ORACLE
PeopleSoft

PeopleSoft Cloud Manager Image 06

June 2018

ORACLE

PeopleSoft Cloud Manager Image 06

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Contents

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 After a new release is posted, previous releases remain available but are no longer updated.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 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 *PeopleTools 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.

Typographical Convention	***Description***
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.

Typographical Convention	*Description*
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.
⇒	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.

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.

Follow Us

Facebook.

YouTube

Twitter@PeopleSoft_Info.

PeopleSoft Blogs

LinkedIn

Chapter 1

Getting Started with PeopleSoft Cloud Manager

Understanding PeopleSoft Cloud Manager

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 Manger 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.

Cloud Manager Update Image 6 supports two flavors: Oracle Cloud Infrastructure–Classic, in short referred to as OCI–Classic, and Oracle Cloud Infrastructure, or simply OCI. 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

Term	*Description*
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
OCI–Classic	Oracle Cloud Infrastructure — Classic
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-Classic is oc1m and for OCI is VM.Standard 1.1.
- Minimum file server capacity is 250 GB.
- (For OCI only) 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
    - An object storage bucket.

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 and OCI–Classic.

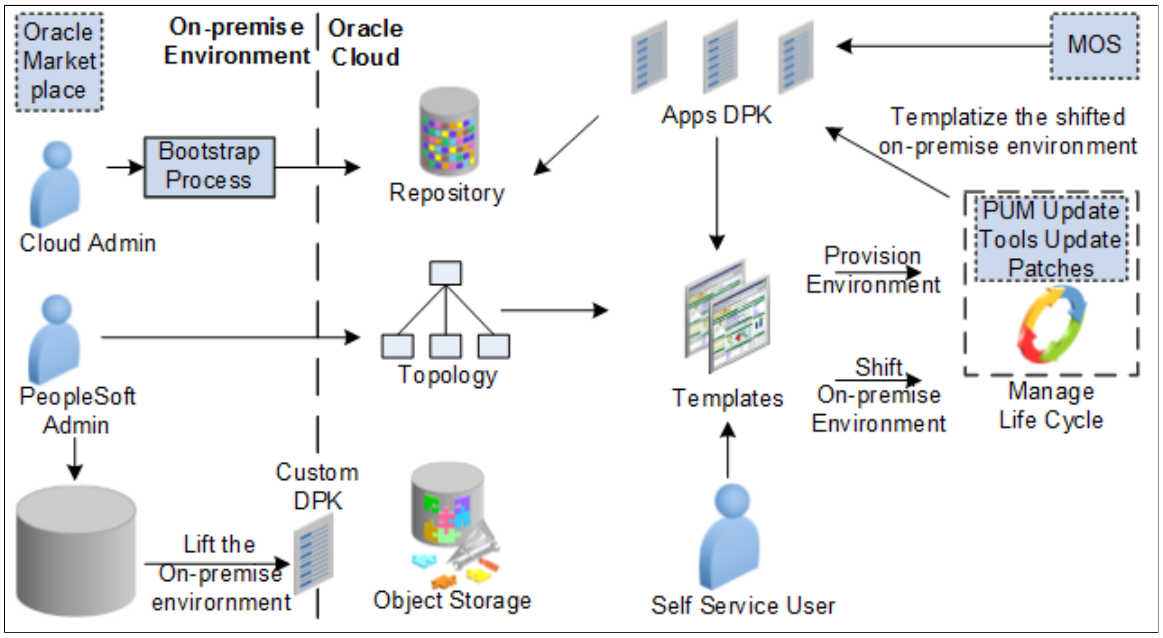
- Support lifting and shifting of non-unicode database.
- Support lifting and shifting of PeopleSoft application environments which have TDE encrypted databases. The on-premise environments must be TDE encrypted before migrating. This feature is supported only for OCI–Classic.
- Orchestrate deployment of PeopleSoft 9.2 applications on OCI–Classic and OCI.
- Subscription model to auto download application PIs and PRPs.
- Automate migration of on-premise environment to OCI.
- 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.
- Self update to a newer CM image.
- 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 from 8.55 to 8.56 and other PeopleTools 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:

- Configuring Cloud Manager
- User Configuration for Cloud Manager
- Managing Repository
- Managing Topology
- Managing Template
- Managing Environments
- Understanding the Lift and Shift Process
- Migrating TDE Encrypted Database to Oracle Cloud Infrastructure – Classic using PeopleSoft Cloud Manager
- Using the Lift Process to Migrate an Environment to the Oracle Cloud for OCI and OCI-Classic
- Using the Shift Process to Provision the Migrated Environment from the Oracle Cloud
- Understanding Cloud Manager Backup and Restore
- Understanding PeopleSoft Cloud Manager Logs

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

PeopleSoft Cloud Manager

Chapter 2

Setting Up PeopleSoft Cloud Manager

Configuring Cloud Manager

This topic discusses the following:

- Configuring Cloud Manager for OCI–Classic
- Configuring Cloud Manager for OCI

Installation documentation for OCI and OCI-Classic 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

Configuring Cloud Manager for OCI–Classic

The steps involved in Cloud Manager Configuration for OCI–Classic are:

- Configuring Cloud Manager Settings
- Configuring My Settings
- Configuring File Server

Pages Used to Configure Cloud Manager for OCI–Classic

Page Name	*Definition Page*	*Usage*
Cloud Manager Settings Tile	ECL_CMCONFG_FL_GBL (CREF for the tile)	To access the Cloud Manager Settings page.
Cloud Manager Settings Page	ECL_CMCONFG_FL	To change the system settings as per requirement.
Cloud Manager Settings – File Server Page	ECL_CMFILESERV_FL	To configure file server as repository for Cloud Manager.
Cloud Manager Settings – VM Size Page	ECL_SET_SIZE_FL	To map VM Size to a Shape in Oracle Public Sector Cloud.
Cloud Manager Settings – Manage PUM Connections Page	ECL_CMUPDATE_FL	To configure a PUM sources for updating the Cloud Manager application.
Cloud Manager Settings – Manage Updates Page	ECL_CMSELFUPD_FL	To manage application updates delivered through PeopleSoft IH Updates and PRPs

Page Name	Definition Page	Usage
My Settings Tile	ECL_INFO_HOME_FL_GBL (CREF for the tile)	To access the My Settings page.
My Settings Page	ECL_INFO_HOME_FL	To enter or edit the public SSH key.
For OCI: Cloud Manager Settings Page	ECL_CMCFG_OCI_FL	To change the system settings as per requirements in OCI.
For OCI: Cloud Manager Settings – Infrastructure Settings Page	ECL_OCICFG_OCI_FL	To configure OCI-related settings for environment provisioning and management.
For OCI: Cloud Manager Settings – File Server Page	ECL_CMFILESERV_FL	To configure file server as repository for Cloud Manager in OCI.
For OCI: Cloud Manager Settings – Manage Updates Page	ECL_CMSELFUPD_FL	To mange application updates delivered through PeopleSoft IH Updates and PRPs in OCI.

Cloud Manager Settings Tile

Use the Cloud Manager Settings tile (ECL_CMCONFG_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.

Cloud Manager Settings Page

Use the Cloud Manager Settings page (ECL_CMCONFG_FL) to change the system settings as per the requirement.

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 (1 of 2)

