UTILITY_PATH>/data/masterkey.zip. The zip file contains the keyfile.txt and tdemasterkey.p12 files. The lift log file will have the path to the zip file as shown below example. This zip file must be backed up and produced when shifting.

Image: Lift Log File

Lift Log File (/<Lift_Utility>/data/psft_lift_session_<PDBNAME>_<SESSIONID>_<PID>.log)

```
2018-01-02T04:36:19EST apputils.py INFO : Master Key zip created successfully
2018-01-02T04:36:19EST apputils.py INFO :
*****
2018-01-02T04:36:19EST apputils.py INFO : TDE Key to use during Shift is
packaged within: /mnt/azfs/osl/data/masterkey.zip
2018-01-02T04:36:19EST apputils.py INFO :
*****
```

Shifting TDE Encrypted Database

After the lifted DPKs are uploaded to Oracle Cloud Infrastructure Object Storage, navigate to the Lift and Shift page in Cloud Manager and click the button to 'List of Object Store items' to refresh the list. Follow below steps to deploy the lifted DPKs.

1. Securely copy the TDE encryption key export file (masterkey.zip, this should be accessible for psadm2 users) to Cloud Manager instance using your favorite SCP tool.

Note: The length of the path to the zip file must be less than 30 characters.

2. Identify the lifted DPK that must be shifted and initiate shift process by selecting 'Create Environment' in the Actions menu.
3. Provide all the New Environment Information and click Next.

- In Advanced Options, 'Target Database On' Option is set to DBaaS. Compute option is not supported when migrating a TDE encrypted database. Select the PeopleTools patch version and click Next.

Image: Lift and Shift – Advanced Options page

This example illustrates the fields and controls on the Lift and Shift – Advanced Options page.

Note: Minimum PeopleTools version on the Shifted environment is 8.55.20.

- In Custom Attributes page, TDE related inputs are listed under Database as a Service | Credentials. Provide the path to the masterkey.zip file from step 1 above as input to TDE Master Key file Location and the secret password that was used to encrypt it. Provide all other required inputs and click Next.

Image: TDE Specific Fields in Custom Attributes Page

TDE Specific Fields in Custom Attributes Page

8	TDE Enabled	YES
9	TDE Master Key file Location	<input type="text"/>
10	TDE Master Key secret password	<input type="password"/>

- Finally, review all inputs and submit the request to start provisioning the lifted DPKs.

Shifting to RAC on DBaaS

Cloud Manager only supports shift to RAC for DBaaS.

Shifting to RAC in OCI

Before shifting the database to RAC, you must modify the Lift and Shift - DBaaS topology with the required shape, and disk capacity of the database and middle-tier nodes.

Note: The vm shape needs to be supported for RAC (2-node DB system).

See [Add Node Page for OCI](#)

In order to shift to RAC in OCI, follow the procedure for shifting the migrated environment to the Cloud. See [Using the Shift Process to Provision the Migrated Environment from the Oracle Cloud](#)

- On the Lift and Shift – Advanced Options page, select *DBaaS* for Target Database On field.

See [Lift and Shift – Advanced Options Page](#)

- On the DB System Options page, the Node Count must be 2.

The number of nodes in the database system depends on the shape you select. The shape selected in the topology must support 2 nodes.

Image: DB System Options

This example illustrates the fields and controls on the DB System Options.

The screenshot shows the 'DB System Options' page with a table containing 7 rows of configuration options. Each row has a number, a label, a control, and a help icon (question mark).

DB System Options			
1	Software Release	Oracle Database 12c Release 1	?
2	Display Name	HR Production DB	?
3	Auto Backup	NO	?
4	License Type	License Included	?
5	Node Count	2	?
6	Software Edition	Enterprise Edition - Extreme Performance	?
7	Cluster Name	hproddb	?

Encrypting Tablespaces Using Transparent Data Encryption

Note: The procedure explained below to encrypt an existing database must be performed on the source environment before lift.

This topic summarizes the procedure to enable Transparent Data Encryption (TDE) Tablespaces Offline Encryption for an Oracle PeopleSoft Applications database. This process is referred to as using the *Fast Offline Conversion* method to convert existing clear data (residing in non TDE encrypted tablespaces) to TDE encrypted tablespaces. In order to use this feature, the PeopleSoft Applications database requires downtime, as the tablespace(s) to be encrypted need to be temporarily offline. As the encryption is

transparent to the application, code does not have to be rewritten, and existing SQL statements work as they are. Transparent also means that any authorized database session can read the encrypted data without any problem: the encryption only applies to data-at-rest, i.e. the database datafiles and any backups of them.

This new functionality - introduced in Oracle release 12.2 is enabled by a patch for 12.1.0.2 that can be downloaded from Oracle Support. See My Oracle Support Knowledge Document 2148746.1 for the specific patch number(s) along with instructions on how to access the patch. Once installed, the patch enables offline, in-place TDE conversion of datafiles. This process is the recommended Oracle Maximum Availability Architecture best practice for converting to TDE with minimal downtime and the least complexity.

Prerequisites

- This procedure can be used with Oracle PeopleSoft Applications Database – on Enterprise Edition - Version 12.1.0.2 thru Release 18c (Release 12.1, 12.2, and 18c).
- As noted in Section 1, refer to My Oracle Support Knowledge Document 2148746.1 for the most recent information on the patch required to enable this process, and the procedure to apply it to an Oracle PeopleSoft Applications database.
- Understand TDE implications and restrictions and develop a process for maintaining wallets and keys. Refer to the *Oracle Database Advanced Security Administrator's Guide* (12.1 or 12.2) for further details.
- Ensure the compatible database parameter is set to the appropriate database version, 12.1.0.2 or 12.2.0.2.
- Always take a full backup of your database before starting the procedure.

TDE Offline Datafile Encryption Restrictions

The following restrictions apply to implementing Tablespace Encryption using Fast Offline Conversion:

- It can only be performed for application tablespace datafiles. SYSTEM, SYSAUX, UNDO and TEMP tablespaces cannot be encrypted.
- External Large Objects (BFILEs) cannot be encrypted using TDE tablespace encryption. because these files reside outside the database. PeopleSoft applications do not utilize BFILEs.

Procedure to Perform TDE Tablespace Offline

To perform TDE Tablespace Offline Encryption for an Oracle PeopleSoft Applications database, follow the steps below:

1. Shut down application server processes.
Shut down all Applications server processes and make sure all jobs are completed cleanly before continuing further. Users should be prevented from using the Applications database until the encryption process is completed.
2. Source your Oracle PeopleSoft Applications Database Oracle Home.

3. Create a wallet by specifying the wallet location in the sqlnet.ora file under the \$TNS_ADMIN directory:

- a. Add the following entry to the sqlnet.ora:

```
ENCRYPTION_WALLET_LOCATION = (SOURCE = (METHOD = FILE) (METHOD_DATA = (DI-
RECTORY = $ORACLE_HOME/admin/TDE/$ORACLE_SID)))
```

- b. Create the corresponding directory manually:

```
$ mkdir -p $ORACLE_HOME/admin/TDE/$ORACLE_SID
```

- c. Check wallet location and status:

```
$ sqlplus / as sysdba;
SQL>select * from V$encryption_wallet;
```

4. Create a Keystore in the wallet.

```
SQL>ADMINISTER KEY MANAGEMENT CREATE KEYSTORE '$ORACLE_HOME/ADMIN/tde/$ORACLE-
_SID' IDENTIFIED BY "<Strong password>";
```

5. Open the Keystore create in step 4. As we are in a multitenant environment, we have to specify CONTAINER=ALL in order to set the keystore in all the PDBs:

```
SQL>ADMINISTER KEY MANAGEMENT SET KEYSTORE OPEN IDENTIFIED BY PASSWORD CONTAIN-
ER=ALL;
```

6. Set the master encryption key:

```
SQL>ADMINISTER KEY MANAGEMENT SET KEY IDENTIFIED by "<Strong password>" CONTAIN-
ER=ALL;
```

Note: The password must be enclosed in double quotes as shown.

7. Bounce the database:

```
SQL> shutdown normal;
SQL> exit;
```

8. Startup the database normally, ensuring that the wallet is open:

```
sqlplus "/ as sysdba"
SQL>startup;
SQL>ADMINISTER KEY MANAGEMENT SET KEYSTORE OPEN IDENTIFIED BY "<Strong passwor-
d>" CONTAINER=ALL;
```

9. Switch to the PeopleSoft PDB.

```
SQL> ALTER SESSION SET CONTAINER=<PDBNAME>;
```

10. Identify all the temporary and undo tablespaces in the database:

```
SQL>select tablespace_name from dba_tablespaces where contents='TEMPORARY' and=>
STATUS='ONLINE';
SQL>select tablespace_name from dba_tablespaces where contents='UNDO' and STAT=>
US='ONLINE';
```

11. While still in the PDB, generate three scripts which will be used perform the TDE offline data conversion.

ALTDATAFILESOFFLINE.SQL

ALTDATAFILESENCRYPT.SQL

ALTDATAFILESONLINE.SQL

- a. Script one takes specific datafiles offline. Create a script file with the following statements and save file as `generatealtdatafilesoffline.sql`.

```
sqlplus "/ as sysdba"
SET LINESIZE 256
SET HEADING OFF;
SET TERM OFF;
SET FEED OFF;
SPOOL ALTDATAFILESOFFLINE.SQL
select 'alter database datafile '''||b.file_name|| ''' offline;'
from dba_tablespaces a, DBA_DATA_FILES b
where a.tablespace_name not in ('SYSTEM','SYSAUX','TEMP','PSTEMP','PSGTT0=
1') and a.tablespace_name=b.tablespace_name
;
Spool off
Exit
If you call the generation script GENERATEALTDATAFILESOFFLINE.SQL using @=>
from SQLPLUS, then you will not have to do any additional editing of the=>
generated script.
SQL>alter session set container=<PDBNAME>
System altered.
SQL>@generatealtdatafilesoffline.sql
Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2=>
.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Test=>
ing options
$
```

- b. Script two offline encrypts datafiles offline. Create a script file with the following statements and save file as `generatealtdatafilesencrypt.sql`.

```
sqlplus "/ as sysdba"
SET LINESIZE 256
SET HEADING OFF;
SET TERM OFF;
SET FEED OFF;
SPOOL altdatafilesencrypt.sql
select 'alter database datafile '''||b.file_name|| ''' ENCRYPT;'
from dba_tablespaces a, DBA_DATA_FILES b
where a.tablespace_name not in ('SYSTEM','SYSAUX','TEMP','PSTEMP','PSGTT0=
1') and a.tablespace_name=b.tablespace_name
;
Spool off
Exit
If you call the generation script GENERATEALTDATAFILESENCRYPT.SQL using @=>
from SQLPLUS, then you will not have to do any additional editing of the=>
generated script.
SQL>alter session set container=<PDBNAME>;
System altered.
SQL>@generatealtdatfilesencrypt.sql
Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2=>
.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Test=>
ing options
$
```

- c. Script three brings datafiles back online. Create a script file with the following statements and save file as `generatealtdatafilesonline.sql`.

```
sqlplus "/ as sysdba"
```



```

SET LINESIZE 256
SET HEADING OFF;
SET TERM OFF;
SET FEED OFF;
SPOOL altdatafilesonlineexec.sql
select 'alter database datafile '''||b.file_name|| ''' online;'
from dba_tablespaces a, DBA_DATA_FILES b
where a.tablespace_name not in ('SYSTEM','SYSAUX','TEMP','PSTEMP','PSGTT0'
1') and a.tablespace_name=b.tablespace_name
;
Spool off
Exit

```

If you call the generation script GENERATEALTDATAFILESONLINE.SQL using @ => from SQLPLUS, then you will not have to do any additional editing of the => generated script.

```

SQL>alter session set container=<PDBNAME>;
System altered.
SQL>@generatealtdatafilesonline.sql
Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2=>
.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Test=>
ing options
$

```

- d. Then get back to root or the CDB level.

```
SQL> ALTER SESSION SET CONTAINER=CDB$ROOT;
```

- e. Close the PDB. We want the state to be in 'MOUNT' mode.

```
SQL> ALTER PLUGGABLE DATABASE <PDBNAME> CLOSE IMMEDIATE;
```

- f. Switch to the PeopleSoft PDB.

```
SQL> ALTER SESSION SET CONTAINER=<PDBNAME>;
```

12. Bring all the specified tablespaces offline by connecting to SQL*Plus as sysdba, and executing the script altdatafilesoffline.sql.

```

$ sqlplus / as sysdba
SQL> @altdatafilesoffline.sql;

```

13. Encrypt your datafiles by running the altdatafilesencrypt.sql offline encryption script from SQL*Plus as sysdba:

```

$ sqlplus / as sysdba
SQL>@altdatafilesencrypt.sql;

```

Note: If you have a large number of datafiles, you can parallelize their encryption by creating sub-scripts and running the sub-scripts from parallel SQL*Plus sessions.

14. Bring all the specified tablespaces online by connecting to SQL*Plus as sysdba, and executing the script altdatafilesonline.sql.

```

$ sqlplus / as sysdba
SQL> @altdatafilesonline.sql;

```

Note: Some tablespaces may take time to show as online. These are probably tablespaces that are encrypted.

Check the status of tablespace encryption by connecting to SQL*Plus / as sysdba and running the query shown:

```
$ sqlplus / as sysdba
SQL>select tablespace_name, encrypted from dba_tablespaces;
```

Note: Unless an auto login keystore is created, every time the database is started up, the wallet will need to be opened as in Step 8 above.

For 12c, to make the wallet auto login, run the following command:

```
$ sqlplus / as sysdba
$ administer key management create AUTO_LOGIN keystore from keystore "<Wallet =>
Path>" identified by "<Wallet Password>"
```

Bounce the database.

Enabling Selective Adoption in Cloud Manager

Enabling Selective Adoption in Cloud Manager

Cloud Manager enables customers to take advantage of Selective Adoption by:

- Quickly creating PUM environments in Oracle Cloud.
- Automating configuration of target databases in PUM source.

Once target databases are configured, standard procedure should be followed to apply updates to target environments. For details on the selective adoption process, refer [Selective Adoption](#).

Before creating a new PUM source environment, a PeopleSoft administrator needs to:

1. Ensure that the latest required PI is downloaded in the repository.
2. Create a new environment template using the latest downloaded PI and PUM topology.
3. Enable user access to the newly created PUM source environment template.

Creating PUM Environments

To create a new PUM source environment using Cloud Manager:

1. Click the Create Environment button on the Environments landing page.
2. Enter the required environment attributes inputs.
3. Select the PUM source environment template to deploy.
4. Click Done.

See [Create Environment Page](#)

Adding Targets to PUM Sources

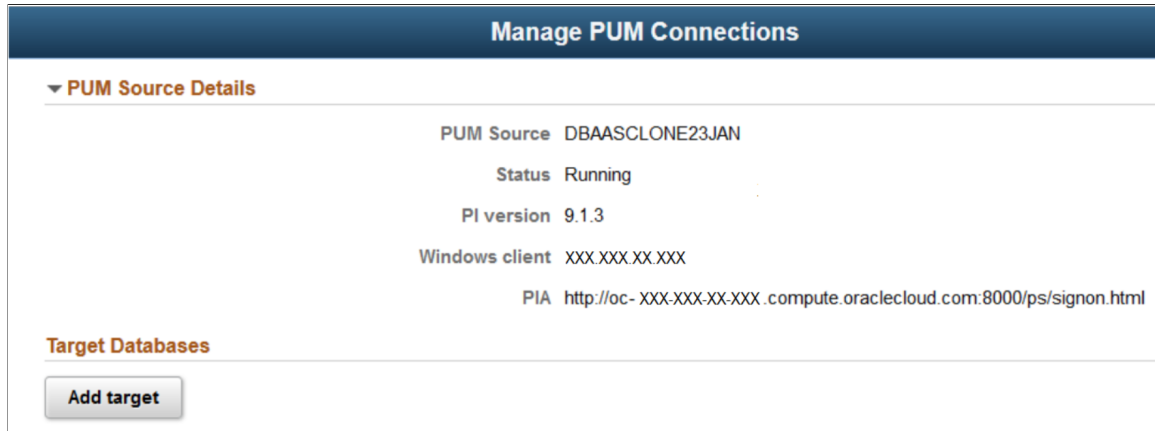
After the PUM source environment is deployed and is in running state, you can add the target database to the PUM source by performing the following:

1. Click the Environments tile available on the Cloud Manager home page.
2. Click the Related Actions button corresponding to the PUM source environment.
3. Navigate to the Environment Details page.

4. Select the Manage PUM Connections link available on the left panel of Environment Details page. The Manage PUM Connections page is displayed as shown.

Image: Manage PUM Connections page

This example illustrates the fields and controls on the Manage PUM Connections page.



Manage PUM Connections

▼ **PUM Source Details**

PUM Source DBAASCLONE23JAN

Status Running

PI version 9.1.3

Windows client XXX.XXX.XX.XXX

PIA http://oc-XXX-XXX-XX-XXX.compute.oraclecloud.com:8000/ps/signon.html

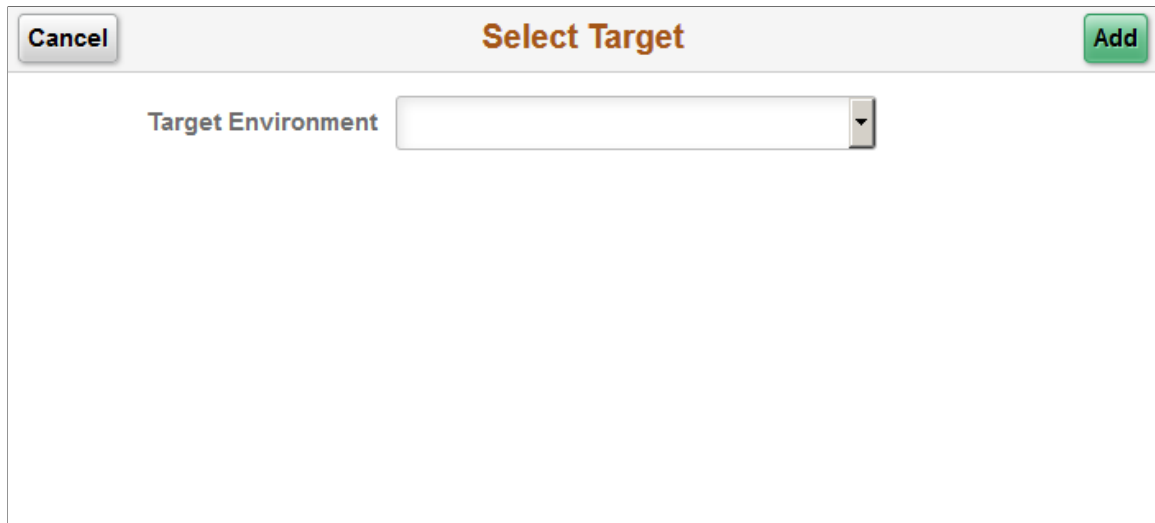
Target Databases

Add target

5. Click the Add target button to add any environment of the same application type as the PUM source. This displays a modal window for selecting a target database as shown.