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

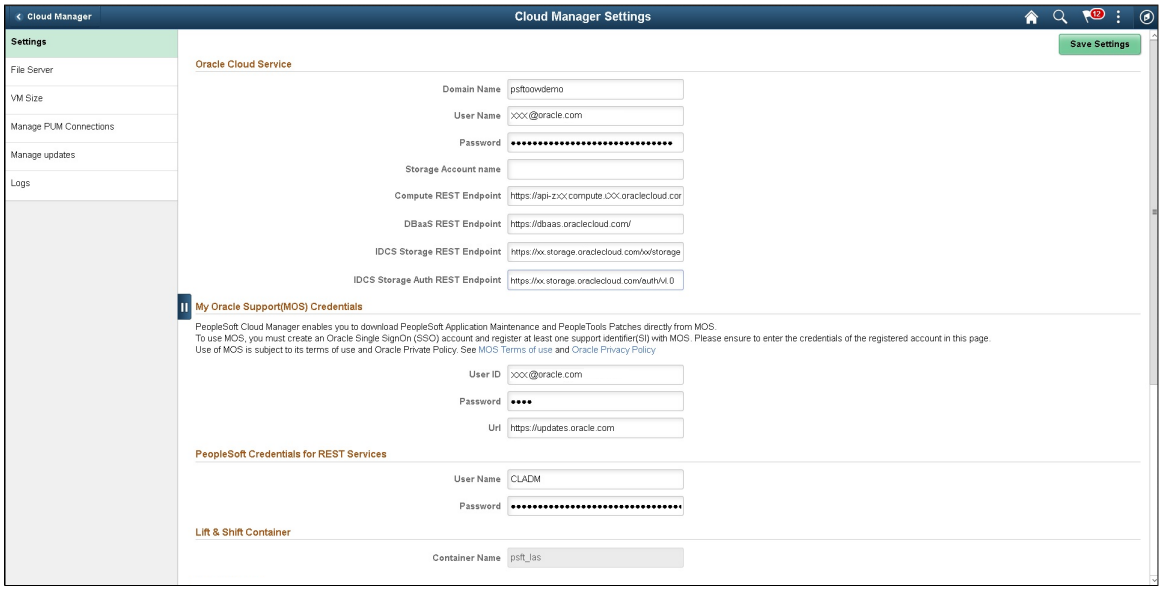
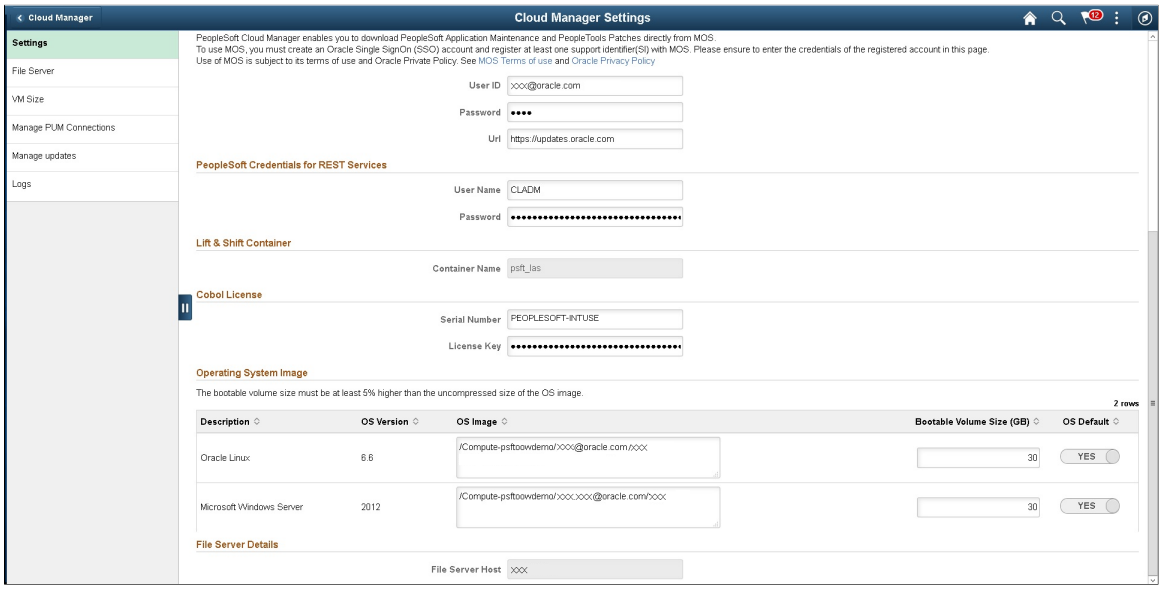


Image: Cloud Manager Settings Page (2 of 2)

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



Only a Cloud Manager Administrator is allowed to change the system settings under this page.

Various sections available in the Cloud Manager Settings page are:

- Oracle Cloud Service
- My Oracle Support (MOS) Credentials
- PeopleSoft Credentials for REST Services
- Lift and Shift Container
- Cobol License
- Operating System Image
- File Server Details

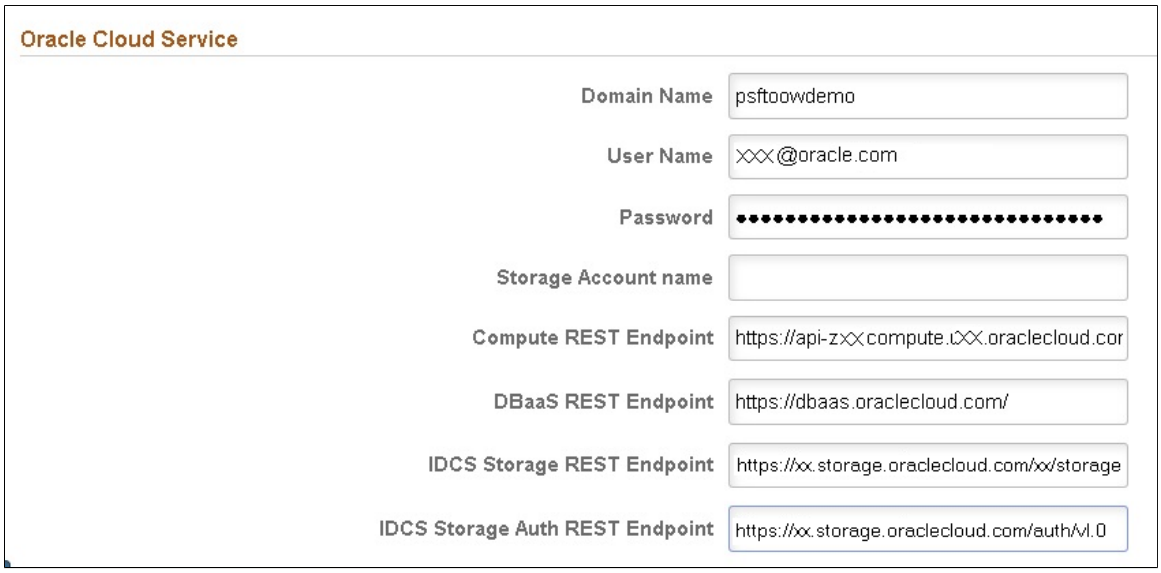
Click Save Settings to save the details.

Oracle Cloud Service

This section refers to the Oracle Cloud Identity Domain and credentials to access Oracle Cloud Compute and Database Cloud Service. In this section, you need to define the REST endpoints of the Oracle Cloud Services.

Image: Oracle Cloud Service

This example illustrates the fields and controls on the Oracle Cloud Service section.



Domain Name Enter your Oracle Cloud Service Identity Domain. Length of Environment name and identity domain name should not exceed 25 characters.

User Name Enter your Oracle Cloud Service account ID.

Password Enter the password for your Oracle Cloud Service account.

Note: Currently, you are not allowed to enter special characters such as ‘ “ \ # in the Password field.

Storage Account name — Enter the name for your Storage Classic account. You can find this in the Oracle Cloud Infrastructure Object Storage Classic Overview page.

Compute REST Endpoint — Enter the REST API endpoint URL of Oracle Cloud Service. You can find the REST endpoint on the Service Details page for your Identity Domain, or on the Instance Details page.

DBaaS REST Endpoint — Enter the REST API endpoint URL for Oracle Database Cloud Service. You can find the DBaaS REST Endpoint in My Services dashboard for your identity domain or on the Oracle Database Cloud Service Details page.

IDCS Storage REST Endpoint and **IDCS Storage Auth REST Endpoint** — Enter the REST API endpoint URL of Oracle Cloud Infrastructure. The Storage REST Endpoint and Auth Endpoint URLs are located within the Additional Information section of the Overview page.

For details on how to fetch the Storage REST Endpoint and Auth Endpoint URLs (based on your account) refer Fetching the Storage REST Endpoint and Auth Endpoint URLs for IDCS Account or Fetching the Storage REST Endpoint and Auth Endpoint URLs for Non-IDCS Account.

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.

Image: My Oracle Support (MOS) Credentials

This example illustrates the fields and controls on the Oracle Cloud Service section.

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

Password — Enter the password for your My Oracle Support account.

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

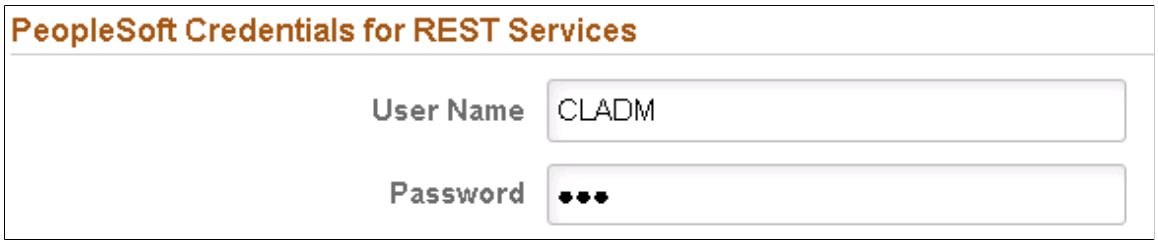
Note: Read the MOS License information. Click the links to understand My Oracle Support terms of use and privacy policy.