Image: Select Target modal window

This example illustrates the fields and controls on the Select Target modal window.



Cancel **Select Target** Add

Target Environment

6. Select a target environment.
7. Click the Add button to add the target database.

Adding the target database takes a few minutes to complete. The target database is configured in Change Assistant and the target database information is uploaded to the PUM source database. The status is displayed as *In Progress* when the job to add target is running. The status is changed to *Completed* if the target is added successfully, and to *Failed* if the job did not run successfully.

Accessing Change Assistant in Windows Client

Change package can be defined, created and applied to target environments using the Change Assistant and the PUM source PIA.

To access Change Assistant, perform the following:

1. Determine the IP address or hostname of the PeopleSoft Client that was deployed as part of the PUM source environment from the Environment Details page.

The IP address and Oracle Cloud name is displayed in PeopleSoft Client section of the Environment Details page.

2. Connect to the Windows Client using remote desktop connection.
3. To apply PRPs to PUM Source environment, you need to copy the downloaded PRPs from the file repository to the Windows Client VM. All downloaded PRPs are accessible to Windows Client VM as a samba share. To access the PRP share on the Windows VM, perform the following:
 - RDP to Windows Client VM
 - Connect to the samba share using \\<File_Server_IP>\PRP.
 - Copy the required PRPs to D:\psft\pum_download directory on the Windows Client.
 - Use Change Assistant to apply the copied PRPs to the PUM Source environment.
4. Follow the standard selective adoption procedures by:
 - Applying PRPs to PUM Source environment.
 - Defining change package by connecting to the PUM source database.
 - Creating and applying change package.

Updating Cloud Manager

Updating Cloud Manager Overview

Similar to any PeopleSoft application, Cloud Manager updates are released as PeopleSoft Update Images and PRPs. Cloud Manager updates are available as part of Interaction Hub Update Images and corresponding PRPs. These updates can be applied either using an automated method or manually using selective adoption.

- Automatically Applying Updates using Manage Updates
See [Automatically Applying Updates Using Manage Updates](#)
- Manually Applying Updates using Selective Adoption
See [Manually Applying Updates Using Selective Adoption](#)

Note: Please backup both the boot volume and block volume of the Cloud Manager instance before applying the updates. See [Using Automated Backup and Restore Utility](#). If Cloud Manager instance is not on Image 9, then use the manual method to backup, see [Manually Backing Up and Restoring Cloud Manager Using Block Volume Backups for OCI](#).

Automatically Applying Updates Using Manage Updates

The Automated Cloud Manager Update feature facilitates automatic self-update to the latest Cloud Manager Update Image and automatic PeopleTools update or upgrade when required for the latest Cloud Manager Update image. This feature is also used to apply PRPs to the Cloud Manager image. The Manage Updates page displays information regarding updates that are available.

The update process will:

1. Provision a new PUM Source instance and a Windows Client
2. Apply PRPs (if any) on the PUM Source
3. Install and configure Change Assistant on Windows Client
4. Define a Change Package
5. Create Change Package
6. Apply Change Package
7. Reboot domains (as needed)

You need to manually subscribe to Interaction Hub (IH) download channel. Whenever there is a new Interaction Hub (IH) PI or new PRPs get posted, Cloud Manager will show a notification on the update page about the new available updates. You need to click on the Apply button, which will ask for a set of credentials and spin up a IH PUM Source instance. Once the PUM source is up and running, the rest of the automation kicks in and applies new updates to Cloud Manager instance. In case of failures during the automated update process, an administrator must resolve the issue and come back to Cloud Manager to continue the update process. For example, if applying change package failed, then the administrator must connect to the Windows Client VM, launch Change Assistant and run the update job to completion. After which, the administrator must come back to the Cloud Manager Update page and continue the automated update process.

You need to perform the following steps prior to triggering Cloud Manager Application update:

- Subscribe to Interaction Hub (IH) download channel.
- Subscribe to PeopleTools version of the IH PUM source.

Note: The Update Image manifest for the IH PUM source image will list the PeopleTools version.

- Ensure a Windows Image is available in your account.
- Configure Windows Image OCID in Cloud Manager Settings page.
- Ensure to have a maintenance window before updating.
- Ensure no user is using Cloud Manager or submitting new operations.
- Ensure to take a backup of Cloud Manager before updating.

Note: If the Cloud Manager update is initiated with jobs currently running, those jobs may fail. The administrator must clean up and resubmit any jobs that failed.

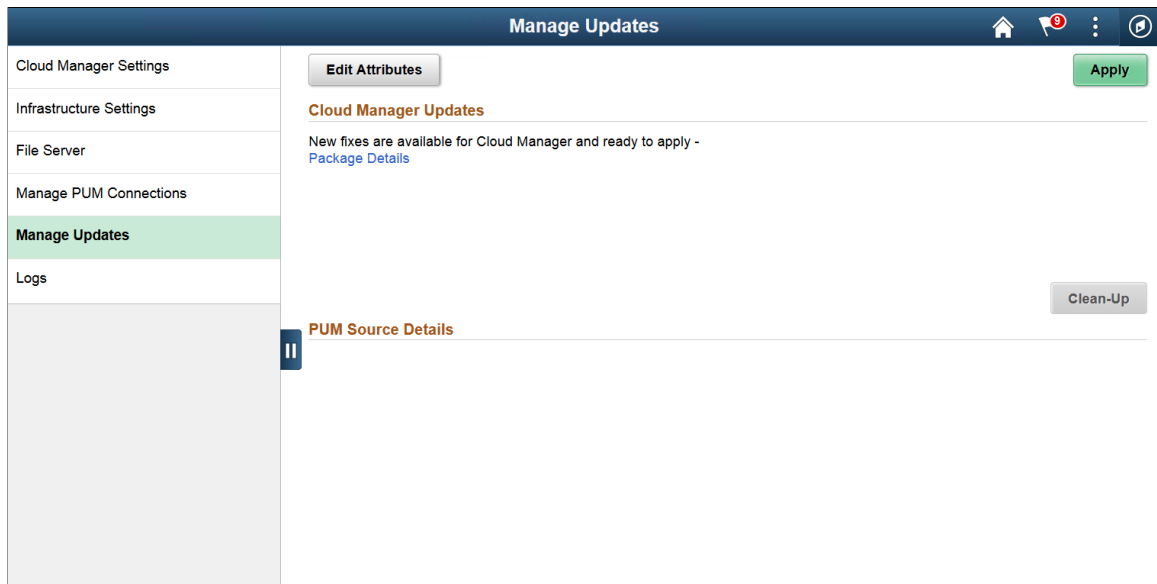
To trigger automated Cloud Manager application update, perform the following:

Note: Please ensure to take a backup of Cloud Manager instance (using Cloud Manager backup utility or snapshot method).

1. Log in to Cloud Manager as a user having PACL_CAD user role.
2. Click on Cloud Manager Settings tile, then select Manage Updates.

Image: Manage Updates page

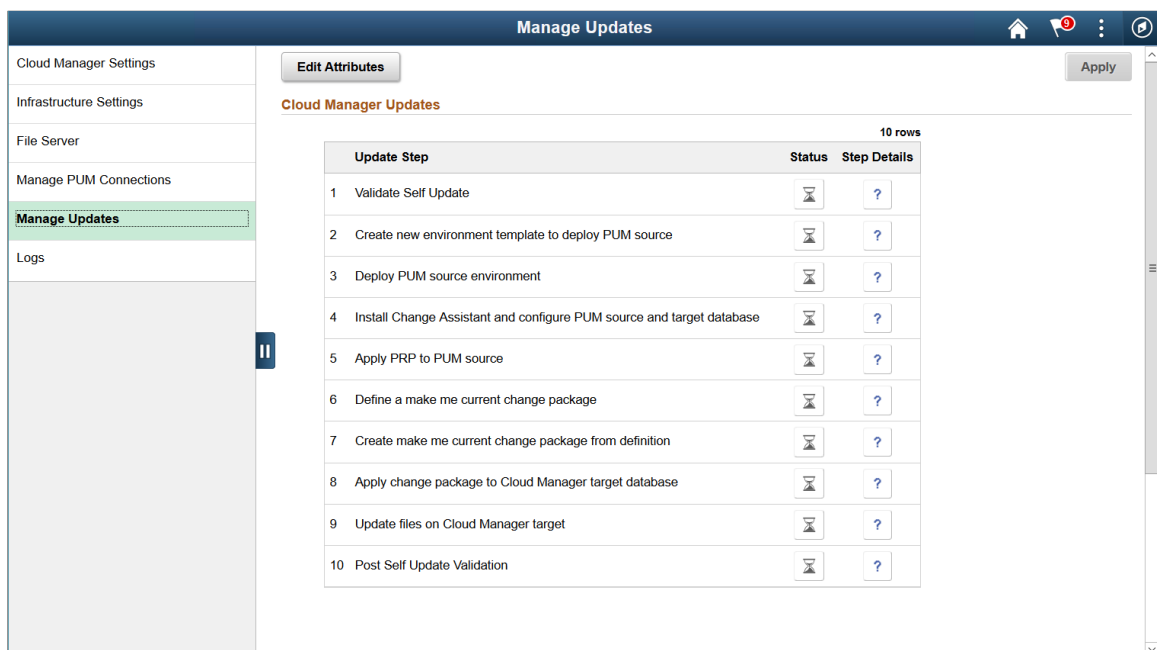
This example illustrates the fields and controls on the Manage Updates page.



3. Click the Edit Attributes button to input credentials that will be used to deploy a PUM Source environment.
4. Click Save.
5. Click Apply to initiate Cloud Manger Update. The update steps and status are displayed.

Image: Manage Updates page showing Cloud Manager Update Steps

This example illustrates the Manage Updates page showing Cloud Manager Update Steps.



This table lists the update steps:

Step	Description
Validate Self Update	This step validates that all of the dependencies for the automation are available and the system is ready to begin the update process.
Create new environment template to deploy PUM source	<p>In this step, a new environment template <i>CDMSLFUPDI</i> is created that will be used to deploy PUM source environment using the latest PeopleSoft Image. The template name can be obtained from the Edit Attributes page.</p> <p>If the status is <i>Success</i> - A new template was successfully created.</p> <p>If the status is <i>Failure</i> - Template creation failed. In this case, the Retry is enabled. You can delete the template if it was created incorrectly and retry the step.</p>
Create new environment template to deploy PUM source environment	<p>In this step, a new environment template <i>CDMSLFUPDI</i> is created that will be used to deploy PUM source environment using the latest PeopleSoft Image. The template name can be obtained from the Edit Attributes page.</p> <p>If the status is <i>Success</i> - A new template was successfully created.</p> <p>If the status is <i>Failure</i> - Template creation failed. In this case, the Retry is enabled. You can delete the template if it was created incorrectly and retry the step.</p>
Deploy PUM source environment	<p>In this step, a new PUM source environment named <i>CDMSLFUPDI</i> is created using the template that was created in the previous step.</p> <p>If the status is <i>Success</i> - A new PUM source is created and the details are provided in the PUM Source Details section.</p> <p>If the status is <i>Failure</i> - Creating a new PUM source environment failed. In this case, the Retry is enabled.</p> <p>Remedial Action - Clean up the failed environment and any instances from both Cloud Manager UI and Oracle Cloud Infrastructure Console that were created and retry the step. The Continue option is disabled until the clean up is complete.</p>
Install Change Assistant and configure PUM source and target database	<p>This step executes the processes such as install Change Assistant on the PeopleSoft Client VM instance, configure Change Assistant to add source and target database, and upload target database information to PUM source.</p> <p>If the status is <i>Success</i> - Change Assistant is installed and configured with source and target database information.</p> <p>If the status is <i>Failure</i> - Failed to install or configure Change Assistant. In this case, the Retry is enabled.</p> <p>Remedial Action - Retry step. Alternatively choose to skip this step after configuring the source and target database manually using Change Assistant and retry.</p>

Step	Description
Apply PRPs on PUM source	<p>In this step, any PRPs that were downloaded are applied and available in Repository on the PUM source.</p> <p>If the status is <i>Success</i> - All PRPs were successfully applied on the PUM source environment.</p> <p>If the status is <i>Failure</i> - Failed to apply one or more PRPs. In this case, the Retry is enabled.</p> <p>Remedial Action - Retry step. Alternatively choose to skip this step after manually applying all PRPs using Change Assistant. The required PRPs will be available on the PeopleSoft Client VM, if not copy from File Server PRP share.</p>
Define make me current change package	<p>In this step, a new change package is defined.</p> <p>If the status is <i>Success</i> - Successfully defined a change package which includes all bugs for CM product code.</p> <p>If the status is <i>Failure</i> - Failed to define a change package. In this case, the Retry is enabled.</p> <p>Remedial Action - Login to Update Manager PIA of PUM source and delete the change package definition in error and retry step. The name of the definition is in the format CMCHGPKG{n}, where n is the sequence number. Alternatively, create the make me current change package definition in Change Assistant. Name the change package CMCHGPKG{n}, where n is the sequence number. Mark the failed step as COMPLETED MANUALLY.</p>
Create make me current change package from definition	<p>In this step, a change package using the definition that was created in previous step.</p> <p>If the status is <i>Success</i> - Successfully created a change package.</p> <p>If the status is <i>Failure</i> - Failed to create a change package. In this case, the Retry is enabled.</p> <p>Remedial Action - Retry step. Alternatively, skip the step after creating the change package manually using Change Assistant with the same name as the definition created in previous step.</p>
Apply change package to Cloud Manager target database	<p>In this step, the change package that was created in the previous step is applied.</p> <p>If the status is <i>Success</i> - Successfully applied the change package.</p> <p>If the status is <i>Failure</i> - Failed to apply the change package.</p> <p>Remedial Action -Complete the apply step manually using the Change Assistant and continue with next step.</p> <hr/> <p>Warning! : Reapplying a change package is not recommended as it may apply the fix again.</p> <hr/>

Step	Description
Update files on Cloud Manager target	<p>In this step, the new and updated files are copied to Cloud Manager target.</p> <p>If the status is <i>Success</i> - Successfully copied all file updates.</p> <p><i>Failure</i> - Failed to copy one or more files. In this case, the Retry is enabled.</p> <p>Remedial Action - Retry step.</p>
Post Self Update Validation	This step validates that the update is complete and the newly created domains are running.

After all steps are executed successfully the status of the update process is shown as below.

Note: For Cloud Manager on OCI - Using psadmin, restart application server domain, process scheduler domain and web domain on the Cloud Manager instance to ensure the latest updates are running.

The PUM Source environment can then be cleaned up using the Clean-up button.

Image: Example: Successful Update

This example illustrates a successful update.

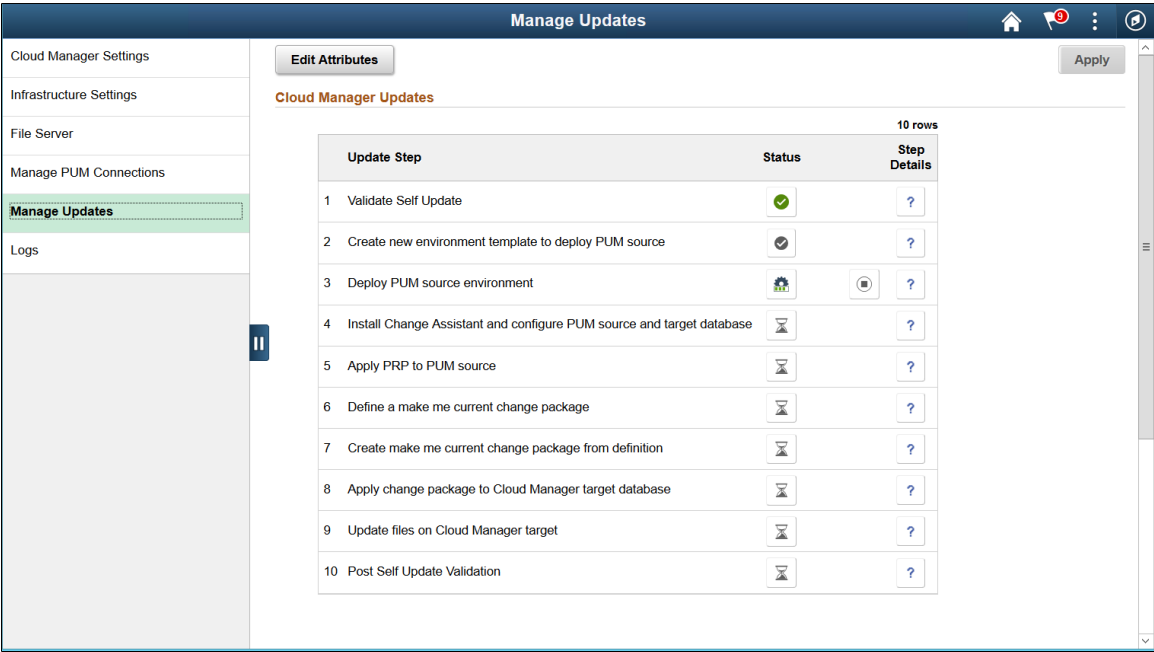
Update Step	Status	Step Details
1 Validate Self Update	Success	?
2 Create new environment template to deploy PUM source	Success	?
3 Deploy PUM source environment	Success	?
4 Install Change Assistant and configure PUM source and target database	Success	?
5 Apply PRP to PUM source	Success	?
6 Define a make me current change package	Success	?
7 Create make me current change package from definition	Success	?
8 Apply change package to Cloud Manager target database	Success	?
9 Update files on Cloud Manager target	Success	?
10 Post Self Update Validation	Success	?