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.

Image: PeopleSoft Credentials for REST Services

This example illustrates the fields and controls on the PeopleSoft Credentials for REST Services section.



User Name	Enter the delivered Cloud Manager Administrator user name.
Password	Enter the delivered Cloud Manager Administrator password.

Note: You can’t edit the user name and password.

Determining REST Endpoint from the Zone Selector

User can also determine REST endpoint from the zone selector on which Cloud Manager is created.

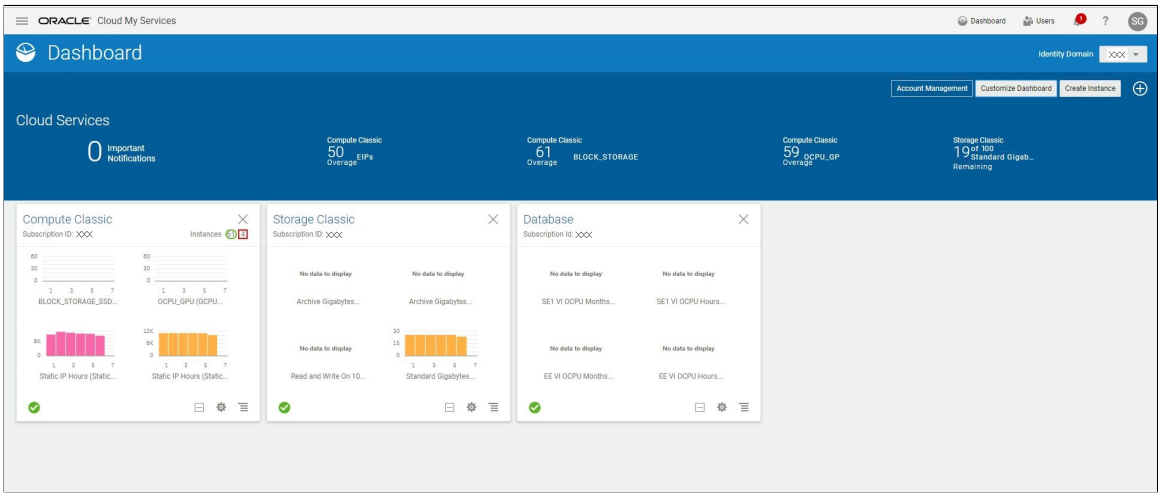
Perform the following steps to determine REST endpoint from zone selector.

1. Access Oracle Cloud Services.
2. Select Traditional Cloud Account.
3. Select the required Data Center.
4. Click My Services link.
5. Enter your identity domain.
6. Enter your Cloud credentials in the Oracle My Services – Dashboard page.

   You can use the Customize Dashboard option to set your preferences in viewing the dashboard.

Image: Oracle My Services – Dashboard page

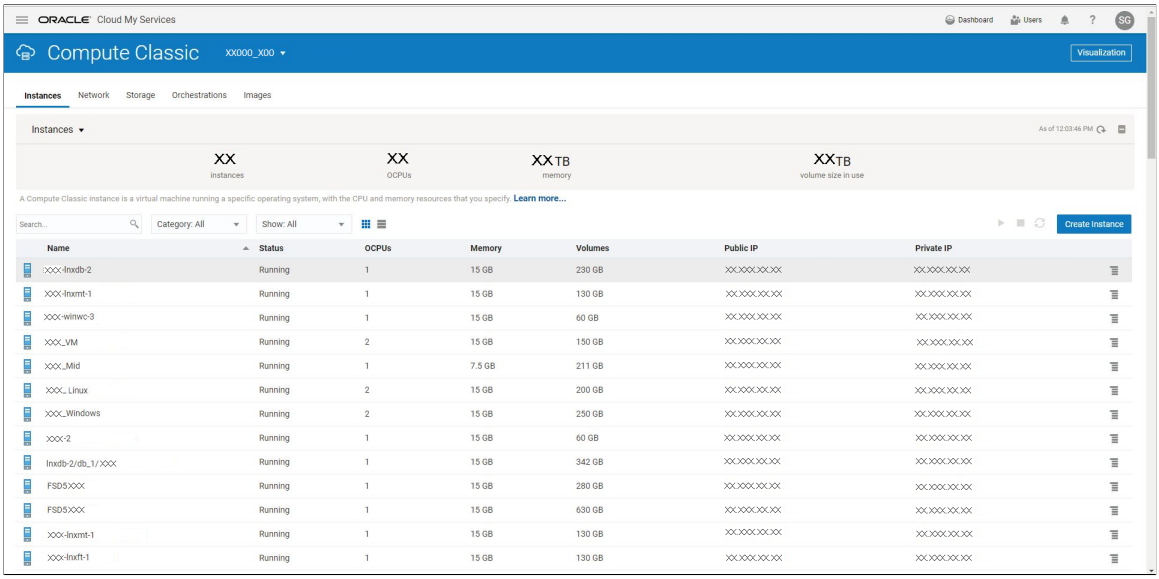
This example illustrates the fields and controls on the Oracle My Services – Dashboard page.



7. Click Compute.
8. Click Open Service Console button to view the service details. You can see the site as XX000_X00 as seen in the image below.

Image: Oracle Cloud My Services – Instances page

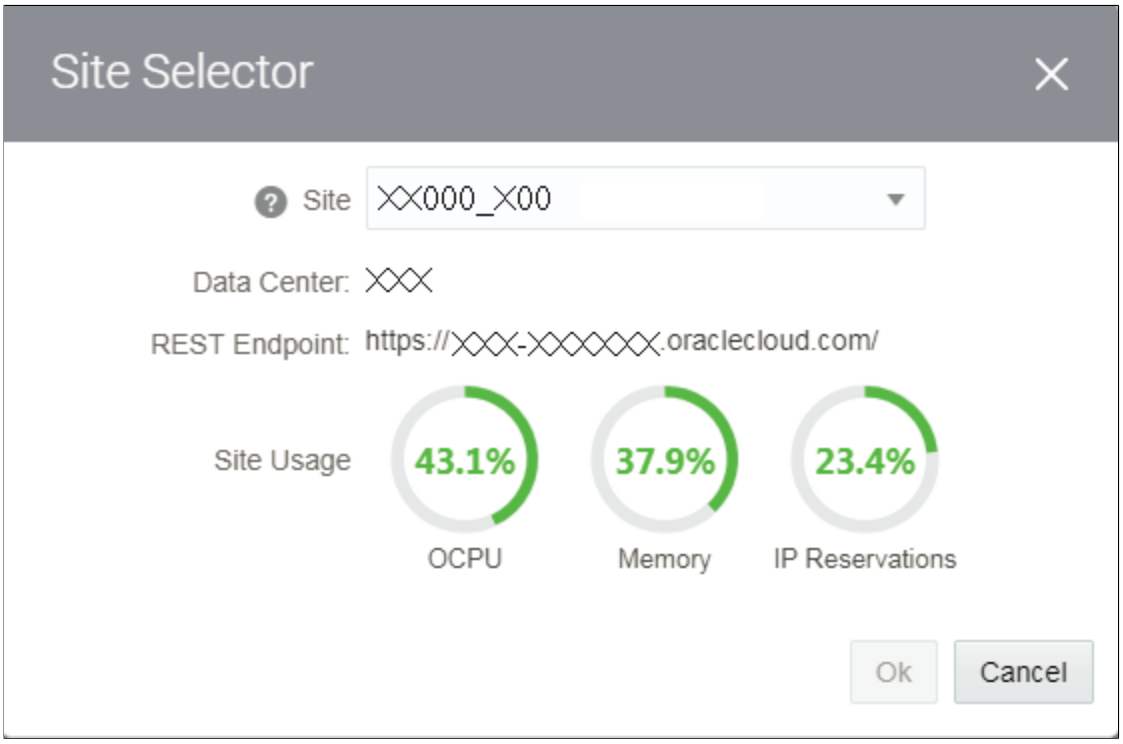
This example illustrates the fields and controls on the Oracle Cloud My Services – Instances page. You can find definitions for the fields and controls later on this page.



9. Click on the Site as displayed. The Site Selector modal window is displayed where you can find the REST Endpoint as shown.

Image: Site Selector Modal Window

This example illustrates the fields and controls on the Site Selector Modal Window.



Note: User must ensure to select REST endpoint of the site where Cloud Manager is deployed. The site here should be same where Cloud Manager is installed.

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.

Image: Lift and Shift Container

This example illustrates the fields and controls on the Lift and Shift Container section.

Container Name Displays the container name for information. The user is not allowed to edit the container name in the current version of Cloud Manager

Cobol License

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 Managing Topology.

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.

Image: COBOL license

This example illustrates the fields and controls on the Cobol License section.

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.

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.

Description Operating system description.

OS Version	Version of operating system. The OS image for Cloud Manager is available from Market Place. Customers can download into their image list and configure it here.
OS Image	OS images in Oracle Cloud.
Bootable Volume Size (GB)	The virtual boot volume that will be used to boot the VM instance. The size of the bootable volume 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.
OS Default	If Os Default field is set to 'Yes', the corresponding images will be used for environment provisioning. Currently, this feature is not implemented.

Enter information about operating system images that Cloud Manager will access, if available.

To obtain image information from the Images page, perform the following:

1. Sign in to Oracle Cloud, https://cloud.oracle.com.
2. On the Compute card, click the Actions menu and select Open Service Console.
3. Select the Images tab.
4. Hover over the image name to see the image URL.

If you already have an instance created out of an image, then perform the following:

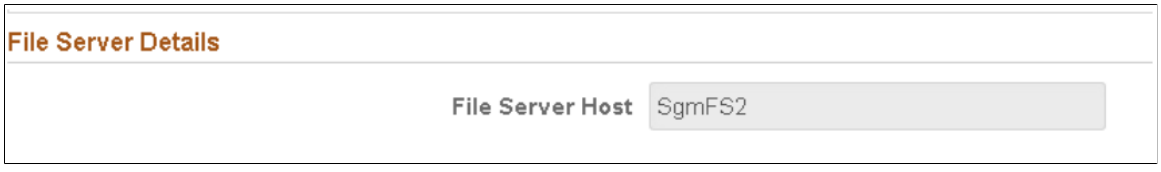
1. Select the Instances tab.
2. Click the Menu icon for the instance and select View.
3. On the Instances Overview page, the Image URL is included in the Information section.

File Server Details

Displays the file server host name.

Image: File Server Details

This example illustrates the fields and controls on the File Server Details section.



Cloud Manager Settings – File Server Page

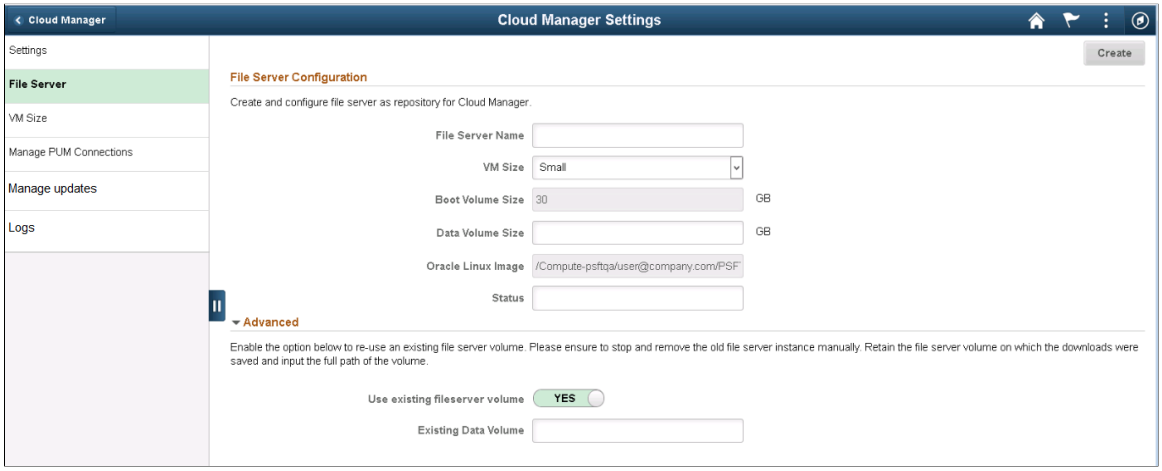
Use Cloud Manager Settings – File Server page (ECL_CMFILESERV_FL) to configure file server as repository for Cloud Manager.

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 (Before Deployment)

This example illustrates the fields and controls on the Cloud Manager Settings – File Server page (Before Deployment). You can find definitions for the fields and controls later on this page.



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

VM Size VM Size is used to select the shape of the File Server. Available VM sizes are Small, Medium, and Large.

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.

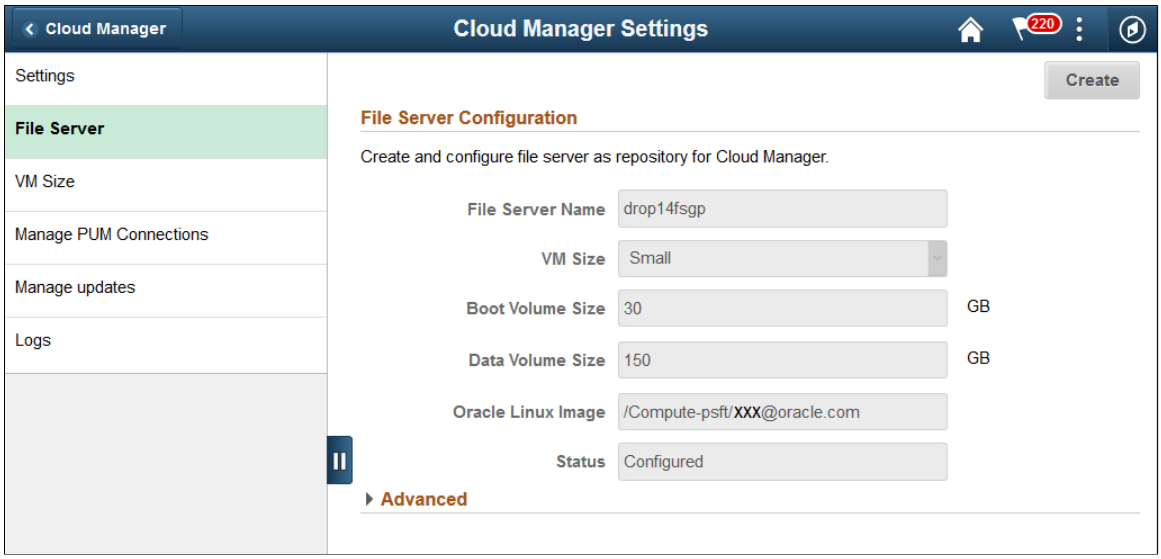
For details on reusing existing file server volume, refer Installation Guide OBE for Cloud Manager.

Existing Data Volume Existing file server volume is displayed in this field. This field is available only when 'Yes' is selected in the Use Existing File Server Volume field.

Once the File Server is deployed in CM, you cannot enter or modify any attributes. The Cloud Manager Settings – File Server page after deployment appears as shown:

Image: Cloud Manager Settings - File Server Page (After Deployment)

This example illustrates the fields and controls on the Cloud Manager Settings - File Server Page (After Deployment). You can find definitions for the fields and controls later on this page.



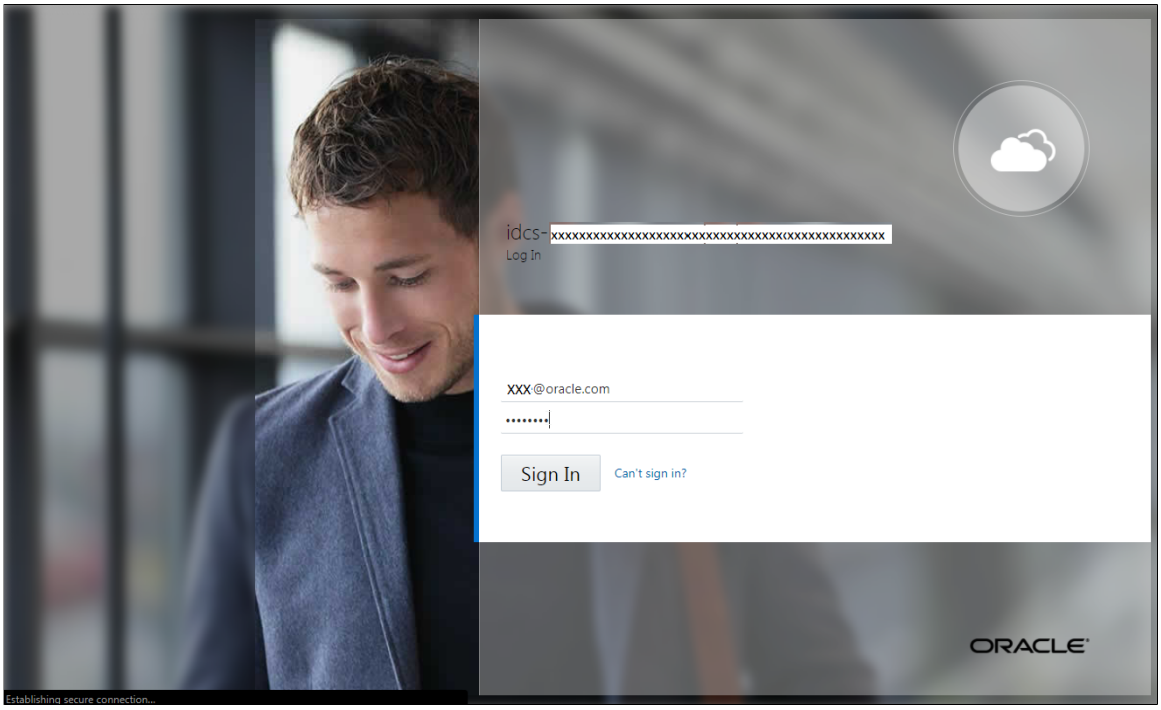
Fetching the Storage REST Endpoint and Auth Endpoint URLs for IDCS Account