Monitoring Update Steps

The status of the update is displayed on the Manage Updates page.

Image: Manage Updates Status

This example illustrates the fields and controls on the Manage Updates page when the steps are running.



Status Icons



Pending



Success



In Progress



Failed



Continue



Abort



Step details

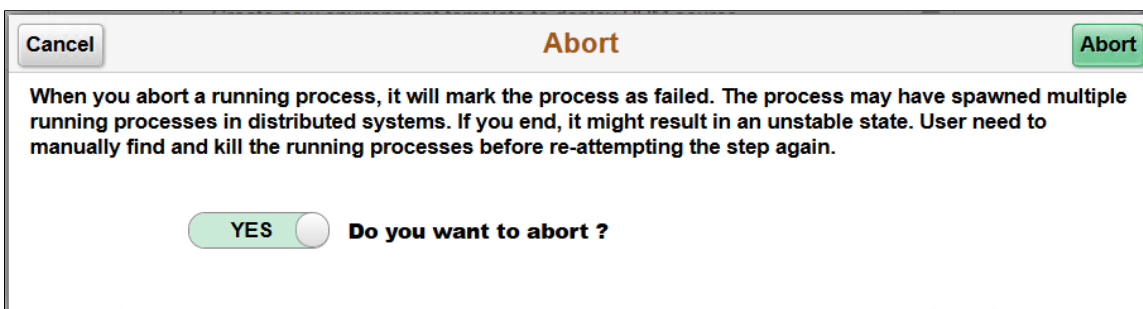


Pause

The Abort icon is shown when a step is running. When you click the Abort icon, the modal window is displayed.

Image: Abort Modal window

This example illustrates the Abort Modal window.



Caution should be used when aborting a step, it is possible that not all processes that were spawned will be aborted. It is recommended to reboot the Cloud Manager instance after aborting a process.

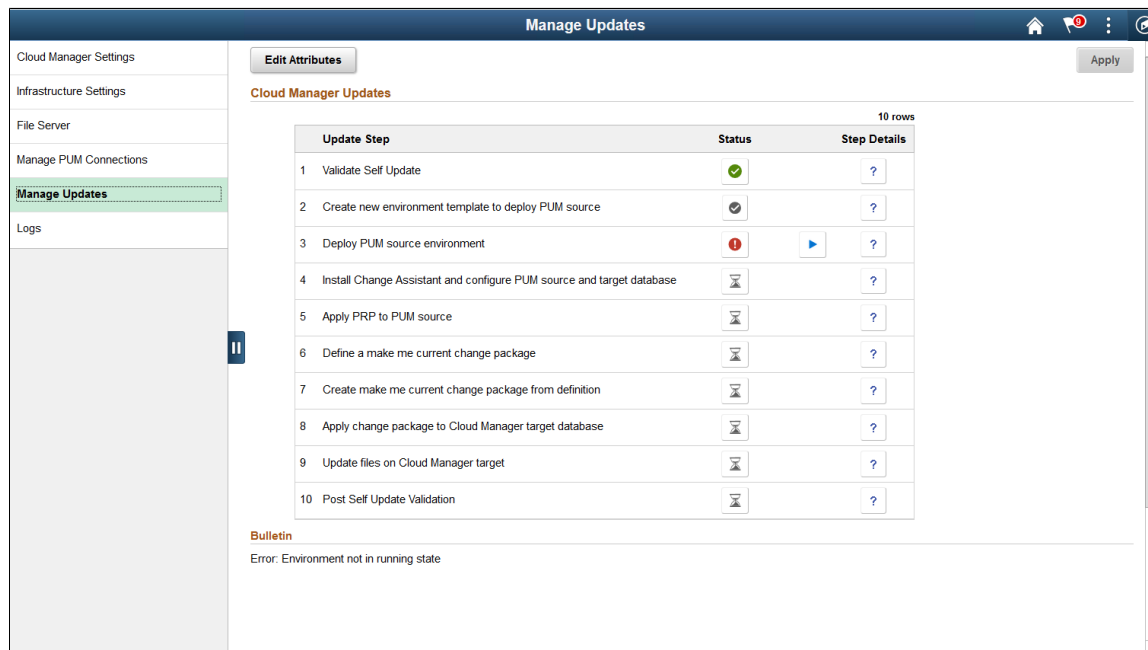
Failed Steps

If a step fails, the process will stop and the Continue icon will appear.

All reported errors must be resolved manually by the user. After fixing or manually completing the failed step, click the Continue icon.

Image: Example: Failed Step

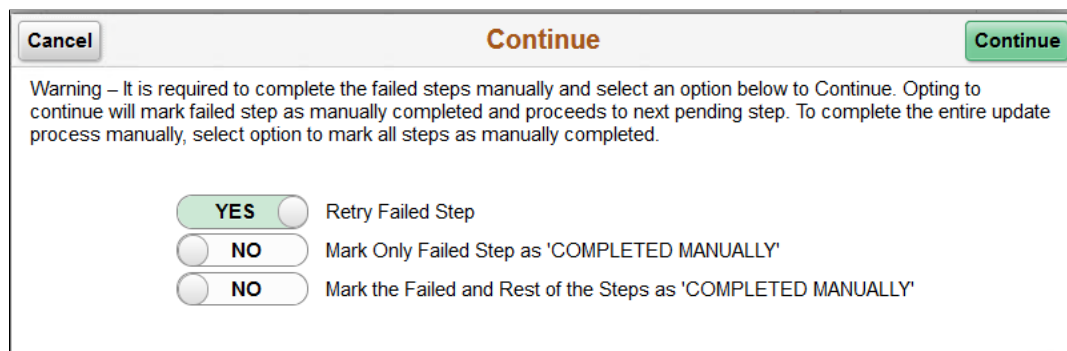
This example illustrates a failed step in the Cloud Manger Update process.



On clicking the Continue button, three options are shown as below:

Image: Options for failed step

This example illustrates the options for failed step. You can find definitions for the fields and controls later on this page.



1. Retry Failed Step - retry the step again.
2. Mark only failed step as 'Completed Manually' - skip the failed step and continue from subsequent step to completion.
3. Mark the failed and rest of the pending steps as 'Completed Manually' - skip all steps and set update as complete.

Note: If you mark all steps as manually complete after any failures at the step to *Install Change Assistant and configure PUM source and target database* or lower, then follow the selective adoption procedure to manually update from latest IH PeopleSoft Image. See [Manually Applying Updates Using Selective Adoption](#).

After selecting 'Yes' in the Retry Failed Step field, a Continue button is displayed in the top right corner of the Continue modal window.

Manually Applying Updates Using Selective Adoption

Note: If you are updating from CM 4 or below, please apply POC patch (26584770) to enable deploying IH update image having PeopleTools 8.56.

Updating to latest Cloud Manager from Cloud Manager 8 or lower, involves two steps. The latest version has dependencies on PeopleTools 8.57 and hence requires updating PeopleTools on the existing Cloud Manager instance.

1. Update Cloud Manager application using Selective Adoption method.

See [Updating Cloud Manager Application Using Selective Adoption](#)

2. Upgrade PeopleTools on Cloud Manager to 8.57 using the command line utility.

See [Upgrading Cloud Manager PeopleTools Using Command Line](#)

Note: The PeopleTools upgrade step is not required if you are already running Cloud Manager 9 and want to manually apply PRPs that were released for Cloud Manager 9.

Updating Cloud Manager Application Using Selective Adoption

Note: Backup the Cloud Manager instance before applying updates.

To apply updates to Cloud Manager, perform the following:

1. Deploy the Interaction Hub (IH) PUM source.

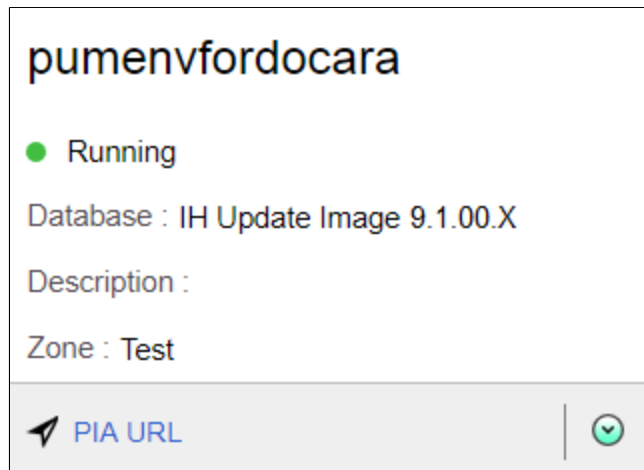
To deploy an IH PI environment using Cloud Manager, perform the following.

- a. Subscribe to the IH download channel. The IH 9.1 channel will download IH PI and PRPs, which have Cloud Manager fixes.
- b. Create a template to deploy the PeopleSoft Interaction Hub 9.1 database on a PUM topology.
- c. Deploy a new PUM source using the newly created template.

Note: When creating PUM source environment, provide database admin password with 8-30 chars in length with at least one lowercase letter, one uppercase letter, one number and one special character (__, -, #).

Image: Example Deployed PUM Source

This example illustrates the running PUM source.



Note the Windows Client IP on the Environment Details page in the PeopleSoft Client section.

2. Modify PI Home share permissions on PUM source.

Note: This step is optional if there are no PRPs to apply.

By default, the PI Home share on PUM Source is read-only. You can verify this by accessing the PI Home (\\<PUM SRC IP>\pi_home) on the Windows client (that was deployed using PUM topology) and trying to create a folder in it. Cloud Manager PRPs need to update files on PI HOME, therefore you must modify the share permissions. Modify or add the [pi_home] section in the smb.conf file:

- a. SSH to Cloud Manager.
- b. From Cloud Manager ssh to the PUM source instance (pumenvfordcoara-lnxft-1)

```
[opc@pi6cmdoc ~]$ sudo su - psadm2
[psadm2@pi6cmdoc ~]$ ssh -i /home/psadm2/psft/data/cloud/ocihome/keys/cm_>
adm_pvt_key opc@pumenvfordcoara-lnxft-1
```

- c. Set SMB password for user psadm3.

```
[opc@pumenvfordcoara-lnxft-1~]$ sudo smbpasswd -a psadm3
New SMB password:
Retype new SMB password:
```

- d. Add or update pi_home share on the PUM source. Ensure the following section is changed or added in the smb.conf file as shown here:

```
[opc@pumenvfordcoara-lnxft-1~]$ sudo vi /etc/samba/smb.conf

[pi_home]
    path = /u01/app/oracle/product/pt/ps_pi_home
    writable = yes
    available = yes
    guest ok = no
    valid users = psadm3
```

Note: For OCI, please append the entire section given above in /etc/samba/smb.conf file.

e. Restart samba service

```
[opc@pumenvfordcoara-lnxft-1~]$ sudo service smb restart
Shutting down SMB services: [ OK ]
Starting SMB services: [ OK ]

[opc@pumenvfordcoara-lnxft-1~]$
```

f. Open firewall to allow samba ports on PUM source using below command.

```
[opc@pumenvfordcoara-lnxft-1~]$ sudo iptables -I INPUT -p tcp -m state --st=>
ate NEW -m tcp --dport 137 -s 0.0.0.0/0 -j ACCEPT

[opc@pumenvfordcoara-lnxft-1~]$ sudo iptables -I INPUT -p tcp -m state --st=>
ate NEW -m tcp --dport 138 -s 0.0.0.0/0 -j ACCEPT

[opc@pumenvfordcoara-lnxft-1~]$ sudo iptables -I INPUT -p tcp -m state --st=>
ate NEW -m tcp --dport 139 -s 0.0.0.0/0 -j ACCEPT

[opc@pumenvfordcoara-lnxft-1~]$ sudo iptables -I INPUT -p tcp -m state --st=>
ate NEW -m tcp --dport 445 -s 0.0.0.0/0 -j ACCEPT

[opc@pumenvfordcoara-lnxft-1~]$ sudo service iptables save
```

g. Enable secure linux to allow samba share.

```
[opc@pumenvfordcoara-lnxft-1~]$ sudo chcon -t samba_share_t /u01/app/oracle=>
/product/pt/ps_pi_home
```

3. RDP to the windows client of PUM source.

Windows Client IP can be determined by going into the Environment Details page and looking at PeopleSoft Client section.

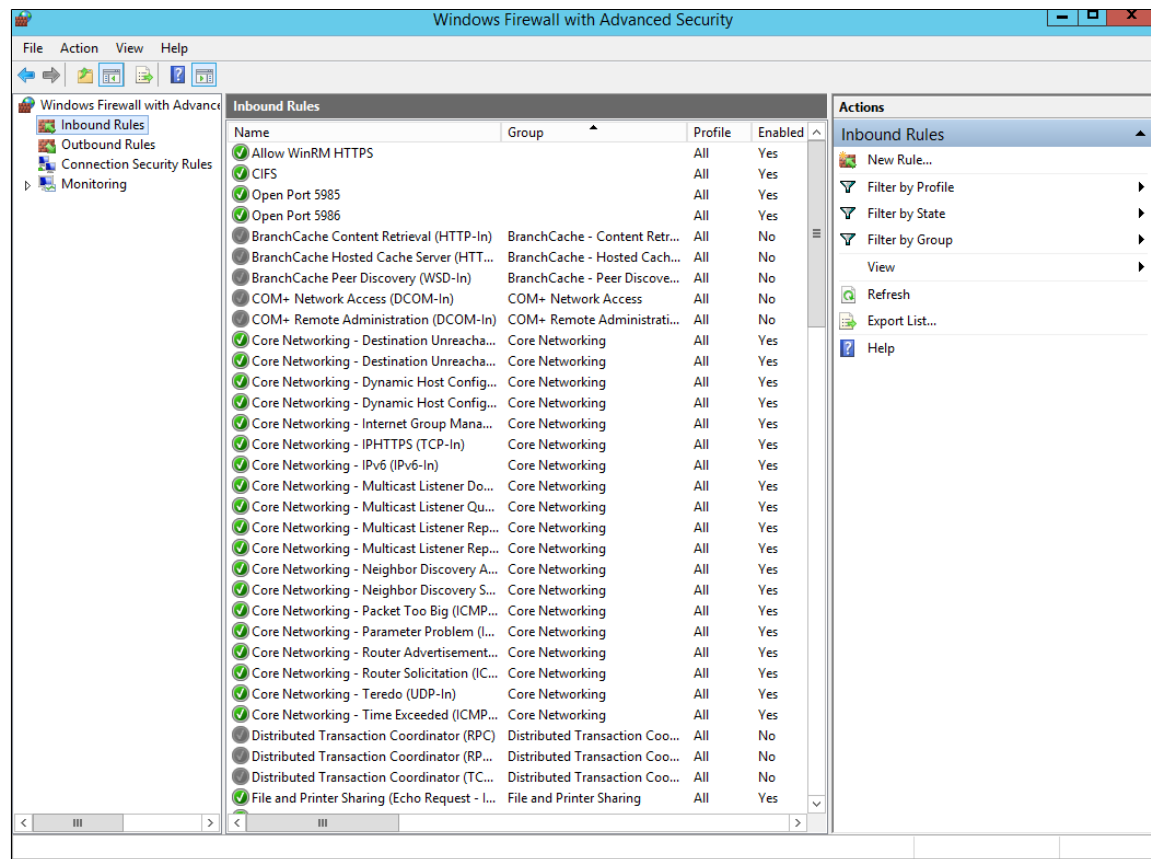
4. Configure Windows firewall (if not already configured)

Add new rule(CIFS) to open ports 137,138,139,445. This is an optional step if its already configured this can be skipped. To manually add the rules:

a. In Windows Client Navigate to Start >Windows Firewall with Advanced Security

Image: Windows Firewall with Advanced Security

This example illustrates the Windows Firewall with Advanced Security window.



- b. Click Inbound Rules > New Rules.
- c. On the Rule Type window, select Port and click Next.

Image: New Inbound Rule Wizard

This example illustrates the New Inbound Rule Wizard window.

The screenshot shows the 'New Inbound Rule Wizard' window with the 'Rule Type' step selected in the left sidebar. The main area asks 'What type of rule would you like to create?' and offers four options: 'Program', 'Port', 'Predefined', and 'Custom'. The 'Port' option is selected, indicating a rule for TCP or UDP ports. The 'Predefined' dropdown shows 'BranchCache - Content Retrieval (Uses HTTP)'.

- d. On the Protocol and Ports window, select TCP and Specific local ports. Enter ports 137,138,139,445 and Next.

Image: New Inbound Rule Wizard – Protocol and Ports

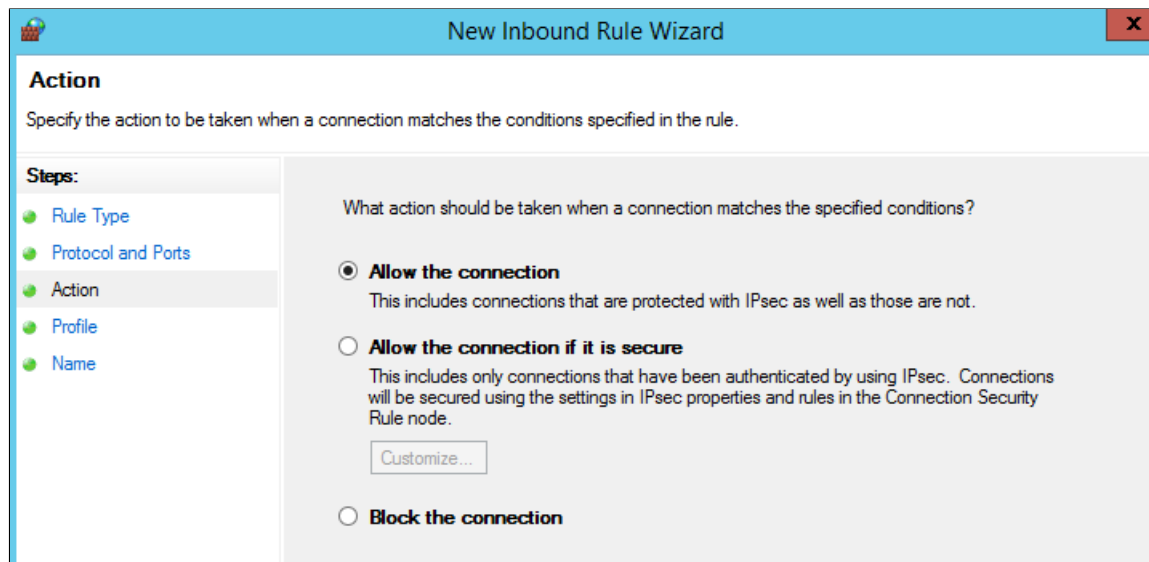
This example illustrates the specific local ports required for Cloud Manager access to Windows client.