Follow the steps below to fetch the Storage REST Endpoint and Auth Endpoint URLs for your IDCS account::

1. Log on to your IDCS Account with your credentials.

Image: IDCS Account login page

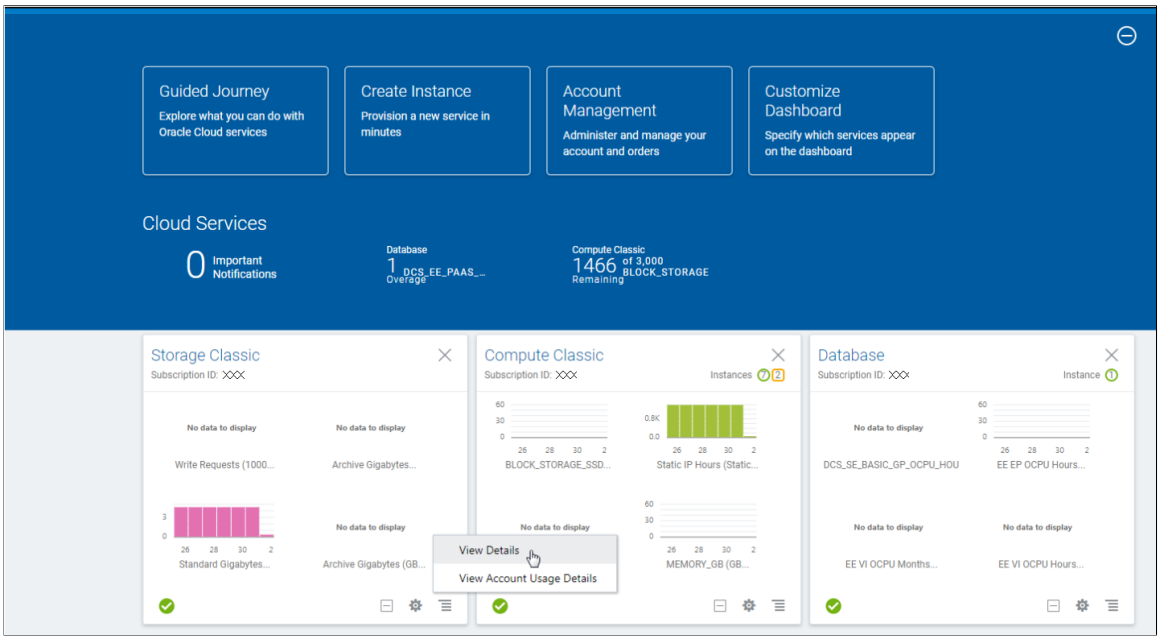
This example illustrates the IDCS Account login page.



2. From the Dashboard, click Storage Classic and then click View Details.

Image: IDCS Account – Dashboard

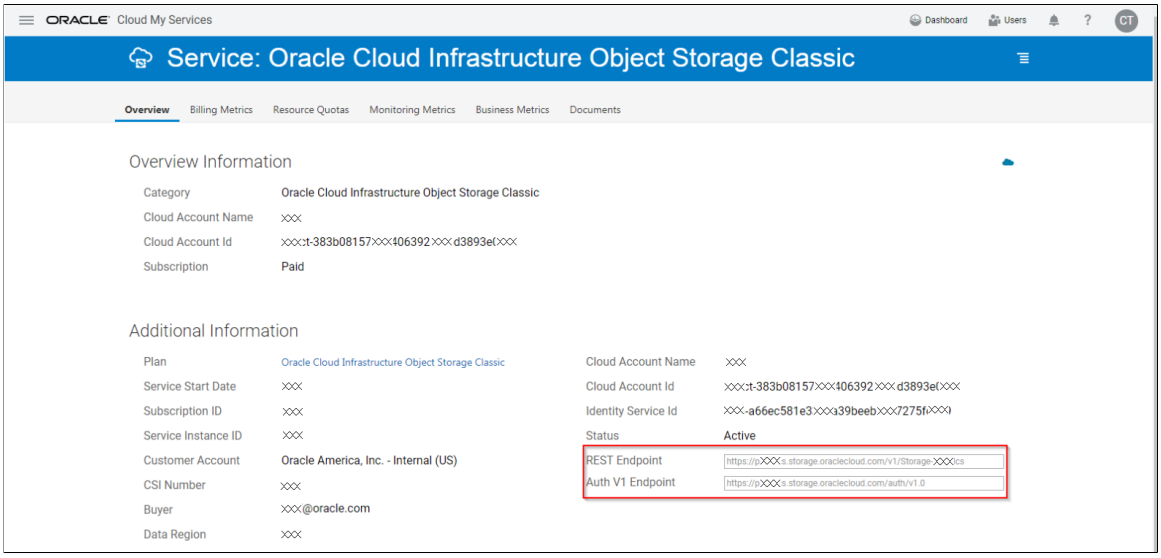
This example illustrates the IDCS Account – Dashboard.



3. In the Overview page, under the Additional Information section, the Storage REST Endpoint and Auth Endpoint URLs are listed.

Image: IDCS Account – Overview page

This example illustrates the IDCS Account – Overview page.



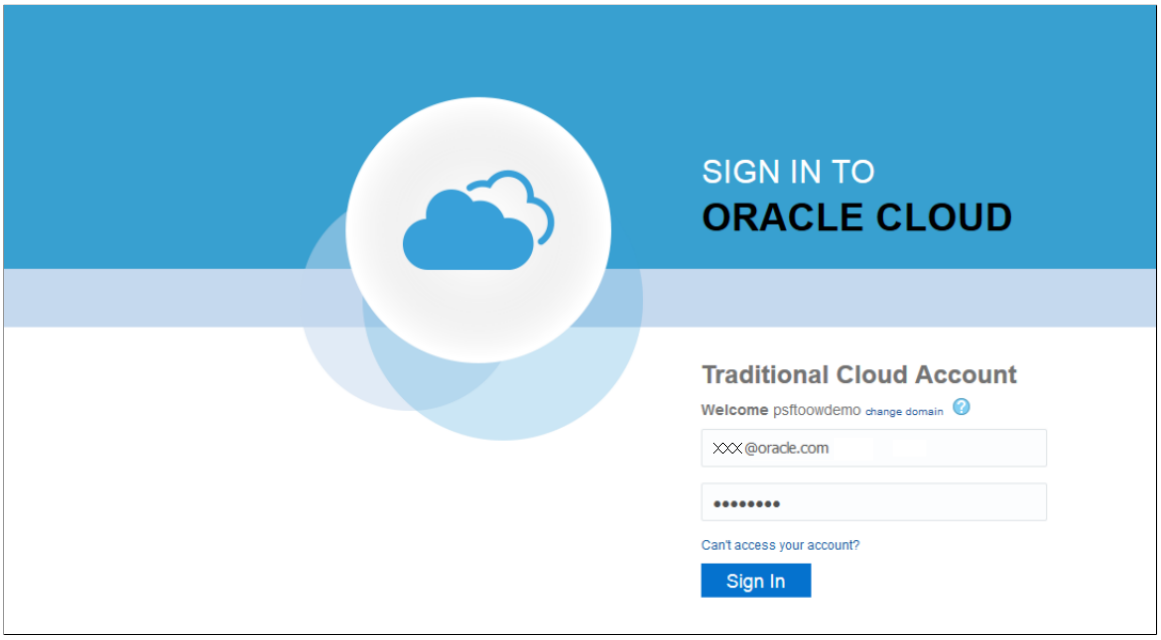
Fetching the Storage REST Endpoint and Auth Endpoint URLs for Non-IDCS Account

Follow the steps below to fetch the Storage REST Endpoint and Auth Endpoint URLs for your non-IDCS account:

1. Log on to the OCI–Classic console using the user Identity domain and credentials.

   Image: Traditional Cloud Account login page

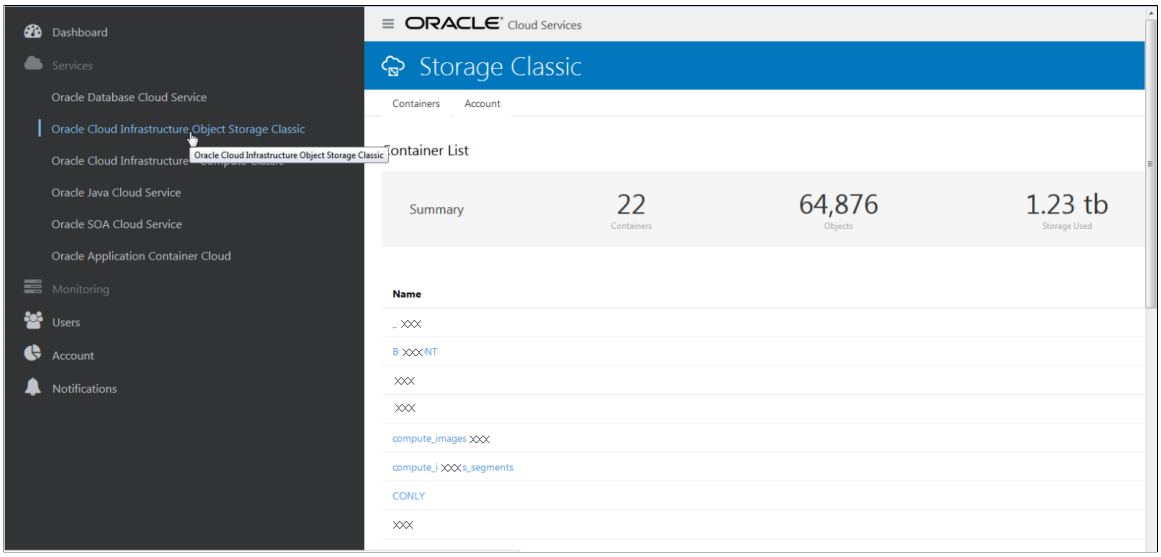
   This example illustrates the Traditional Cloud Account login page.



2. Navigate to Oracle Cloud Infrastructure Object Storage Classic.

Image: Oracle Cloud Infrastructure Object Storage Classic

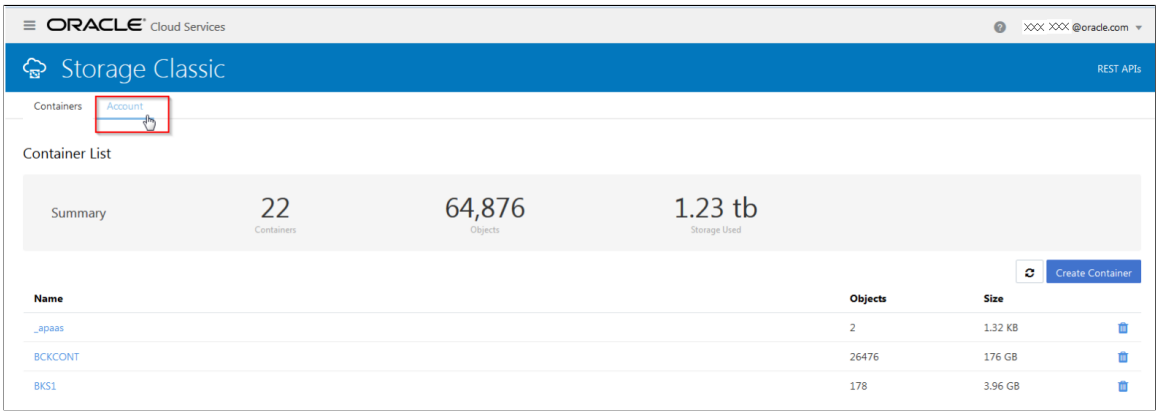
This example illustrates the Oracle Cloud Infrastructure Object Storage Classic.



3. Click Account.

Image: Storage Classic Page – Account Page

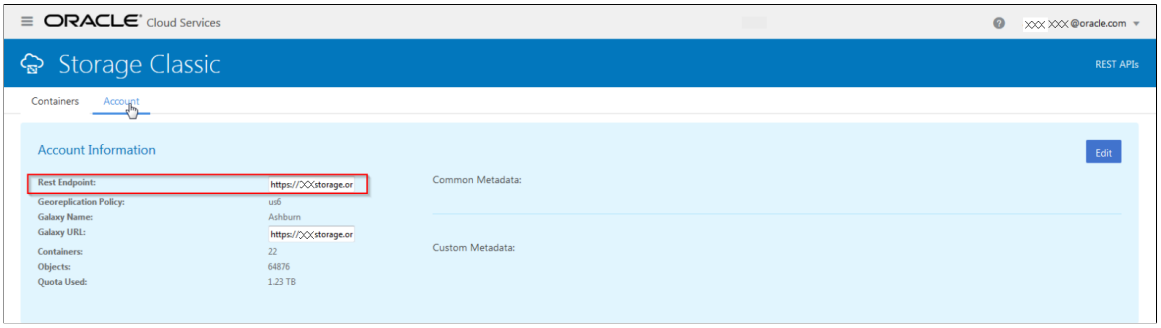
This example illustrates the Storage Classic Page – Account page.



4. The Rest Endpoint is listed under Account Information.

Image: Storage Classic Page

This example illustrates the Storage Classic page.



If the Auth REST Endpoint is not displayed here, then follow the steps below to construct the Auth URL:

1. Note the REST Endpoint URL, which is displayed in the REST Endpoint field under the Additional Information section.

   An example for the REST Endpoint URL is https://acme.storage.oraclecloud.com/v1/Storage-acme

2. Delete the following portion of the REST Endpoint URL:

   v1/Storage-acme

   The edited URL now looks like this: https://acme.storage.oraclecloud.com/

3. Append the following to the edited URL:

   auth/v1.0

   The equivalent authentication URL will be https://acme.storage.oraclecloud.com/auth/v1.0.

Cloud Manager Settings – VM Size Page

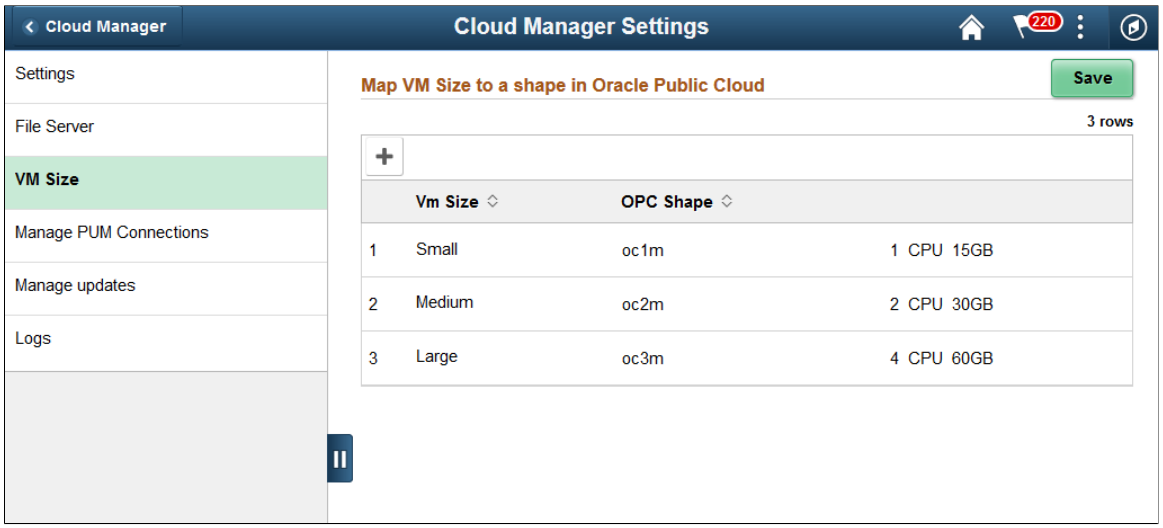
Use Cloud Manager Settings – VM Size page (ECL_SET_SIZE_FL) to map the VM Size to a Shape in Oracle Cloud.