The screenshot shows the 'New Inbound Rule Wizard' window with the 'Protocol and Ports' step selected in the left sidebar. The main area asks 'Does this rule apply to TCP or UDP?' with 'TCP' selected. Below, it asks 'Does this rule apply to all local ports or specific local ports?' with 'Specific local ports' selected. A text box contains the ports '137,138,139,445', with an example '80, 443, 5000-5010' shown below it.

- e. On the Action window, select Allow the connection and click on Next.

Image: New Inbound Rule Wizard – Action window

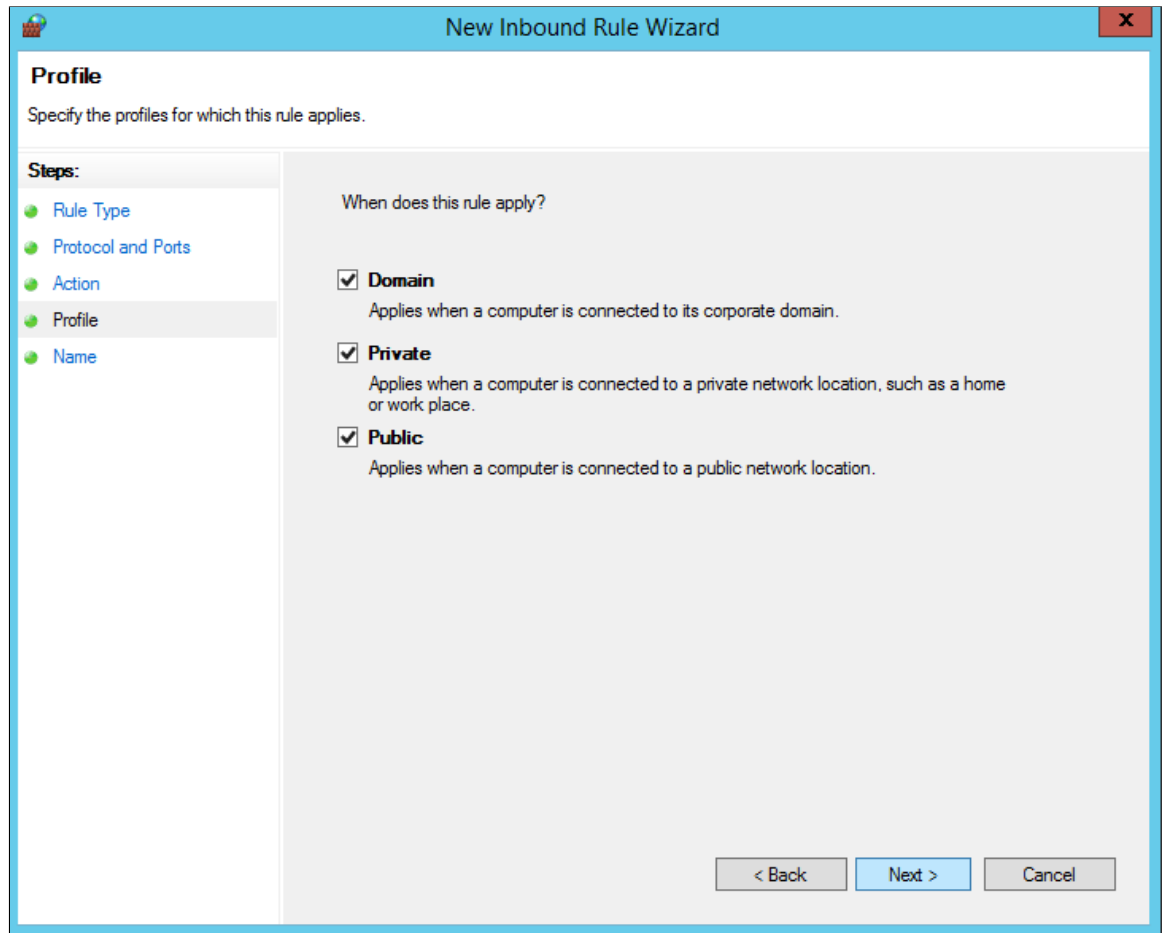
This example illustrates the fields and controls on the New Inbound Rule Wizard – Action window.



- f. On the Profile window, select when the rule applies and click Next.

Image: New Inbound Rule Wizard – Profile window

This example illustrates the fields and controls on the New Inbound Rule Wizard – Profile window.



- g. On the Name window, provide the name as *CIFS* and Finish.

Note: The tnsnames.ora file would include the actual subnet and vcn names.

6. Install the required version of PeopleTools Client (PTC) on the Windows Client if the installed version is different from what is required for Selective Adoption. For example, when updating from Cloud Manager 8 or lower to Cloud Manager 9, PeopleTools Client must be used from PeopleTools 8.56.12 onwards. Obtain the DPK from file server or download from My Oracle Support. The PTC DPK on the file server can be accessed on the Windows Client using CIFS Share - \<FileServer_Pvt_IP>\u01\app\oracle\product\dpk\linux\IH\09\IH-910-UPD-009-OVA_5of13.zip \PTC-DPK-WIN8.56.12-1of1.zip.

To install the PeopleTools Client:

- a. Extract the PTC-DPK-WIN8.56.12-1of1.zip file to a directory. This directory will contain SetupPTClient.bat.
- b. Open a command window running as administrator.
- c. Change directory to the location where you unzipped PTC-DPK-WIN8.56.12-1of1.zip file.
- d. Run SetupPTClient.bat -t.
- e. Answer yes when asked if you want to deploy PeopleTools client.
- f. Specify an installation directory, the RDBMS, and other information for your environment. The default installation directory is C:\PT<release_number>_Client_<database_type>.
- g. At the prompt Please make your selection for the Tools Client deployment, specify option 3 -None of the above to install PeopleTools client PS_HOME.
- h. Answer n (no) when asked if you want to install Change Assistant.

Note: Do not install PeopleTools Client under D:\psft. This path is used by Cloud Manager for deployment automation. Choose a different path when installing PeopleTools Client manually on a Windows Client that was provisioned by Cloud Manager.

7. Configure Cloud Manager target and IH PUM source databases manually in Change Assistant.

To configure the source and target databases in Change Assistant:

- a. In Windows Client, launch Change Assistant as administrator.
- b. In Change Assistant select File, New Database.

Image: Define Database

This example illustrates the fields and controls on the Define Database page. You can find definitions for the fields and controls later on this page.

Database Wizard

Define Database

Task Steps

Define Database

Type: Oracle

Database Name: CMPSDB

User Information

User ID: PS

User Password: **

Access ID: SYSADM

Access Password: *****

Connect ID: people

Connect Password: *****

☐ Set DB Owner Credentials

DBOwner ID:

DBOwner Password:

SQL Client Tool:

Current Homes

PS Home:

PS App Home:

PS Cust Home:

SQR Settings

SQR Executables (SQRBIN) <PS_Home>\bin\sqr<plat>\binw

SQR Flags (PSSQRFLAGS)

PSSQR Path agingDir>sqr,<Cust_Home>sqr,<App_Home>sqr,<PS_Home>sqr

Back

Next

Finish

Cancel

Type	Database type is Oracle.
Database Name	Enter the name of the database.
User ID and Password	Enter the PeopleSoft User ID and password for the database that used during the Cloud Manager bootstrap process.
Access ID and Password	Enter the Access ID and password for the database that used during the Cloud Manager bootstrap process.
ConnectID and Password	Enter the ConnectID and password for the database that used during the Cloud Manager bootstrap process.
SQL Client Tool	Browse for SQL client tool in D:\oracle\product\12.1.0\client_1\bin\sqlplus.exe.
Current Homes PS Home	Enter the location of your current PS_HOME
Current Homes PS App Home	Enter the location of your current PS_APP_HOME

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Current Homes PS Cust Home	Enter the location of your current PS_CUST_HOME
SQR Settings SQR Executables (SQRBIN)	The SQRBIN value is read only and derived from the PS Home and platform setting.
SQR Settings SQR Flags (PSSQRFLAGS)	By default, the -ZIF parameter is to set the full path and name of the SQR initialization file, SQR.INI
SQR Settings PSSQR Path	This field is read-only and will contain the path that is used in Change Assistant.

- c. Click Next, to bring up Additional Database Details window.

Image: Additional Database Details window

This example illustrates the fields and controls on the Additional Database Details window.

- d. Review the window and click Next.
- e. On the Confirm Settings page, click Finish.
- f. Repeat steps b thru e to define the PUM source database.

Note: To confirm both databases have been defined in Change Assistant, select File, Open Databases. You will see 2 databases defined.

8. Configure Change Assistant Options for Updates.

To configure Change Assistant Options for Updates:

- Create directories in the Windows client for pum_staging, pum_output and pum_download under D:\psft\.
- In Change Assistant, select Tools, Options.
- On the General tab, enter the directories.

Image: Update Manager Options – General page

This example illustrates the fields and controls on the Update Manager Options – General page. You can find definitions for the fields and controls later on this page.

Update Manager Options

General | PUM Source | EM Hub | Additional

Settings

☒ Show Welcome Page

Maximum Concurrent Processes: 1

PS Home Server TCP Port Range: 6151 - 6320

PS Home Server Maximum Instances: 5

Time Out for Locking(Seconds,Max=99999): 300

Data Mover Consolidation Maximum Script Limit: 1000

Directories

*PS Home: D:\psft\85607_PS_HOME\ ...

*Staging Directory: D:\psft\pum_staging\ ...

*Output Directory: D:\psft\pum_output\ ...

*Download Directory: D:\psft\pum_download\ ...

*SQL Query Tool: D:\oracle\product\12.1.0\client_1\bin\sqlplus.exe ...

PS Home Enter the full path for PeopleTools client installed on the Windows Client machine.

Staging Directory Enter the staging directory defined in step a.

Output Directory Enter the output directory defined in step a.

Download Directory Enter the download directory defined in step a.

SQL Query Tool Enter the path to sqlplus.exe.

- d. On the PUM Source page, enter the PUM Source information.

Image: Update Manager Options – PUM Source page

This example illustrates the fields and controls on the Update Manager Options – PUM Source page. You can find definitions for the fields and controls later on this page.

Define PUM Source

Select this checkbox to define the PUM Source.

PUM Source Database

Select the PUM source database from the drop down list.

PUM(PI_HOME) Directory

Use the share that was modified in step 2. Access the share path on the windows client and verify access.
Use directory path as shown in the address bar of the explorer window.

PUM Source PIA URL

Enter the URL to sign on to the PUM Source.

- e. On the EMHUB page, enter the EMHub information.

Image: Update Manager Options – EM Hub page

This example illustrates the fields and controls on the Update Manager Options – EM Hub page. You can find definitions for the fields and controls later on this page.

Configure EMHub For Deploy File

Select this checkbox if you want to use EMHub for file deploy.

Server Host Name

Enter PUM source server host name.

Server Host Port

Indicates the port in which to connect to the Environment Management hub.

9. Backup Cloud Manager.

Take a Cloud Manager backup before applying any updates. See [Understanding Cloud Manager Backup and Restore](#).

10. Apply PRPs to the IH PUM source.

If there are PRPs to be applied on the PUM source, copy all PRPs to the Windows Client under the D:\psft\pum_download location. PRPs must be copied from the file server share.

To copy the PRPs to the file share:

- a. Identify the private IP address of file server on the Instances tab in the Oracle Compute Cloud Service Console.
- b. Log on to the Windows Client of the environment.
- c. Connect to the samba share using \\<File_Server_IP>\PRP.

User will be prompted for user name and password that was configured in step 2.

Note: In OCI, if the samba share is not accessible on the Windows client vm, check the ingress security rules for the samba share on the subnet where the windows client is connected. In OCI, the Cloud Manager subnet must allow incoming connections from the subnet on which the PUM source is set up.

- d. Copy the required PRPs to D:\psft\pum_download directory on the Windows Client.
- e. In Change Assistant, select Tools, Apply PeopleSoft Release Patchset.
- f. Verify the download location is set to the directory used in step c (D:\psft\pum) and click Next.
- g. Select all PRPs to be applied and click Next.

Note: In some cases, selecting and applying all PRPs together might show errors. In such a case, select one PRP at a time and apply individually.

- h. Change Assistant will verify that the package is compatible with the PI version. If it is not compatible, you will receive a message to Apply Compatible Packages Only.
 - i. Click OK to apply only compatible packages and Change Assistant will verify the PRPs.
 - j. Click Next and you will see the summary page
 - k. Click Finish. The Change Assistant job is created. Run this job as you would any other change package.
11. Start PSEMAgent on target Cloud Manager.

To start PSEMAgent:

- a. Change ownership of PSEMAgent dir from psadm1 to psadm3.

```
[psadm3@c6e65e ~]$ chown -R psadm3:appinst /opt/oracle/psft/pt/ps_home8.56.07/PSEMAgent/
[psadm3@c6e65e ~]$ cd /opt/oracle/psft/pt/ps_home8.56.07/PSEMAgent/
[psadm3@c6e65e PSEMAgent]$ ll
total 44
-rwxr-xr-x 1 psadm3 appinst 2742 Sep 11 2015 StartAgent.sh
-rwxr-xr-x 1 psadm3 appinst 2426 Sep 11 2015 StopAgent.sh
drwxr-xr-x 8 psadm3 appinst 4096 Jan 6 05:11 envmetadata
drwxr-xr-x 2 psadm3 appinst 4096 Sep 23 06:11 lib
```

- b. Configure the agent configuration properties file. The configuration. properties file is located in the ps_home directory/PSEMAgent/envmetadata/config.

This is an example of the configuration.properties file:

```
#hubURL= this is the host and port the agents talk to
hubURL=http://pumenvfordcoara-linxft-1.<subnet DNS label>.<vcn DNS label>.>
oraclevcn.com:8000/PSEMHUB/hub
agentport=5283

#ping interval in milliseconds for the peer to contact the hub for new me=
ssages
pinginterval=10000

#Windows directories need to use the forward slash ('/') character. For m=
ultiple directories, use a '|' character as separator
```



```

windowsdrivestocrawl=c:\d:
unixdrivestocrawl=/opt/oracle/psft/pt|/home/psadm2/psft/pt/8.56

#The time interval in hours for the hub to issue a recrawl command to the
agents
recrawlinterval=24

#The time interval in hours for the hub to issue a revalidate command to
the agents
revalidateinterval=6

#Setting for large file transfer.default is 1024 * 1024 bytes
chunksize=1048576

```

- c. Export PS_APP_HOME before starting agent.

```
$ export PS_APP_HOME=/opt/oracle/psft/pt/ps_app_home.
```

- d. Start PSEMAgent using user psadm3.

```
$ /opt/oracle/psft/pt/ps_home8.56.07/PSEMAgent/StartAgent.sh
```

Optionally run the agent in background by appending & to the above command.

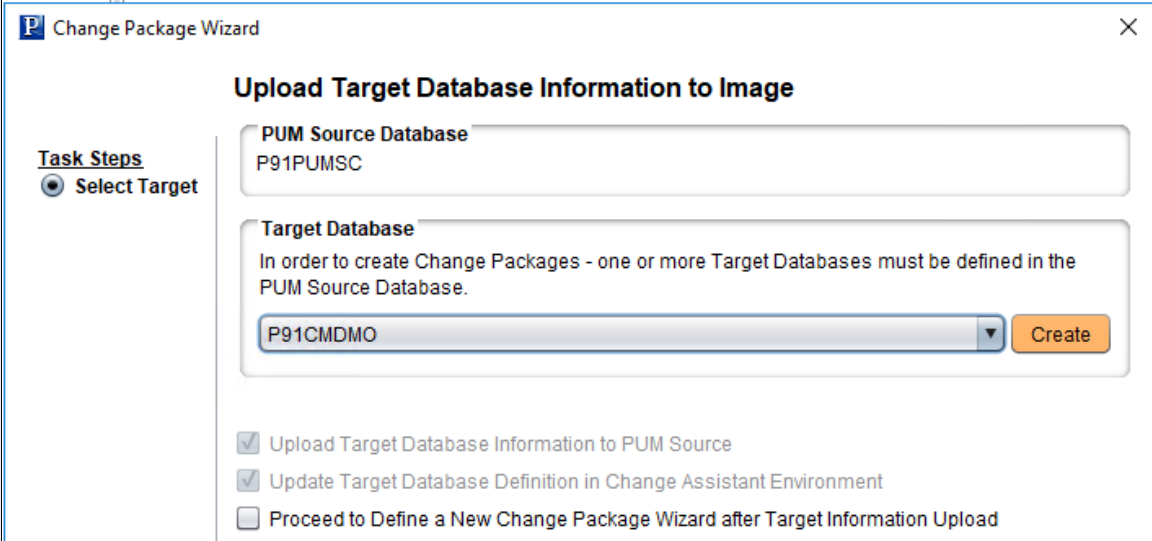
12. Upload target database information to IH PUM source.

To upload target database information:

- In Change Assistant, upload the target database information. Select Tools, Upload Target Database Information to Image.
- Select the target database from the drop-down.

Image: Upload Target Database Information to Image

This example illustrates the fields and controls on the Upload Target Database Information to Image.



Change Package Wizard

Upload Target Database Information to Image

Task Steps

- Select Target

PUM Source Database

P91PUMSC

Target Database

In order to create Change Packages - one or more Target Databases must be defined in the PUM Source Database.

P91CMDMO **Create**

☒ Upload Target Database Information to PUM Source

☒ Update Target Database Definition in Change Assistant Environment

☐ Proceed to Define a New Change Package Wizard after Target Information Upload

- c. Click Finish.

Target Database information is uploaded.

13. Define a make me current change package in Change Assistant..

- a. Select Tools, Define Change Package.
- b. Select Define a New Change Package in Change Assistant radio button.
- c. Enter the package information.
- d. Select Standard Search Option Criteria. radio button.

Image: Define a New Change Package in Change Assistant

This example illustrates the fields and controls on the Define Change Package in Change Assistant with Define a New Change Package in Change Assistant selected.

Change Package Wizard

Define Change Package

Define CP
☒ Select

☐ PUM Source Database
 P91PUMSC

☐ Define a New Change Package in Update Manager Dashboard
 Click Here to Open Browser and Connect to the PUM Source Database

☒ Define a New Change Package in Change Assistant

Package Definition

Target Database: P91CMDMO

Package Name: MMC

Package Description: Make me current

Search Definition Option

☒ Standard System Search Criteria ☐ Previously Defined Search Criteria

- e. Click Next.
- f. Select All Updates Not Applied.

Image: All Updates Not Applied

This example illustrates the fields and controls on the Define Change Package page with the option All Updates Not Applied selected.

Change Package Wizard

Define Change Package

Define CP
☐ Select
☒ Search

PUM Source Database
P91PUMSC

Package
Target Database: P91CMDMO
Package Name: MMC
Tools Release: 8.56.02

Select	Description	Detail
<input type="radio"/>	All Unapplied Updates for Installed Products	
<input type="radio"/>	All Critical Unapplied Updates for Installed Products	
<input type="radio"/>	All Critical Updates Not Applied	
<input type="radio"/>	All Tax Updates Not Applied	
<input type="radio"/>	All True Requisites Not Applied	
<input checked="" type="radio"/>	All Updates Not Applied	

☐ Proceed to Create Change Package Wizard after Package Definition

Back Next Finish Cancel

Optionally, select the Proceed to Create Change Package Definition check box to create the change package. If this option is selected, the Next button is enabled.

g. Click Finish.

14. Create change package in Change Assistant.

To create the change package in Change Assistant:

Note: If you selected the Proceed to Create Change Package Definition check box in step 13, the change package is already created and you can skip this step.

- a. Select Tools, Create Change Package.
- b. Select the change package definition that was just created in PUM and click Finish.

Image: Create a New Change Package page

This example illustrates the fields and controls on the Create a New Change Package page. You can find definitions for the fields and controls later on this page.

Optionally select the proceed to Apply Change Package Wizard after Package Creation.

- c. Click Finish.

The change package is generated in the Download Directory.

15. Apply change package in Change Assistant.

To apply the generated change package:

- a. Select Tools, Apply Change Package.
- b. Select the change package to apply. Apply type is Initial Pass.
- c. Click Next.
- d. Select the target database (your target Cloud Manager database) from the drop-down and click Next.
- e. Ensure there are no errors in the compatibility click and click Next.
- f. On the Summary page, click Finish.
- g. When the job is complete, there will be a confirmation. If there are any errors found while executing the job, those must be manually fixed.

16. Manually copy the customization script.

Copy a post update customization script from the PUM source instance to the target Cloud Manager instance. Use scp to copy.

- a. SSH to Cloud Manager VM.

- b. Change to root user `$sudo bash`.
- c. Securely copy the customization script.

```
scp -i /home/psadm2/psft/data/cloud/ocihome/keys/cm_adm_pvt_key opc@<pum_src_hostname>:<pum_source_base_dir>/pt/ps_pi_home/cl/Unix/AppBatch/bse/cl=>oud/cm_update_customization.sh $PS_APP_HOME/cloud
```

Where:

<code>pum_src_hostname</code>	Hostname of PUM source instance. The hostname can be determined in the Environment Details page for the PUM source environment.
<code>PS_APP_HOME</code>	Path to <code>PS_APP_HOME</code> on Cloud Manager. For example: <code>/opt/oracle/psft/pt/ps_app_home</code> .
<code>pum_source_base_dir</code>	PeopleSoft deployment directory. The base directory can be determined in the Manage Attributes page, under Manage Environment > Full Tier > Other Attributes PeopleSoft Deployment Path. This is a mandatory input.

17. Run the customization script to complete the updates on target Cloud Manager.

The script does the following tasks:

- Update files from PUM source
- Synchronize code to File Server
- Cleanup old jar files
- Restart the domains

To execute the post update utility script for MMC package updates, perform the following steps:

If you are running Cloud Manager in OCI:

- a. Login to Cloud Manager VM.
- b. Change to root user `$sudo bash`.
- c. Change directory to `/opt/oracle/psft/pt/ps_app_home`.
- d. Execute the `cm_update_customization.sh` script as root user with `ps_app_home` directory as current working directory.

```
$ sudo bash
$ cd /opt/oracle/psft/pt/ps_app_home/
$ sh cloud/cm_update_customization.sh <pum_source_host_name> <pum_source_base_dir>
```

Where:

<code>pum_source_host_name</code>	Hostname of PUM source instance. The hostname can be determined in the Environment Details page for the
-----------------------------------	---

	PUM source environment. Do not use a fully qualified hostname. This is a mandatory input.
pum_source_base_dir	PeopleSoft deployment directory. The base directory can be determined in the Manage Attributes page, under Manage Environment > Full Tier > Other Attributes PeopleSoft Deployment Path. This is a mandatory input.

18. Reboot Web (PIA) Server domain.

19. Verify changes on Target Cloud Manager

You need to manually verify the modifications done on the target Cloud Manager.

For more details on Change Assistant configurations, refer to online help for Change Assistant and Update Manager.

Once Cloud Manager is upgraded proceed to step 2 [Upgrading Cloud Manager PeopleTools Using Command Line](#).

Upgrading Cloud Manager PeopleTools Using Command Line

The Cloud Manager command line option can be used for triggering the PeopleTools upgrade and monitoring the upgrade status. This command line utility can be used to upgrade PeopleTools for Cloud Manager instances that are on Cloud Manager Image 9.

Note: If you are running Cloud Manager 8 or lower, you must upgrade to Cloud Manager 9 using selective adoption to obtain the command line utility for automated PeopleTools upgrade.

To use the command line utility to upgrade PeopleTools:

1. Subscribe to the PeopleTools download channel. Ensure that the download is complete.

For example: Interaction Hub PI 9 has PeopleTools version 8.57.05, therefore you must subscribe to PeopleTools 8.57 download channel with a minimum patch version of 8.57.05. To determine the PeopleTools version on the IH PUM Source, SSH into the IH PUM Source, switch user to psadm2 and run **psadmin -v** command. See [Accessing Provisioned Environments](#)

2. Log into the Cloud Manager machine using SSH.
3. Create a response file.

See [Creating Response File](#)

4. Backup Cloud Manager instance. See [Using Automated Backup and Restore Utility](#).

Important! The backup will be available in case of any failures in the PeopleTools upgrade process, allowing you to restore to this point.

5. Run the command line to execute the upgrade.

```
run_cloud_manager_update -t <task_name> -o <operation_name> -r <response_file>
e.json>
```

Example: `run_cloud_manager_update -t cm_upgrade -o execute -r /tmp/cm_update_response_file.json`

See [Command Line Operations for cm_upgrade](#).

Understanding the Command Line

The command line has the following Hierarchy:

Command > Task > Operation > Subtask > Activity

- Command

The command is **run_cloud_manager_update**.

- Task

For Cloud Manager Image 9, the only supported task is **cm_upgrade** [-t option].

- Operation

Multiple operations [-o option] are available for a task. For `cm_upgrade` operations see [Command Line Operations for cm_upgrade](#).

- Subtasks

Each operation contains one or more subtasks. See [Subtasks for PeopleTools Upgrade \[PTU\] in Cloud Manager Instance](#).

- Activity

Each subtask may have multiple activities.

Command Line Operations for cm_upgrade.

The task `cm_upgrade` is used to perform a PeopleTools Upgrade [PTU] in Cloud Manager instance. The input values are given as response file. The format is:

```
run_cloud_manager_update -t cm_upgrade -o <operation_name> -r <response_file.json>
```

This table lists the operation/subtask details.

Operation Type [-o]	Description/Details
execute	This operation is used for executing the current task. If the response file is present it will read the response file and that will be used for creating the input values for the task execution.

Operation Type [-o]	Description/Details
get_status	<p>This operation is used to display the current task status in the console. The status will show the execution status at the activity level.</p> <p>-v [verbose] option can be used for the detailed status.</p> <p>The activity status will be updated, only after the execution completes. The statuses supported by activities are:</p> <ul style="list-style-type: none"> PENDING/UNKNOWN SUCCESS FAILURE
retry	<p>This operation is used for rerunning failed activities. This can be executed with or without a response file. The response file should be used when the task execution failed due to input value error and the response file has been updated.</p> <p>Retry will:</p> <ul style="list-style-type: none"> Check if a response file is provided. If provided the response file is used for creating input data. If the response file is not provided, the utility will get the input data from the previous or failed run. Automatically determine the current activity name in failure state. Execute the rollback step for the current failed activity and skip all other successful activities and subtasks. Execute the activity from the failed step forward.. <hr/> <p>Note: In the status summary RETRY is displayed for the activity that was in a failed state. In verbose summary, the activity status will be the current failed status. Once the execution of the activities completes, the activity status and task status will be updated properly.</p> <hr/>
mark_as_complete	<p>This operation is used to mark an activity as manually fixed. The user manually fixes the failed activity and then runs this operation. This operation will then skip the current failed activity and mark it as MANUAL_SUCCESS, then resume to next subtask.</p> <hr/> <p>Note: The status summary will show the MANUAL_SUCCESS status for the particular subtask. In verbose status the activity status is not changed. This is because the task or activity is not rerun, therefore the verbose status display the old status.</p> <hr/>
mark_all_steps_complete	<p>This operation is used to skip all the subtask execution in case of failure. In this case the user can manually fix all pending and failed subtasks.</p> <hr/> <p>Note: The status summary will show the MANUAL_SUCCESS status for the particular subtask. In verbose status the activity status will be the current status [in FAILED / PENDING/SUCCESS state]. Since the subtask or activity is not rerun, the verbose status displays the old status.</p> <hr/>

Subtasks for PeopleTools Upgrade [PTU] in Cloud Manager Instance

The **cm_upgrade** task is used to perform a PeopleTools Upgrade [PTU] in Cloud Manager instance. The input values should be given as response file. This task will upgrade PeopleTools on the Cloud Manager instance with no manual stop.

The following sub tasks are performed.

1. Validate the Cloud Manager PTU response file input values.

The validation activity (PsftCMUpdateValidationActivity) will validate:

- WinRm connectivity to the Windows client instance
- Windows client user id and password
- File server validation
- Current PeopleTools version
- PeopleTools DPK for the new PeopleTools version
- Database information in TNS entry
- PIA port - http and https
- psftserver values and jolt port in wls config
- WLS port and Jolt port in Application domain
- Operator id/password
- WLS admin is/password
- Web profile user id/password
- DB admin password
- Operator id and password
- Connect id and password
- Access id and password
- All user input mandatory values

2. Take a backup of current CM_PS_HOME and PS_CFG_HOME.

The activity to prepare for the update (PsftPrepareCMUpdateActivity) will:

- Backup of PS_HOME and PS_CFG_HOME
- Back up of PTU specific files.
- Copy the PTC and ODC DPK from CM DPKs to the file server.

3. Stop the Cloud Manager psft domains.

The activity to shut down PSFT domains (PsftCMDomainRestartActivity) will execute.

4. Cloud Manager PTU upgrade process.

This subtask contains multiple activities:

- Copy the Cloud folder from Cloud Manager file server to Windows client.
- Install the PeopleTools client for current CM PeopleTools version.
- Install the PeopleTools client for new CM PeopleTools version.
- Configuration Change Assistant for CM PeopleTools Upgrade process.
- Trigger the Change Assistant PTU command line process.

5. Cloud Manager PTP update process.

This subtask contains multiple activities:

- Copy the Cloud folder from Cloud Manager file server to Windows client.
- Install the PeopleTools client for new CM PeopleTools version.
- Configuration Change Assistant for CM PeopleTools Update process.
- Trigger the Change Assistant PTP command line process.

6. Uninstall the Cloud Manager middle tier.

The activity to uninstall the middle tier will:

- Uninstall middle tier from the Cloud Manager instance.
- Call the puppet clean up command using the root user.

7. Re-provision the Cloud Manager middle tier.

This subtask contains multiple activities:

- Provision middle tier:
 - Installation of new PeopleTools middle tier in the Cloud Manager middle tier.
 - Restore old configuration files in Cloud Manager.
 - Restore log4j, open ssl, puppet config and execution scripts.
 - Will do CM specific configuration in CM puppet yaml file and will trigger the CM specific puppet profiles.
 - Use puppet apply execution using root user for recreating the middle tier.
- Place holder for doing the post MT creation steps [if any]

8. Cloud Manager PTU post update settings.

The activity for PTU post update settings will:

- Post the upgrade task.
- Execute the application engine program for notifying the UI about the execution status.

9. Restarting the Cloud Manager domains.

The activity will restart all Cloud Manager psft domains.

Creating Response File

Create a json file that includes all the mandatory values, the other values will be discovered in job execution. If the mandatory values are not included in the response file, job execution will throw an error.

This is an example of the response file containing the mandatory values:

```
{
  "pum_source": {
    "windows_client": {
      "private_ip": "<windows_client private IP>",
      "remote_password": "<Windows Client Password>"
    }
  },
  "pum_target": {
    "psft": {
      "access_pwd": "<Access Password>",
      "opr_pwd": "<Operator Password>",
      "admin_pwd": "<DB Admin Password>",
      "connect_pwd": "<Connect Password>",
      "gw_admin_user_pwd": "<Gateway User Password>",
      "webprofile_user_pwd": "<Web Profile User Password>",
      "weblogic_admin_pwd": "<Webserver Admin Password>"
    }
  }
}
```

The response file can also contain additional values, however the mandatory values must be included.

This is an example of a response file with additional values:

```
{
  "file_server": {
```



```

    "hostname": "anneshfsfs.ad2sub.myworldnet.oraclevcn.com"
  },
  "pum_source": {
    "windows_client": {
      "host_name": "win_client_hostname",
      "private_ip": "10.0.6.244",
      "remote_password": "Psoft123##Psoft123"
    }
  },
  "pum_target": {
    "psft": {
      "opr_id": "CLADM",
      "connect_id": "people",
      "access_id": "SYSADM",
      "weblogic_admin_user": "system",
      "gw_admin_user": "administrator",
      "db_name": "CMPSPDB",
      "db_service_name": "CMPSPDB",
      "db_host": "aneesh2702.ad2sub.myworldnet.oraclevcn.com",
      "psft_server": "aneesh2702.ad2sub.myworldnet.oraclevcn.com",
      "wsl_port": "7000",
      "jolt_port": "9033",
      "pia_https_port": "8443",
      "pia_http_port": "8000",
      "db_port": "1522",
      "tools_version": "8.56.12",
      "new_tools_version": "8.57.03",
      "pi_number": "8",
      "access_pwd": "EMDBO123",
      "opr_pwd": "CLADM",
      "admin_pwd": "Passw0rd#",
      "connect_pwd": "people",
      "gw_admin_user_pwd": "password",
      "webprofile_user_pwd": "WEBPROFILE_USER_PWD",
      "weblogic_admin_pwd": "WEBSERVER_ADMIN_PWD"
    }
  }
}

```



```
}
}
```

Getting Status of PeopleTools Upgrade Job

Use the following command to get the current status of the PeopleTools Upgrade:

```
run_cloud_manager_update -t CM_UPGRADE -o get_status
```

When the PeopleTools Upgrade begins, the status will show in progress and you can see what step is executing.

Image: Cloud Manager PeopleTools Upgrade Status showing in-progress.

This example illustrates Cloud Manager PeopleTools Upgrade Status.

```
-----
CLOUD MANAGER PEOPLETOLS UPGRADE STATUS
-----
ORCHESTRATION ID:          CM_ORCH_PTU_20190501_154931  [Time:  2019-05-01
15:50:26:158869]
JOB SCHEDULE STATUS:      SUCCESS
JOB STATUS:               IN_PROGRESS

1. Validating Input Data:  IN_PROGRESS
2. Cloud Manager Pre-Update Settings:  PENDING
3. Stopping the Cloud Manager PSFT Domains:  PENDING
4. Cloud Manager PeopleTools Upgrade [PTU]:  PENDING
5. Cloud Manager PeopleTools Update [PTP]:  PENDING
6. Un-Provisioning the Middle Tier of Cloud Manager:  PENDING
7. Re-Provisioning the Middle Tier of Cloud Manager:  PENDING
8. Cloud Manager Post Update Settings:  PENDING
```

If a step fails, the status will show failure. You will need to correct the failure and either retry or mark the step as complete in order to continue.

Image: Cloud Manager PeopleTools Upgrade Status with failed step.