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 VM size link displayed on the left panel.

Image: (Tablet) Cloud Manager Settings – VM Size Page

This example illustrates the fields and controls on the Cloud Manager Settings – VM Size page for the tablet.



VM Size Enter the VM Size. VM Size is used to select the shape of the image while creating a topology. You can provide any name, but the default ones represent the size.

OPC Shape Shape in Oracle Cloud.

+ Click this button to add a new VM size and map it to the Oracle Cloud shape.

Save Click this button to save the details on the Cloud Manager Settings – VM Size page.

Cloud Manager Settings – Manage PUM Connections Page

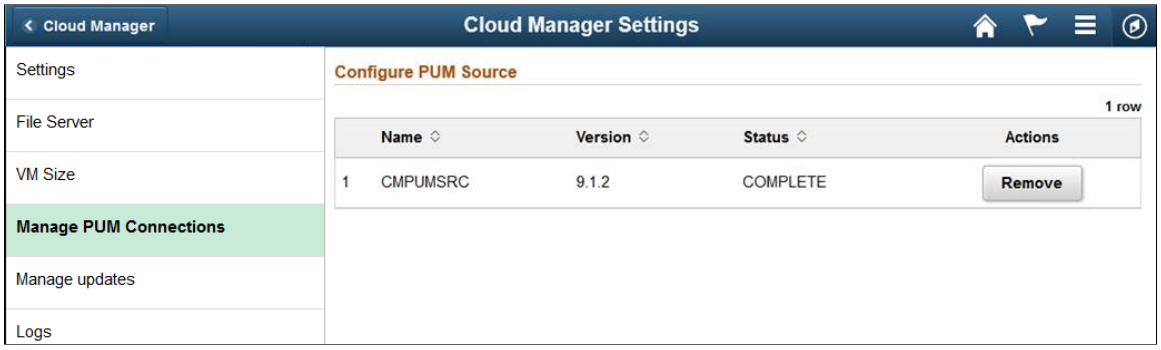
Use Cloud Manager Settings – Manage PUM Connections page (ECL_CMUPDATE_FL) to configure PUM sources for updating Cloud Manager application. For details on updating Cloud Manager, see Applying Updates to Cloud Manager.

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 Manage PUM Connections link displayed on the left panel.

Image: (Tablet) Cloud Manager Settings – Manage PUM Connections Page

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



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 as shown:

Cloud administrator can now go ahead with the regular selective adoption method to update CM.

Cloud Manager Settings – Manage Updates Page

Use Manage Updates page to mange application updates delivered through PeopleSoft IH Updates and PRPs.

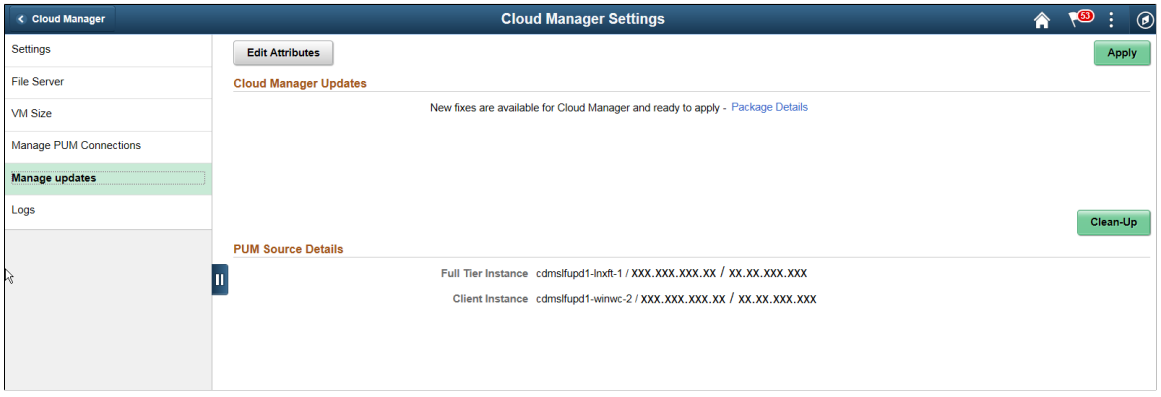
Note: This feature is meant for the Cloud Manager application update only.

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

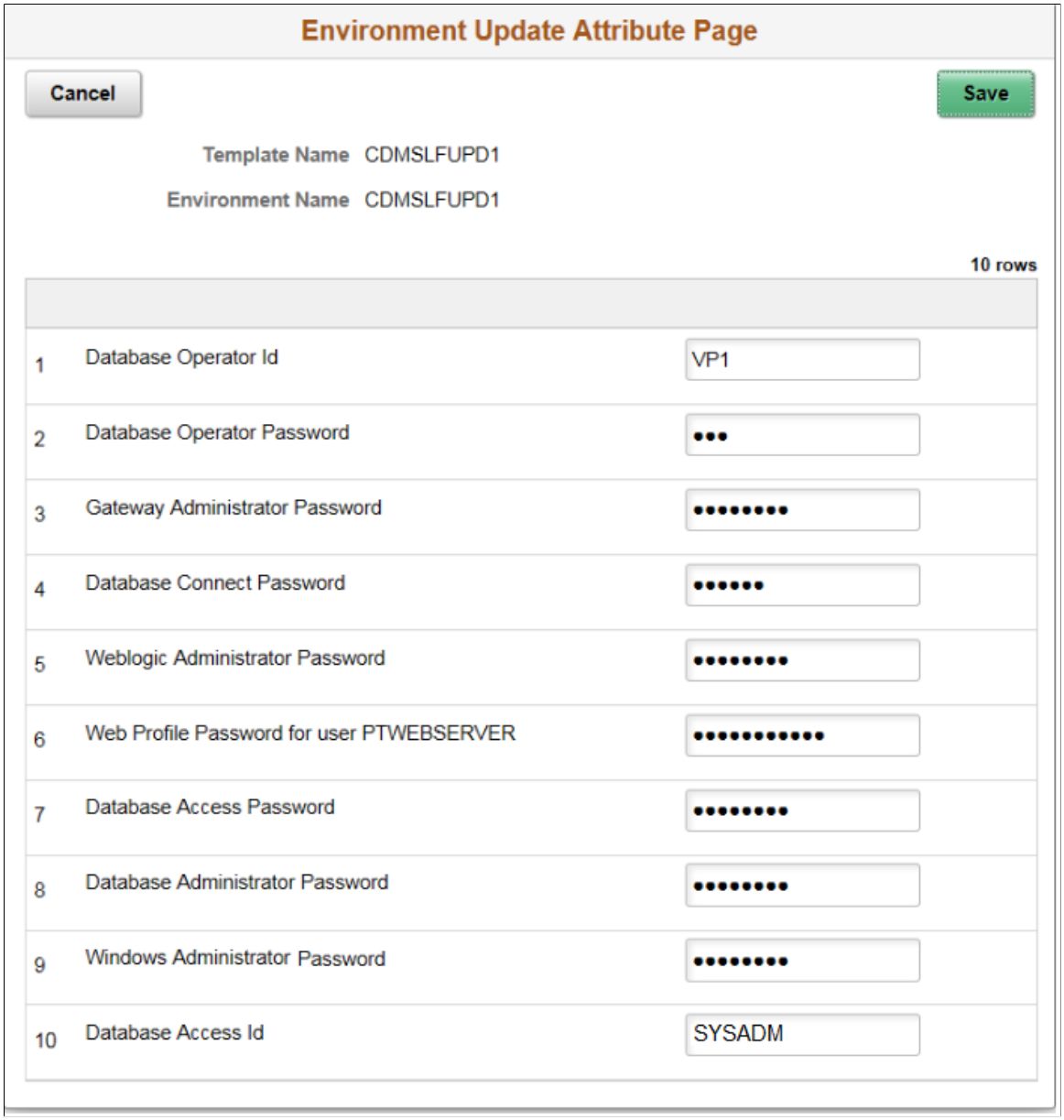
This example illustrates the fields and controls on the Cloud Manager Settings – Manage Updates page listing a configured environment for the tablet.



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.