This example illustrates Cloud Manager PeopleTools Upgrade Status where a step has failed.

```
-----
CLOUD MANAGER PEOPLETOLS UPGRADE STATUS
-----
ORCHESTRATION ID:          CM_ORCH_PTU_20190429_082823  [Time:  2019-04-29
08:29:17:737108]
JOB SCHEDULE STATUS:      SUCCESS
JOB STATUS:               FAILURE

1. Validating Input Data:  FAILURE
2. Cloud Manager Pre-Update Settings:  PENDING
3. Stopping the Cloud Manager PSFT Domains:  PENDING
4. Cloud Manager PeopleTools Upgrade [PTU]:  PENDING
5. Cloud Manager PeopleTools Update [PTP]:  PENDING
6. Un-Provisioning the Middle Tier of Cloud Manager:  PENDING
7. Re-Provisioning the Middle Tier of Cloud Manager:  PENDING
8. Cloud Manager Post Update Settings:  PENDING
```


Image: Cloud Manager PeopleTools Upgrade Status

This example illustrates Cloud Manager PeopleTools Upgrade Status where all steps are successful.

```

-----
CLOUD MANAGER PEOPLETOOLS UPGRADE STATUS
-----
ORCHESTRATION ID:          CM_ORCH_PTU_20190501_160902  [Time:  2019-05-01
16:09:57:122185]
JOB SCHEDULE STATUS:      SUCCESS
JOB STATUS:               SUCCESS

1. Validating Input Data:  SUCCESS
2. Cloud Manager Pre-Update Settings:      SUCCESS
3. Stopping the Cloud Manager PSFT Domains: SUCCESS
4. Cloud Manager PeopleTools Upgrade [PTU]: SUCCESS
5. Cloud Manager PeopleTools Update [PTP]:  SUCCESS
6. Un-Provisioning the Middle Tier of Cloud Manager:      SUCCESS
7. Re-Provisioning the Middle Tier of Cloud Manager:      SUCCESS
8. Cloud Manager Post Update Settings:      SUCCESS

```

Verbose

To display the verbose status, add the -v verbose option:

```
run_cloud_manager_update -t CM_UPGRADE -o get_status -v
```

This is an example of the verbose Cloud Manager PeopleTools Upgrade Status:

```

-----
CLOUD MANAGER PEOPLETOOLS UPGRADE STATUS
-----
ORCHESTRATION ID:          CM_ORCH_PTU_20190501_160902  [Time:  2019-05-01 16:
:09:57:122185]
JOB SCHEDULE STATUS:      SUCCESS
JOB STATUS:               SUCCESS
JOB DETAILS:              Successfully completed
JOB LOG:                  /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
AGER_INSTANCE/CM_ORCH_PTU_20190501_160902/cm_job_psft_cm_ptu_job_0_20190501_160903_
out.log
JOB SCHEDULER LOG:        /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
AGER_INSTANCE/CM_ORCH_PTU_20190501_160902/out.log
JOB STATUS CHECK LOG:     /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
AGER_INSTANCE/CM_DATA/out_20190501.log

1. Validating Input Data:  SUCCESS
   TASK DETAILS:           Successfully completed
   TASK LOG:               /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
GER_INSTANCE/CM_PTU_VALIDATE_0_20190501_160906/out.log
   1.1 CM Update Validation Process:      SUCCESS
       Details: Successfully completed

2. Cloud Manager Pre-Update Settings:      SUCCESS
   TASK DETAILS:           Successfully completed
   TASK LOG:               /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
GER_INSTANCE/CM_PRE_UPDATE_0_20190501_160912/out.log
   2.1 Cloud Manager Prepare Update Process:      SUCCESS
       Details: Successfully completed

3. Stopping the Cloud Manager PSFT Domains: SUCCESS
   TASK DETAILS:           Successfully completed
   TASK LOG:               /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA
GER_INSTANCE/CM_DOMAIN_STOP_0_20190501_160918/out.log
   3.1 CM Domain Restart/Stop Process:      SUCCESS

```



```

    Details: Successfully completed

4. Cloud Manager PeopleTools Upgrade [PTU]: SUCCESS
   TASK DETAILS:      Successfully completed
   TASK LOG:          /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA→
GER_INSTANCE/CM_PTU_UPGRADE_0_20190501_160924/out.log
   4.1 Performing PsftActivityWindowsCloudFolderSync:      SUCCESS
       Details: Successfully completed

   4.2 Performing Cloud Manager Windows Client Install Activity [Source PeopleT→
ools]:      SUCCESS
       Details: Successfully completed

   4.3 Performing Windows Client Install Activity: SUCCESS
       Details: Successfully completed

   4.4 Adding Environment Info to CA:      SUCCESS
       Details: Successfully completed

   4.5 CA PTU Apply Process:      SUCCESS
       Details: Successfully completed

5. Cloud Manager PeopleTools Update [PTP]: SUCCESS
   TASK DETAILS:      Successfully completed
   TASK LOG:          /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA→
GER_INSTANCE/CM_PTP_UPDATE_0_20190501_160930/out.log
   5.1 Performing PsftActivityWindowsCloudFolderSync:      SUCCESS
       Details: Successfully completed

   5.2 Performing Windows Client Install Activity: SUCCESS
       Details: Successfully completed

   5.3 Adding Environment Info to CA:      SUCCESS
       Details: Successfully completed

   5.4 CA PTP Apply Process:      SUCCESS
       Details: Successfully completed

6. Un-Provisioning the Middle Tier of Cloud Manager:      SUCCESS
   TASK DETAILS:      Successfully completed
   TASK LOG:          /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA→
GER_INSTANCE/CM_UNPROV_MT_0_20190501_160936/out.log
   6.1 Performing Unprovision MT:      SUCCESS
       Details: Successfully completed

7. Re-Provisioning the Middle Tier of Cloud Manager:      SUCCESS
   TASK DETAILS:      Successfully completed
   TASK LOG:          /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA→
GER_INSTANCE/CM_REPROV_MT_0_20190501_160942/out.log
   7.1 Performing Reprovision MT:      SUCCESS
       Details: Successfully completed

   7.2 Cloud Manager Post MT Reprovision Process:      SUCCESS
       Details: Successfully completed

8. Cloud Manager Post Update Settings:      SUCCESS
   TASK DETAILS:      Successfully completed
   TASK LOG:          /home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANA→
GER_INSTANCE/CM_POST_UPDATE_0_20190501_160948/out.log
   8.1 Cloud Manager Post Update Process:      SUCCESS
       Details: Successfully completed

```

Troubleshooting PeopleTools Upgrade Failures

Several logs are available to assist the users in troubleshooting errors that may occur during the upgrade process.

Log	Location/Example log file name
JOB LOG	/home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANAGER_INSTANCE/CM_ORCH_PTU_20190308_054432/cm_job_psft_cm_ptu_job_0_20190308_054432_out.log
JOB SCHEDULER LOG	/home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANAGER_INSTANCE/CM_ORCH_PTU_20190308_054432/out.log
JOB STATUS CHECK LOG	/home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANAGER_INSTANCE/CM_ORCH_PTU_20190308_054607/out.log
TASK LOG	/home/psadm2/psft/data/cloud/cmlogs/envs/CLOUD_MANAGER_INSTANCE/CM_POST_UPDATE_0_20190308_054441/out.log

Note: The log file names are only examples, the file name in a customer environment will vary.

Chapter 7

Cloud Manager Logs

Understanding PeopleSoft Cloud Manager Logs

This topic helps you understand the PeopleSoft Cloud Manager logs.

PeopleSoft Cloud Manager Logs

The Cloud Manager log files are discussed in terms of:

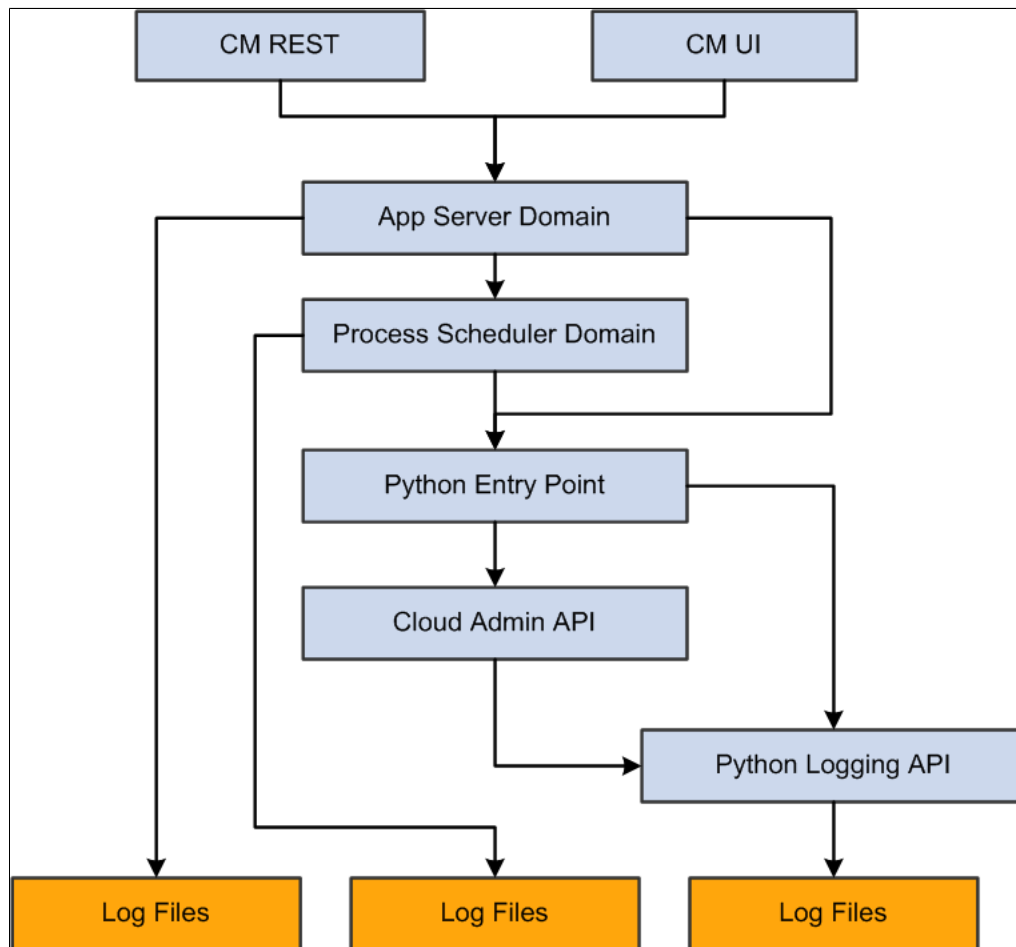
- Types of logs
- Log levels
- Changing log levels

Types of Logs

Logs contain useful information for analyzing any environment related issues or failures that may occur in the system.

Image: Logging Process Overview in Cloud Manager

The flow diagram below illustrates an overview of logging process in Cloud Manager.



Different type of logs are:

- Python Logs
- Environment Action Logs
- Download Manager Logs
- App Server Domain Logs
- Process Scheduler Domain Logs
- Puppet Logs in Provisioned VMs
- Terraform Logs. For details, see [Terraform Logs for OCI.](#))

Different logs are correlated using the folder naming convention which are described in the following sections.

- Python Logs: Most cloud-related activities in Cloud Manager ultimately result in the invocation of Python wrapper scripts that invoke Cloud Admin code.

- **Environment Action Logs:** All Python logs related to PeopleSoft environments will be under the following folder: <CM Python Log Root>/envs/

All Python logs related to a particular environment <env name> will be under: <CM Python Log Root>/envs/<env name>/. The path of <CM Python Log Root> is /home/psadm2/psft/data/cloud/cmlogs.

All Python logs related to the action <Type> on the environment denoted by <env name> will be under: <CM Python Log Root>/envs/<env name>/<Type>_TimeStamp

The action types can be:

- CREATE
 - DEPLOY (Only for OCI)
 - REMOVE
 - ACTIONS (Start, Stop, and so on)
 - ADD_TARGET
 - UPGRADE
 - BACKUP
 - RESTORE
 - CLONE
 - REFRESH
- **Download Manager Logs:** Log files generated by the download manager are available in the following folder: <CM Python Log Root>/dm/

Note: A contextual logs UI that can be accessed from the environment details page is available in Cloud Manager for administrator and end users while debugging issues in their environments.

Since the number of folders and files under cmlogs will grow over time, an archiving process for older files is there in Cloud Manager.

- **App Server Domain Logs:** App Server Domain logs are written in the default app server domain logs directory. \$PS_CFG_HOME/appserv/APPDOM/LOGS
- **Puppet Logs in Provisioned VMs:**
 - **Linux:** Logon into the provisioned VM using "opc" account with ssh. You should use the private key corresponding to the public key provided in the My Settings page, or use the Cloud Manager administrative key available in the Cloud Manager VM.

For details on My Settings page, see [My Settings Page](#).

The log files can be found at: /home/opc/cloud/admin/scripts/cloud_setup_psft.log

- Windows: Log into Windows VM as administrator. The log files can be found at: C:\cloud_setup_psft.txt

Log Levels

The different log levels that can be configured by the customer are:

- Critical
- Error
- Warning
- Debug

Note: Logging formats and levels are controlled using Python Logging configuration.

<i>Attribute name</i>	<i>Format</i>	<i>Description</i>
asctime	%(asctime)s	Human-readable time when the LogRecord was created. By default this is of the form '2003-07-08 16:49:45,896' (the numbers after the comma are millisecond portion of the time).
created	%(created)f	Time when the LogRecord was created (as returned by time.time()).
filename	%(filename)s	Filename portion of pathname.
funcName	%(funcName)s	Name of function containing the logging call.
levelname	%(levelname)s	Text logging level for the message ('DEBUG', 'INFO', 'WARNING', 'ERROR', 'CRITICAL').
levelno	%(levelno)s	Numeric logging level for the message (DEBUG, INFO, WARNING, ERROR, CRITICAL).
lineno	%(lineno)d	Source line number where the logging call was issued (if available).
message	%(message)s	The logged message, computed as msg % args. This is set when Formatter.format() is invoked.
module	%(module)s	Module (name portion of filename).
msecs	%(msecs)d	Millisecond portion of the time when the LogRecord was created.
name	%(name)s	Name of the logger used to log the call.
pathname	%(pathname)s	Full pathname of the source file where the logging call was issued (if available).
process	%(process)d	Process ID (if available).

Attribute name	Format	Description
processName	%(processName)s	Process name (if available).
relativeCreated	%(relativeCreated)d	Time in milliseconds when the LogRecord was created, relative to the time the logging module was loaded.
thread	%(thread)d	Thread ID (if available).
threadName	%(threadName)s	Thread name (if available).

LogRecord contains all the information pertinent to the event being logged.

class logging.LogRecord(name, level, pathname, lineno, msg, args, exc_info, func=None)

Parameters are detailed below:

- name – The name of the logger used to log the event represented by this LogRecord.

Note: This name will always have this value, even though it may be emitted by a handler attached to a different (ancestor) logger.

- level – The numeric level of the logging event (one of DEBUG, INFO etc.)

Note: This is converted to two attributes of the LogRecord: levelno for the numeric value and levelname for the corresponding level name.

- pathname – The full pathname of the source file where the logging call was made.
- lineno – The line number in the source file where the logging call was made.
- msg – The event description message, possibly a format string with placeholders for variable data.
- args – Variable data to merge into the msg argument to obtain the event description.
- exc_info – An exception tuple with the current exception information, or None if no exception information is available.
- func – The name of the function or method from which the logging call was invoked.

Note: Configurable Log Root: /home/psadm2/psft/data/cloud/cmlogs will be the Cloud Manager Python Log Root.

Changing Log Levels

The customer will be able to edit a single configuration file to set the log level.

The default logging level is “info”. To customize it to another level, modify the following entry in the file *\$PS_APP_HOME/cloud/pca_init.py* `logging_level = info`

Note: You do not need to restart the domains after the changing the log levels.

Important! In OCI, for Python logging configuration, two locations have to be configured.
 cloud/pca_int.conf - This controls the log level in Download Manager and Terraform handler.
 cloud/psc_cloud/psc_utils/psc_constants.py - This controls the log level in PSFT deployment code.

Terraform Logs for OCI

When Cloud Manager is used for provisioning environments, the provisioning of infrastructure is the first task that is executed. The Terraform log files generated during the execution can be found under the logs directory for the environment: /home/psadm2/psft/data/cloud/cmlogs/envs/<Environment Name>/CREATE_<Time Stamp>/

Log File Type	Description
tf.out	This is the Output Log, which contains the Terraform's stdout stream output.
tf.err	This is the Error Log, which contains the Terraform's stderr stream output.
out.log	This is the Driver Output generated by the Cloud Manager module that invokes Terraform.
console.log	This contains the uncaught exceptions.

Terraform Input and Output Files

The Terraform input/output files used by Cloud Manager for provisioning an environment can be found under: /home/psadm2/psft/data/cloud/ocihome/envs/<Environment Name>/

Log File Type	Description
terraform.tf.json	The .json file contains the specification of the VMs, storage volumes, database systems etc.
variables.tf	This file contains the tenancy OCID, user OCID, API key paths, finger print etc.
tf.result.json	This file contains a summary of the resources that were successfully created by Terraform.

Backing Up and Restoring Cloud Manager

Understanding Cloud Manager Backup and Restore

There are 2 methods for backing up and restoring Cloud Manager.

1. Automated Backup and Restore Utility.

See [Using Automated Backup and Restore Utility](#).

2. Backup and restore using Block Volume Backups for OCI.

See [Manually Backing Up and Restoring Cloud Manager Using Block Volume Backups for OCI](#)

Warning! Backing up or restoring Cloud Manager will shutdown all services. Please ensure that no provisioning or lifecycle jobs are running. Any running jobs will be abruptly ended and may result in an unstable or unusable state.

Important! Ensure the process scheduler does not have any jobs in its queue. If there are pending jobs in the queue, those may get scheduled to run whenever a backup is restored.

Using Automated Backup and Restore Utility

The automated backup and restore utility provides the ability to create a backup of the Cloud Manager instance. This backup/restore utility provides the following options:

- Backup and restore Cloud Manager Instance block volume.
- Backup Cloud Manager Instance boot volume.
- Delete backups.
- List Cloud Manager backups in OCI.
- Create an OCI config file.

To run the automated backup and restore utility:

1. Log into Cloud Manager instance using SSH as user `opc`.
2. Change the directory to `/home/opc/bootstrap/cm_backup_and_restore`.
3. Copy 2 files (`cm_backup_restore.py` and `cm_backup_restore.sh`) from `/opt/oracle/psft/pt/ps_app_home/cloud/psc_cloud/psc_utils/` to `/home/opc/bootstrap/cm_backup_and_restore`

4. Run the shell script **cm_backup_restore.sh**.

Understanding the Backup and Restore Shell Script

For a summary of the usage and optional arguments for shell script **cm_backup_restore.sh**, use the **-h** option.

This is an example of the help.

Image: Example: **cm_backup_restore.sh —h**

This example illustrates running **cm_backup_restore.sh —h**.

```
[opc@smnmc cm_backup_and_restore]$ sh cm_backup_restore.sh -h
usage: cm_backup_restore.py [-h] -o option [-n backupname]
                        [-t {BLOCK,BOOT}]
                        [-c DB_ACCESS_ID DB_ACCESS_PWD]

Utility to Backup/Restore storage volume of Cloud Manager Instance

optional arguments:
-h, --help            show this help message and exit
-o option             Provide an option to Backup/Restore/Delete/Display

                        backup      (for taking backup of the Cloud Manager Instance)
                        restore     (for restoring block volume of Cloud Manager Instance)
                        delete      (for deleting backup from OCI)
                        list        (to display list of Cloud Manager Instance backups in OCI)
                        createconfig (to create oci config file)

-n backupname         Custom Backup Name [Optional]
                        Default format: '<Vol Type>_VOLBKP_<CM Instance Name><timestamp>_amp(ddmmyyyy)>_<timestamp(HHMMSS)>
                        (this field is mandatory for Restore and Delete operations)

-t {BLOCK,BOOT}       Backup Volume Type [Optional]
                        Default : BLOCK
                        (this field is required for Backup operation)

-c DB_ACCESS_ID DB_ACCESS_PWD
                        Provide Database Access Id and Password
                        Example <DB_ACCESS_ID> <DB_ACCESS_PWD> (separated by space)
```

Creating Config File

You need to create a config file if:

- This is the first time you are running the automated backup and restore utility.
- You want to run the utility with different OCI user credentials.

To create the Config file:

1. Run the utility with the **createconfig** option and provide the Cloud Manager database Access ID and password.

```
sh cm_backup_restore.sh -o createconfig -c <DB_ACCESS_ID> <DB_ACCESS_PWD>
```

2. This option will read OCI User ID, Tenancy ID, Fingerprint and Private Key File Path from database and display on screen.

3. Check the displayed values.

- If the values are correct, press *y* to confirm and the configuration file will be created.
- If you want to change the values, press *n* and provide Tenancy ID, User ID, Fingerprint, Private Key File Path, Region details to create config file.

Example accepting default values.

```
[opc@smnncm cm_backup_and_restore]$ sh cm_backup_restore.sh -o createconfig -c EXXXX→
XXXXX123
Please check whether below OCI details are correct

Tenancy OCID : 'ocidl.tenancy.oc1..xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx→
xxxxxxxxxxxxx'
User OCID: 'ocidl.user.oc1..aaaaaaaaxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx'
Fingerprint of Public Key : '49:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx'
Private Key Path : '/home/psadm2/psft/data/cloud/ocihome/keys/oci_api_key.pem'
Region : 'us-ashburn-1'

Enter y if above values are correct : y
2019-04-18 09:28:16 - INFO - 353 : Created config file 'config.json'
```

Example modifying default values:

```
[opc@smnmc cm_backup_and_restore]$ sh cm_backup_restore.sh -o createconfig -c EXXXX=>
EXXXX123
Please check whether below OCI details are correct

Tenancy OCID : 'ocidl.tenancy.oc1..xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx'
User OCID: 'ocidl.user.oc1..aaaaaaaaxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx'
Fingerprint of Public Key : '49:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx'
Private Key Path : '/home/psadm2/psft/data/cloud/ocihome/keys/oci_api_key.pem'
Region : 'us-ashburn-1'

Enter y if above values are correct : n
Enter Tenancy OCID : ocidl.tenancy.oc1..xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx=>
xxxxxxxxxxxxxxxxxxxxx
Enter User OCID : ocidl.user.oc1..aaaaaaaaxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx=>
xxxxx
Enter Fingerprint of Public Key : 49:xx:xx:yy:xx:xx:xx:xx:xx:xx:xx:yy:xx:xx:xx
Enter region : us-ashburn-1
Enter Private Key File Path : /home/psadm2/psft/data/cloud/ocihome/keys/oci_api_key=>
.pem
2019-04-18 09:31:07 - INFO - 353 : Created config file 'config.json'
```

Listing Existing Backups

To list existing block and boot volume backups:

1. Run the utility with the list option:

```
sh cm backup restore.sh -o list
```

2. User will be prompted to enter a passphrase for the private API signing key.

Enter the passphrase if it exists or press enter.

3. The list of backups is displayed.

Example:

```
[opc@smncm cm_backup_and_restore]$ sh cm_backup_restore.sh -o list
Please Enter Private Key Pass Phrase :
BLOCK volume backup list :
* BLOCK_VOLBKP_SMNCM_20190410_110419
BOOT volume backup list :
No BOOT volume backups found
```

Creating Backups

When creating a backup of Cloud Manager, backup both block (data) volume and the boot volume. This will ensure creating a pair of time consistent backups that can be restored together when restoring the entire Cloud Manager instance in case of boot volume issues or failures.

Backups can be created using the default name which is *<Vol Type>_VOLBKP_<CM Instance Name>_<timestamp(ddmmYYYY)>_<timestamp(HHMMSS)>* or you can provide a custom name for the backup. Use the optional argument *-n <Custom Backup Name>* to create a backup with a custom name.

The default backup type is BLOCK.

Creating a Backup

Cloud Manager data is saved in two locations – Oracle Database files on data volume and configuration files on boot volume. Both must be backed-up to restore to a consistent point. The backup utility creates a full backup of both data volume as well as files on boot volume automatically.

To create a backup:

1. Run the utility with the backup option.

```
sh cm_backup_restore.sh -o backup
```

Note: Default value for volume type (-t) is BLOCK.

2. Optional arguments include name (-n) and volume type (-t).

```
sh cm_backup_restore.sh -o backup -n SMNCM_CST_BKP_BLK
```

In the above example the backup name is SMNCM_CST_BKP_BLK.

3. User will be prompted that the backup task will stop Database, Application Server, Process Scheduler and PIA services. Press *y* to continue.
4. User will be prompted to enter a passphrase for the private API signing key.

Enter the passphrase if it exists or press enter.

5. The backup automation process will:

- Shut down the database and domains.
- Backup files on boot volume and save them on data volume as `/opt/oracle/psft/dpks/cm_boot_vol_files.tar.gz`. Files backed up include:
 - All files under PS_CFG_HOME


```

MNCM_20190419_084254'
2019-04-19 08:44:15 - INFO - 448 : Changing DB service state to 'Start'
2019-04-19 08:44:24 - INFO - 481 : DB service is in 'Start' state
2019-04-19 08:44:24 - INFO - 448 : Changing APPSERVER service state to 'Start'
2019-04-19 08:44:49 - INFO - 481 : APPSERVER service is in 'Start' state
2019-04-19 08:44:49 - INFO - 448 : Changing PRCS service state to 'Start'
2019-04-19 08:46:45 - INFO - 481 : PRCS service is in 'Start' state
2019-04-19 08:46:45 - INFO - 448 : Changing PIA service state to 'Start'
2019-04-19 08:46:46 - INFO - 481 : PIA service is in 'Start' state

```

Creating Boot Volume Backup

Optionally, boot volume can also be backed up. Boot volume backups must be restored manually using OCI console. This backup should be used only if the CM instance becomes unusable and inaccessible.

Note: When restoring a boot volume backup ensure to create the Cloud Manager instance with the same IP addresses as the original instance. The original instance must be terminated before creating a new instance. If unable to reuse the same IP address, then all references to old IP addresses in Cloud Manager application and domains must be manually updated to reflect the new IP address of the instance.

Warning! If the backup is not restored correctly, the Cloud Manager instance may not come up with the proper network configuration which could result in losing the ability to manage already provisioned environments.

To create a boot volume backup:

1. Run the utility with the backup option.

```
sh cm_backup_restore.sh -o backup -t BOOT
```

2. Optionally you can provide a custom backup name using the -n argument..

```
sh cm_backup_restore.sh -o backup -n CUSTOM_NAME -t BOOT
```

In the above example the backup name is CUSTOM_NAME.

3. User will be prompted that the backup task will stop Database, Application Server, Process Scheduler and PIA services. Press y to continue.
4. User will be prompted to enter a passphrase for the private API signing key.

Enter the passphrase if it exists or press enter.

5. The backup process will:

- Shut down the database and domains.
- Create the backup.
- Restart the database and domains.

Example:

```

[opc@smncm cm_backup_and_restore]$ sh cm_backup_restore.sh -o backup -t BOOT
Backup task will stop Database, Application Server, Process Scheduler and PIA servi
ces
Do you want to continue (y/n) ? y
Please Enter Private Key Pass Phrase :
2019-04-19 09:58:54 - INFO - 598 : Cloud Manager Instance Backup Volume Id :oc⇒

```



```

idl.bootvolume.oc1.iad.abuwcljrhcuapoaveqp2yf2oof2pc6lsurxx4xu2fmjarjjrz4qyfki3wpq
2019-04-19 09:58:54 - INFO - 448 : Changing DB service state to 'Stop'
2019-04-19 09:59:14 - INFO - 481 : DB service is in 'Stop' state
2019-04-19 09:59:14 - INFO - 448 : Changing APPSERVER service state to 'Stop'
2019-04-19 09:59:30 - INFO - 481 : APPSERVER service is in 'Stop' state
2019-04-19 09:59:30 - INFO - 448 : Changing PRCS service state to 'Stop'
2019-04-19 10:04:33 - INFO - 481 : PRCS service is in 'Stop' state
2019-04-19 10:04:33 - INFO - 448 : Changing PIA service state to 'Stop'
2019-04-19 10:07:35 - INFO - 481 : PIA service is in 'Stop' state
2019-04-19 10:07:35 - INFO - 875 : Created input.json for BOOT Volume Backup =>
BOOT_VOLBKP_SMNCM_20190419_100735
2019-04-19 10:07:35 - INFO - 876 : Creating BOOT Volume Backup : BOOT_VOLBKP_S=>
MNCM_20190419_100735
2019-04-19 10:09:17 - INFO - 897 : Created BOOT volume backup 'BOOT_VOLBKP_SMN=>
CM_20190419_100735'
2019-04-19 10:09:17 - INFO - 448 : Changing DB service state to 'Start'
2019-04-19 10:09:26 - INFO - 481 : DB service is in 'Start' state
2019-04-19 10:09:26 - INFO - 448 : Changing APPSERVER service state to 'Start'
2019-04-19 10:09:51 - INFO - 481 : APPSERVER service is in 'Start' state
2019-04-19 10:09:51 - INFO - 448 : Changing PRCS service state to 'Start'
2019-04-19 10:11:47 - INFO - 481 : PRCS service is in 'Start' state
2019-04-19 10:11:47 - INFO - 448 : Changing PIA service state to 'Start'
2019-04-19 10:11:47 - INFO - 481 : PIA service is in 'Start' state

```

Restoring from a Backup

Both data volume and a set of files on boot volume must be replaced from a backup to restore Cloud Manager instance to a certain back up point.

First step is to restore the data volume. To restore a block (data) volume backup the user must provide a backup name. User can list the existing backups and then select the backup to restore.

To restore a block (data) volume backup:

1. While you are still on the latest version, before restoring the data volume, generate the list of IP addresses of all managed instances provisioned by Cloud Manager. This is required later in the restore process to synchronize the '/cm_psft_dpks/cloud' directory to all managed nodes in case the files are not up-to-date. This step is required whenever restoring from a latest Cloud Manager version to an older version. For example, restoring back from Cloud Manager 9 to Cloud Manager 8.

- SSH to Cloud Manager

- Switch user to psadm2

```
$ sudo su - psadm2
```

- Change directory to PS_APP_HOME/cloud

```
$ cd /opt/oracle/psft/pt/ps_app_home/cloud
```

- Generate the list of IP addresses into file /home/psadm2/managedenvironments.txt

```
$ get_managed_envs.sh $PS_CFG_HOME
```

- Take backup of /home/psadm2/managedenvironments.txt

```
$ cp /home/psadm2/managedenvironments.txt <backup_path>
```


2. Run the utility with the restore option.

```
sh cm_backup_restore.sh -o restore -n <backup_name>
```

3. User will be warned with a message that backup automation will stop Database, Application Server, Process Scheduler and PIA services. Press *y* to continue.

4. User will be prompted to enter a passphrase for the private API signing key.

Enter the passphrase if it exists or press enter.

5. The restore process will:

- Shut down the database and domains.
- Restore from the identified volume backup .
- Restart the database and domains.

6. Manually restore boot volume files from the backup /opt/oracle/psft/dpks/cm_boot_vol_files.tar.gz

Example:

```
[opc@smncm cm_backup_and_restore]$ sh cm_backup_restore.sh -o restore -n BLOCK_VOLBKP_SMNCM_20190419_084254
Restore task will stop Database, Application Server, Process Scheduler and PIA services
Do you want to continue (y/n) ? y
Please Enter Private Key Pass Phrase :
2019-04-19 09:14:20 - INFO - 658 : Getting BLOCK volume backup 'BLOCK_VOLBKP_SMNCM_20190419_084254' details from OCI
2019-04-19 09:14:20 - INFO - 666 : BLOCK volume backup 'BLOCK_VOLBKP_SMNCM_20190419_084254' Id : 'ocidl.volumebackup.oc1.iad.abuwcljryiuqzxut5ldxtb2hmaxgj5w65yxxukza6ztmz7odk323yiip3r7a'
2019-04-19 09:14:20 - INFO - 824 : Creating storage volume 'StorageVol_smncm_19APRIL2019_0914' from Backup 'ocidl.volumebackup.oc1.iad.abuwcljryiuqzxut5ldxtb2hmaxgj5w65yxxukza6ztmz7odk323yiip3r7a'
2019-04-19 09:15:01 - INFO - 853 : Created storage volume Name:'StorageVol_smncm_19APRIL2019_0914',
Id:'ocidl.volume.oc1.iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzsxllreleohsqe2vcq'
2019-04-19 09:15:01 - INFO - 598 : Cloud Manager Instance Backup Volume Id :ocidl.volume.oc1.iad.abuwcljr7k4bq4eqw3nfoyl7vxdsykzyrrthzgrco7jnwlyg5f6zgaghlmva
2019-04-19 09:15:01 - INFO - 448 : Changing DB service state to 'Stop'
2019-04-19 09:15:22 - INFO - 481 : DB service is in 'Stop' state
2019-04-19 09:15:22 - INFO - 448 : Changing APPSERVER service state to 'Stop'
2019-04-19 09:15:34 - INFO - 481 : APPSERVER service is in 'Stop' state
2019-04-19 09:15:34 - INFO - 448 : Changing PRCS service state to 'Stop'
2019-04-19 09:20:41 - INFO - 481 : PRCS service is in 'Stop' state
2019-04-19 09:20:41 - INFO - 448 : Changing PIA service state to 'Stop'
2019-04-19 09:20:57 - INFO - 481 : PIA service is in 'Stop' state
2019-04-19 09:20:57 - INFO - 497 : Kill some of the running 'psadm' processes
2019-04-19 09:21:02 - INFO - 530 : Unmounted block volume '/opt/oracle/psft'
2019-04-19 09:21:02 - INFO - 688 : Running ISCSI command to logout of storage volume iqn.2015-12.com.oracleiaas:22afb62d-a893-4ab4-a8fe-6dd14053c61b
2019-04-19 09:21:02 - INFO - 698 : Logged out of storage volume iqn.2015-12.com.oracleiaas:22afb62d-a893-4ab4-a8fe-6dd14053c61b
2019-04-19 09:21:02 - INFO - 700 : Running ISCSI command to delete storage device iqn.2015-12.com.oracleiaas:22afb62d-a893-4ab4-a8fe-6dd14053c61b
2019-04-19 09:21:02 - INFO - 709 : Deleted storage device iqn.2015-12.com.oracleiaas:22afb62d-a893-4ab4-a8fe-6dd14053c61b
2019-04-19 09:21:02 - INFO - 793 : Initiated REST Call to Detach storage volume
```



```

e ocid1.volumeattachment.oc1.iad.abuwcljrfnxyjammza3scounohq7qzawelzslmqiaccv7cm6w7m2wxjxuq
2019-04-19 09:21:23 - INFO - 802 : Detached storage volume ocid1.volumeattachm
ent.oc1.iad.abuwcljrfnxyjammza3scounohq7qzawelzslmqiaccv7cm6w7m2wxjxuq
2019-04-19 09:21:23 - INFO - 915 : Attaching storage volume 'ocid1.volume.oc1.i
iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2vcq'
2019-04-19 09:21:23 - INFO - 918 : Creating input.json for attaching block volu
me 'ocid1.volume.oc1.iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2v
cq'
2019-04-19 09:21:23 - INFO - 920 : Created input.json for attaching block volu
me 'ocid1.volume.oc1.iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2v
cq'
2019-04-19 09:21:23 - INFO - 928 : Initiated REST Call to attach storage volum
e ocid1.volume.oc1.iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2vcq
2019-04-19 09:22:04 - INFO - 935 : Attached storage volume 'ocid1.volume.oc1.i
ad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2vcq'
2019-04-19 09:22:04 - INFO - 598 : Cloud Manager Instance Backup Volume Id :oc
id1.volume.oc1.iad.abuwcljrf2hcy3ff5mxhbumnldvftljsp5yz66n73wzslxllreleohsqe2vcq
2019-04-19 09:22:04 - INFO - 718 : Running ISCSI Attach Commands
2019-04-19 09:22:04 - INFO - 733 : Running ISCSI command to add new node iqn.2
015-12.com.oracleiaas:f6f08414-d96f-4fd2-a852-69c0208ca8b2
2019-04-19 09:22:04 - INFO - 739 : Added new node iqn.2015-12.com.oracleiaas:f
6f08414-d96f-4fd2-a852-69c0208ca8b2
2019-04-19 09:22:04 - INFO - 741 : Running ISCSI command to start node on boot
iqn.2015-12.com.oracleiaas:f6f08414-d96f-4fd2-a852-69c0208ca8b2
2019-04-19 09:22:04 - INFO - 747 : Updated node iqn.2015-12.com.oracleiaas:f6f
08414-d96f-4fd2-a852-69c0208ca8b2 settings to start on boot
2019-04-19 09:22:04 - INFO - 749 : Running ISCSI command to login to node iqn.
2015-12.com.oracleiaas:f6f08414-d96f-4fd2-a852-69c0208ca8b2
2019-04-19 09:22:04 - INFO - 755 : Logged in to node iqn.2015-12.com.oracleiaa
s:f6f08414-d96f-4fd2-a852-69c0208ca8b2
2019-04-19 09:22:04 - INFO - 543 : Mounted block volume '/opt/oracle/psft'
2019-04-19 09:22:13 - INFO - 448 : Changing DB service state to 'Start'
2019-04-19 09:22:25 - INFO - 481 : DB service is in 'Start' state
2019-04-19 09:22:25 - INFO - 448 : Changing APPSERVER service state to 'Start'
2019-04-19 09:22:56 - INFO - 481 : APPSERVER service is in 'Start' state
2019-04-19 09:22:56 - INFO - 448 : Changing PRCS service state to 'Start'
2019-04-19 09:24:52 - INFO - 481 : PRCS service is in 'Start' state
2019-04-19 09:24:52 - INFO - 448 : Changing PIA service state to 'Start'
2019-04-19 09:24:52 - INFO - 481 : PIA service is in 'Start' state
2019-04-19 09:24:52 - INFO - 947 : Getting storage volume name for Id : 'ocid1
.volume.oc1.iad.abuwcljr7k4bq4eqw3nfoyl7vxdsykzyrrthzgrco7jnwiyg5f6zgaghlma'
2019-04-19 09:24:52 - INFO - 957 : Storage volume name for Id 'ocid1.volume.oc
1.iad.abuwcljr7k4bq4eqw3nfoyl7vxdsykzyrrthzgrco7jnwiyg5f6zgaghlma' is 'StorageVol_
smncm_18APR2019_1044'
2019-04-19 09:24:52 - INFO - 1061 : Please remove detached volume 'StorageVol_s
mncm_18APR2019_1044' from OCI manually

```

Next restore files on boot volume. To restore, execute following set of commands and set appropriate ownership on restored files.

1. SSH to Cloud Manager instance

2. Switch user to root.

```
$ sudo bash
```

3. Uncompress and extract boot volume files backup that were saved as /opt/oracle/psft/dpks/cm_boot_vol_files.tar.gz to /tmp/CMbkup

```

$ mkdir /tmp/CMbkup
$ cd /tmp/CMbkup
$ tar -xvf /opt/oracle/psft/dpks/cm_boot_vol_files.tar.gz

```


4. Restore PS_CFG_HOME files. The PS_CFG_HOME path varies if the PeopleTools version before backup was different. Ensure to use the right path.

```
$ cp -r /tmp/CMbkup/home/psadm2/psft/pt/* /home/psadm2/psft/pt/
$ chown -R psadm2:oinstall /home/psadm2/psft/pt/
$ chmod 755 -R /home/psadm2/psft/pt/
```

5. Copy profile files for users psadm1, psadm2, psadm3, oracle2 and esadm1.

```
$ cp /tmp/CMbkup/etc/profile /etc/profile
$ cp /tmp/CMbkup/etc/bashrc /etc/bashrc
$ chown root:root /etc/profile /etc/bashrc
$ chmod 644 /etc/profile /etc/bashrc

$ cp /tmp/CMbkup/home/psadm1/.bashrc /home/psadm1/.bashrc
$ chown psadm1:oinstall /home/psadm1/.bashrc
$ chmod 644 /home/psadm1/.bashrc

$ cp /tmp/CMbkup/home/psadm2/.bashrc /home/psadm2/.bashrc
$ chown psadm2:oinstall /home/psadm2/.bashrc
$ chmod 644 /home/psadm2/.bashrc

$ cp /tmp/CMbkup/home/psadm3/.bashrc /home/psadm3/.bashrc
$ chown psadm3:appinst /home/psadm3/.bashrc
$ chmod 644 /home/psadm3/.bashrc

$ cp /tmp/CMbkup/home/oracle2/.bashrc /home/oracle2/.bashrc
$ chown oracle2:oinstall /home/oracle2/.bashrc
$ chmod 644 /home/oracle2/.bashrc

$ cp /tmp/CMbkup/home/esadm1/.bashrc /home/esadm1/.bashrc
$ chown esadm1:oinstall /home/esadm1/.bashrc
$ chmod 644 /home/esadm1/.bashrc
```

6. Copy init scripts.

```
$ cp /tmp/CMbkup/etc/init.d/psft-db /etc/init.d/psft-db
$ cp /tmp/CMbkup/etc/init.d/psft-appserver /etc/init.d/psft-appserver
$ cp /tmp/CMbkup/etc/init.d/psft-prcs /etc/init.d/psft-prcs
$ cp /tmp/CMbkup/etc/init.d/psft-pia /etc/init.d/psft-pia
$ chown root:root /etc/init.d/psft-db /etc/init.d/psft-appserver /etc/init.d/psft-prcs /etc/init.d/psft-pia
$ chmod 755 /etc/init.d/psft-db /etc/init.d/psft-appserver /etc/init.d/psft-prcs /etc/init.d/psft-pia
```

7. Sync files to FS cloud directory.

```
$ mv /cm_psft_dpks/cloud /cm_psft_dpks/cloud_upgbkup
$ cp -r /opt/oracle/psft/pt/ps_app_home/cloud /cm_psft_dpks
$ chown -R root:root /cm_psft_dpks/cloud
$ chmod 755 -R /cm_psft_dpks/cloud
```

8. Verify the permission and ownership of files using below command.

```
$ ls -l /home/psadm1/.bashrc /home/psadm2/.bashrc /home/psadm3/.bashrc /home/oracle2/.bashrc /home/esadm1/.bashrc /etc/profile /etc/bashrc /etc/init.d/psft-db /etc/init.d/psft-appserver /etc/init.d/psft-prcs /etc/init.d/psft-pia
-rw-r--r--. 1 root root 3182 May 2 05:43 /etc/bashrc
-rwxr-xr-x. 1 root root 1908 Apr 29 15:30 /etc/init.d/psft-appserver
-rwxr-xr-x. 1 root root 6891 Apr 29 15:24 /etc/init.d/psft-db
-rwxr-xr-x. 1 root root 1773 Apr 29 15:36 /etc/init.d/psft-pia
-rwxr-xr-x. 1 root root 1900 Apr 29 15:33 /etc/init.d/psft-prcs
-rw-r--r--. 1 root root 2354 May 2 05:43 /etc/profile
-rw-r--r--. 1 esadm1 oinstall 974 Apr 29 15:12 /home/esadm1/.bashrc
-rw-r--r--. 1 oracle2 oinstall 370 Apr 29 15:12 /home/oracle2/.bashrc
-rw-r--r--. 1 psadm1 oinstall 878 Apr 29 15:12 /home/psadm1/.bashrc
-rw-r--r--. 1 psadm2 oinstall 1097 Apr 29 15:12 /home/psadm2/.bashrc
-rw-r--r--. 1 psadm3 appinst 929 Apr 29 15:12 /home/psadm3/.bashrc
```


9. Start Cloud Manager using below commands or use the psadmin utility.

```
$ sudo /etc/init.d/psft-db start
$ sudo /etc/init.d/psft-prcs start
$ sudo /etc/init.d/psft-appserver start
$ sudo /etc/init.d/psft-pia start
```

10. Restore the /cm_psft_dpks/cloud folder to all managed instances. This step is required if restoring from a latest Cloud Manager version to an older version. For example, restoring back to Cloud Manager 8 from Cloud Manager 9.

Restoring to Linux instances

- a. SSH into Cloud Manager.
- b. Switch user to psadm2.

```
$ sudo su - psadm2
```

- c. Securely copy the cloud directory from Cloud Manager to a managed node.

```
$ scp -i /home/psadm2/psft/data/cloud/ocihome/keys/cm_adm_pvt_key -r /cm_⇒
psft_dpks/cloud/ opc@< Instance1 IPADDRESS>:/home/opc/cloud
```

Where <Instance1 IPADDRESS> is the first item in each row having unix as second field in backed up file /home/psadm2/managedenvironments.txt.

- d. Repeat the above copy step for all IP addresses tagged as unix in the file managedenvironments.txt.

Restoring to Windows instances

- a. RDP into any Windows instance in the same VCN as the Cloud Manager.
- b. From the above Windows machine, RDP into each Windows instance listed in the backed up file managedenvironments.txt. The password is also captured in the same file.
- c. Access files server machine by opening the share \\<file_server_IP>\u01\app\oracle\product.
- d. Copy cloud folder from files server into D:\cloud.

Important! Please delete the managedenvironments.txt file after completing the cloud folder restores on all nodes.

Deleting Backup

To delete a block volume backup, the user must provide the backup name. User can list the existing backups then select the backup name to delete.

To delete a block (data) volume backup:

1. Run the utility with the restore option.

```
sh cm_backup_restore.sh -o delete -n <backup_name>
```

2. User will be prompted to enter a passphrase for the private API signing key.

Enter the passphrase if it exists or press enter.

3. The backup volume will be deleted.

Example:

```
[opc@smncm cm_backup_and_restore]$ sh cm_backup_restore.sh -o delete -n BLOCK_VOLBK→
P_SMNCM_20190410_110419
Please Enter Private Key Pass Phrase :
2019-04-19 10:16:02 - INFO - 658 : Getting BLOCK volume backup 'BLOCK_VOLBKP_S→
MNCM_20190410_110419' details from OCI
2019-04-19 10:16:02 - INFO - 666 : BLOCK volume backup 'BLOCK_VOLBKP_SMNCM_201→
90410_110419' Id : 'ocidl.volumebackup.oc1.iad.abuwcljre6zjpqrmk6ceqim3vu5jnmwt5zw4→
zb5vo8tgq55umw2bij5tt7cq'
2019-04-19 10:16:02 - INFO - 1146 : Deleting volume backup : BLOCK_VOLBKP_SMNCM→
_20190410_110419
2019-04-19 10:16:02 - INFO - 1157 : Deleted BLOCK volume backup 'BLOCK_VOLBKP_S→
MNCM_20190410_110419'
```

Manually Backing Up and Restoring Cloud Manager Using Block Volume Backups for OCI

Using block volume backup feature in OCI, the Cloud Manager data can be backed up and restored on demand.

Backing Up Cloud Manager

To backup Cloud Manager instance for OCI using block volumes, perform the following:

1. To create a consistent backup, shutdown the database, application, PIA and process scheduler domains.

Note: Please make sure there are no provisioning or lifecycle jobs running. If there are, they will be abruptly ended and may result in environments in an unstable or unusable state.

2. SSH into the Cloud Manager instance and run following commands or use the psadmin utility.

```
$ sudo /etc/init.d/psft-db stop
$ sudo /etc/init.d/psft-prcs stop
$ sudo /etc/init.d/psft-appserver stop
$ sudo /etc/init.d/psft-pia stop
```

3. Backup the set of files on boot volume that are listed below on to local file system on CM instance or any remote instance.

Note: Use the environment variable PS_CFG_HOME to determine the exact path. Make a note of this in case the path gets modified during PeopleTools upgrade.

- All files under PS_APP_HOME/cloud (/opt/oracle/psft/pt/ps_app_home/cloud)
- All files under PS_CFG_HOME
- /home/psadm1/.bashrc
- /home/psadm2/.bashrc
- /home/psadm3/.bashrc

- /home/oracle2/.bashrc
 - /home/esadm1/.bashrc
 - /etc/profile
 - /etc/bashrc
 - /etc/init.d/psft-db
 - /etc/init.d/psft-appserver
 - /etc/init.d/psft-prcs
 - /etc/init.d/psft-pia
4. On the OCI console, navigate to Compute | Instances | Cloud Manager instance.
 5. Navigate to Cloud Manager Instance Details page.
 6. Scroll down to the Attached Block Volumes section. Click on the attached volume name which will have a name in the format StorageVol_<CMinstance>_<timestamp>. This volume is available as disk /dev/sdb in Cloud Manager instance. It is mounted on /u01/app/oracle/product, where Cloud Manager application is installed.
 7. This will bring up the volume details. On this page, click on 'Create Backup'.
 8. Optionally, create a backup of the boot volume in similar way.
 9. Provide a name for the backup and click 'Create Backup'.
 10. After few minutes a backup is created.
 11. Start the database, pia, app and prcs domains. Use below commands or psadmin utility.

```
$ sudo /etc/init.d/psft-db start
$ sudo /etc/init.d/psft-prcs start
$ sudo /etc/init.d/psft-appserver start
$ sudo /etc/init.d/psft-pia start
```

Restoring Cloud Manager

To restore a backup using block volumes, perform the following:

1. If restoring to an older version of Cloud Manager from a newer version, then generate the list of IP address of all managed instances that were provisioned by Cloud Manager. Follow step 1 in [Restoring from a Backup](#).
2. On the OCI console, navigate to Storage | Backups.
3. Select the backup to restore and click 'Create Block Volume' using menu on the right .
4. Enter a name for the block volume and choose the Availability Domain in which the volume will be created. Ensure to choose the same Availability Domain where Cloud Manager instance is deployed.
5. A new volume is created in few seconds.

6. SSH to the Cloud Manager instance and shutdown database, pia, app and prcs domains using commands below or psadmin utility.

```
$ sudo /etc/init.d/psft-db stop
$ sudo /etc/init.d/psft-prcs stop
$ sudo /etc/init.d/psft-appserver stop
$ sudo /etc/init.d/psft-pia stop
```

7. Clean up any running processes that might be using the data volume that needs to be restored.

```
$ ps -ef | grep psadm
psadm2 2969 1 0 Feb01 ? 00:00:19 rmiregistry 10100
psadm2 3495 1 0 Feb01 ? 00:00:20 rmiregistry 10200
$ sudo kill 2969 3495
```

8. Unmount /dev/sdb which is mounted on /opt/oracle/psft.

```
$ sudo umount /opt/oracle/psft
```

9. Navigate to OCI | Compute | Instances | Cloud Manager instance. Scroll down to the Attached Block Volumes. Select the volume to be restored and click Detach.

10. On the Detach Block Volume page, copy all DETACH COMMANDS.

11. Run the detach commands on the Cloud Manager instance.

12. Click 'Continue Detachment' (from step 9) and confirm detachment.

13. Verify in OCI UI for the instance that the volume is now removed.

14. Now restore the volume backup. Click Attach Block Volume. Select iSCSI attachment type. Select the block volume compartment where the backup volume was restored and select the restored volume. Select read-write access mode.

15. Click Attach to attach the restored volume to Cloud Manager instance.

16. After the status shows Attached. Retrieve the iSCSI commands that must be run on the instance to attach the volume in the OS. Click the Actions icon (Actions icon) next to the volume, and then click iSCSI Commands and Information. Copy all ATTACH COMMANDS.

17. SSH to the Cloud Manager instance and run the copied attach commands.

18. Verify the disk is attached using "sudo fdisk -l" command. There should now be an entry for /dev/sdb.

```
Disk /dev/sdb: 107.4 GB, 107374182400 bytes
255 heads, 63 sectors/track, 13054 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk identifier: 0x00000000
```

19. Restore below set of files that were backed up from boot volume. Ensure to restore the PS_CFG_HOME files to the right path in case the backup contains files from an older PeopleTools release..

- Restore /cm_psft_dpks/cloud/ from backup of PS_APP_HOME/cloud
- All files under PS_CFG_HOME
- /home/psadm1/.bashrc

- /home/psadm2/.bashrc
- /home/psadm3/.bashrc
- /home/oracle2/.bashrc
- /home/esadm1/.bashrc
- /etc/profile
- /etc/bashrc
- /etc/init.d/psft-db
- /etc/init.d/psft-appserver
- /etc/init.d/psft-prcs
- /etc/init.d/psft-pia

20. Run 'mount -a' command on the CM instance and reboot the instance. Check status of Cloud Manager domains using following commands.

```
$ sudo /etc/init.d/psft-db status
PeopleSoft Container Database CDBHCM Status is Up
PeopleSoft Pluggable Database PSPDB Status is Open
PeopleSoft Database Listener is Up
$ sudo /etc/init.d/psft-prcs status
PeopleSoft Process Scheduler Domain PRCSDOM is Up
$ sudo /etc/init.d/psft-appserver status
PeopleSoft Application Server Domain APPDOM is Up
$ sudo /etc/init.d/psft-pia status
PeopleSoft PIA Domain peoplesoft is Up
```

If database and domains do not come up automatically then start them using the following commands. Reboot only if necessary.

```
$ sudo /etc/init.d/psft-db start
$ sudo /etc/init.d/psft-prcs start
$ sudo /etc/init.d/psft-appserver start
$ sudo /etc/init.d/psft-pia start
```

If the database or domains don't start successfully, then the restored backup may have issues, In such scenario, there are two options at this point -

- a. Restore the original volume. Follow steps 5 to 18 described under 'How to restore a backup' section.
- b. Troubleshoot the reason for failures and bring up the database or domains manually.

21. SSH into Cloud Manager and remove the directory /home/psadm2/psft/data/cloud/dm/cache/.

22. Before accessing the restored Cloud Manager PIA URL, you need to clear the application domain cache. To clear cache:

- a. SSH into Cloud Manager instance.

- b. Switch user to psadm2.

```
sudo su - psadm2
```

- c. Start psadmin.
- d. Select 1) Application Server.
- e. Select 1) Administer a domain.
- f. Select 1) APPDOM.
- g. Select 8) Purge Cache.

23. If restoring to an older version from a newer version of Cloud Manager, copy the restored /cm_psft_dpks/cloud to all the managed instances. Follow step 10 in [Restoring from a Backup](#).

Note: If you want specific downloads to begin, unsubscribe and then subscribe to the required download channels. Otherwise, the downloads will begin at the next scheduled time.