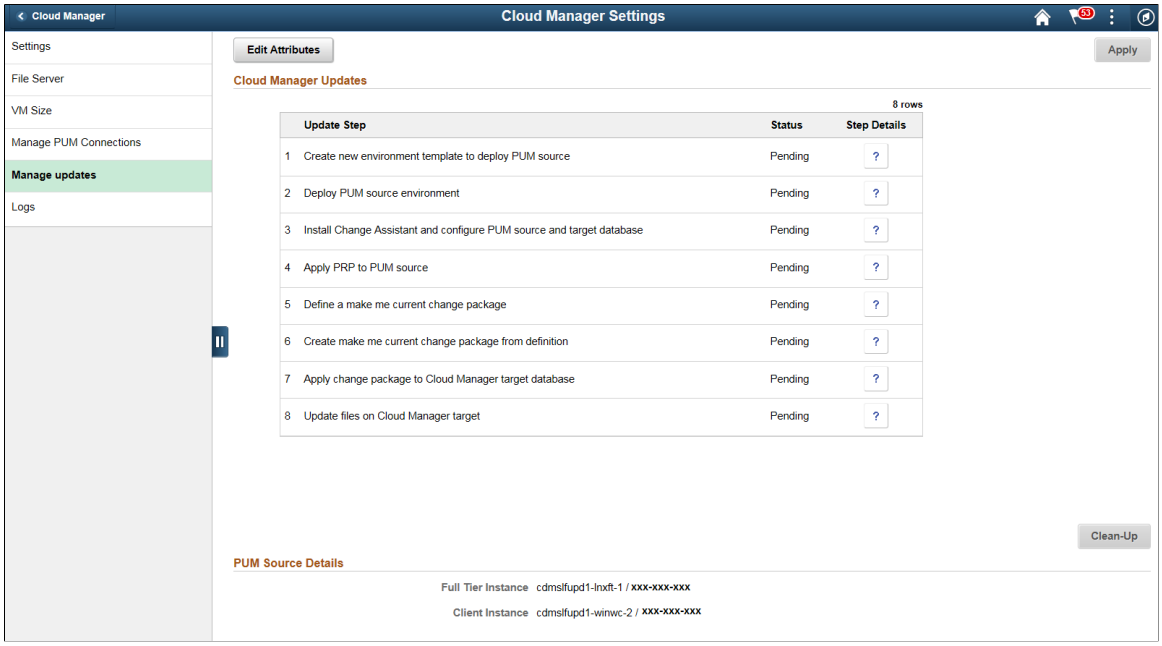
Note: The Database Operator Id field value should always be set as VP1.

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.



For details on the update process, see Applying Updates to Cloud Manager

User Configuration for Cloud Manager

This section describes the configurations that need to be done for setting up a Cloud Manager instance.

My Settings Tile

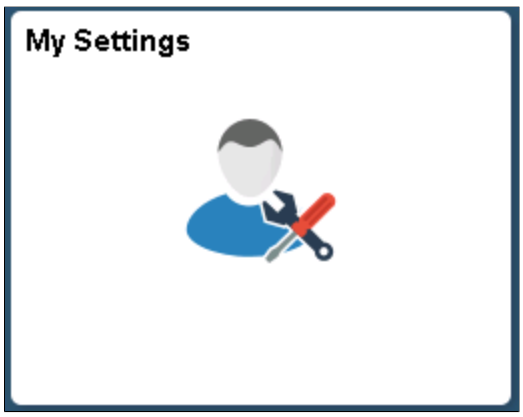
Use the My Settings tile (ECL_INFO_HOME_FL_GBL) to access My Settings page.

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.

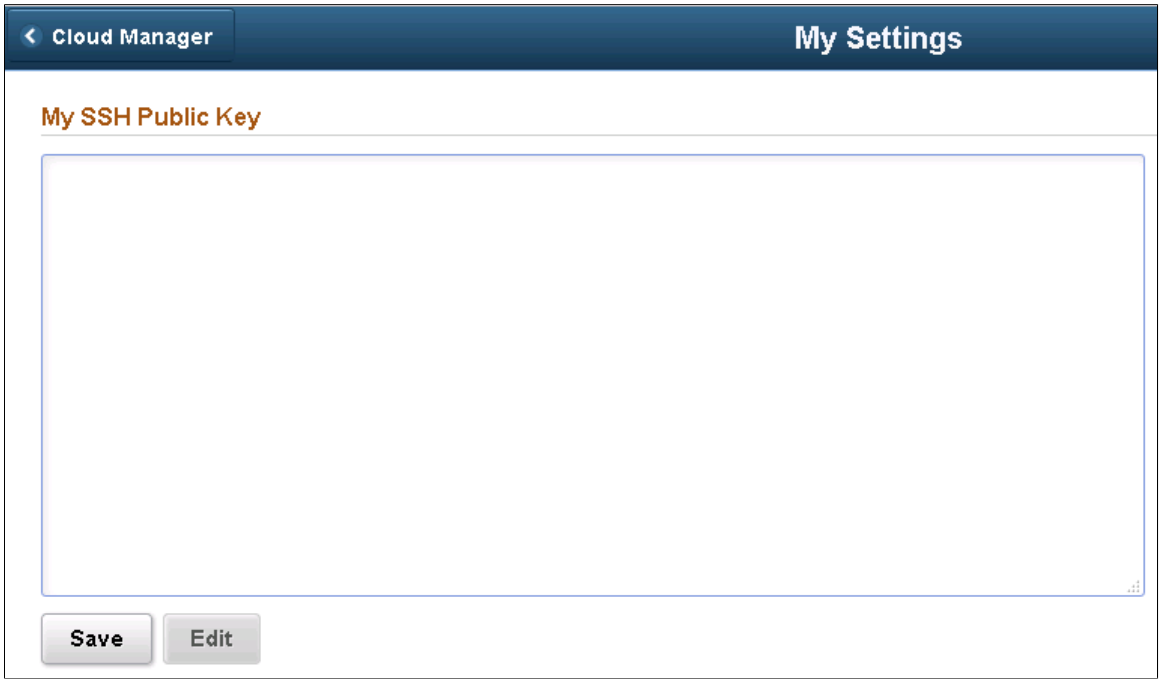
Note: The SSH key will be auto injected into all environments that will be created by the user after adding this key here.

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.

Configuring Cloud Manager for OCI

All the configurations required for setting up the Cloud Manager for OCI–Classic are required for OCI too. For details see Configuring Cloud Manager for OCI–Classic.

Apart from this, for OCI, there is an additional task of configuring the following pages:

- Cloud Manager Settings – Infrastructure Settings Page

- Cloud Manager Settings – File Server Page
- Cloud Manager Settings – Manage Updates Page

Cloud Manager Settings Page

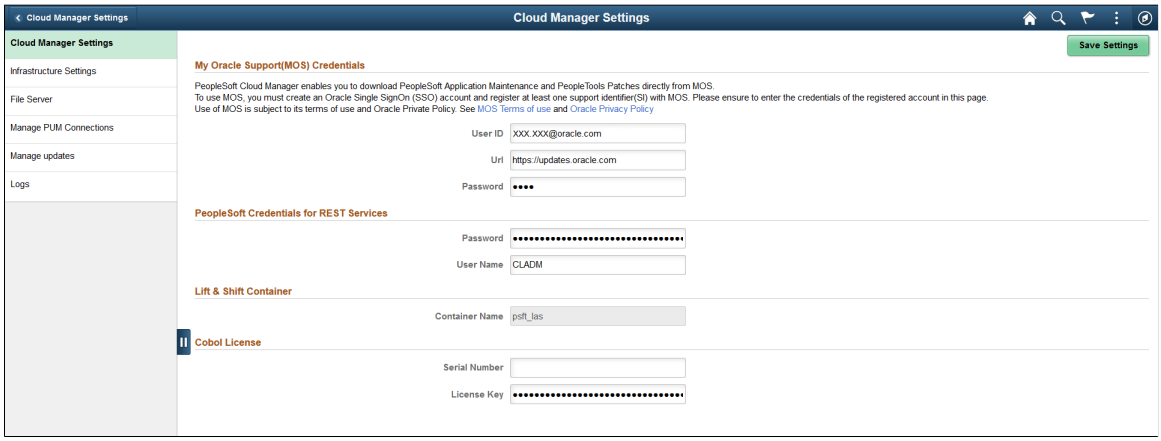
Use the Cloud Manager Settings page (ECL_CMCFG_OCI_FL) to change the system settings as per requirements.

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 control on the Cloud Manager Settings Page.



For details on the fields displayed on the Cloud Manager Settings page, see the Cloud Manager Settings Page in the Configuring Cloud Manager for OCI-Classic section.

Cloud Manager Settings – Infrastructure Settings Page

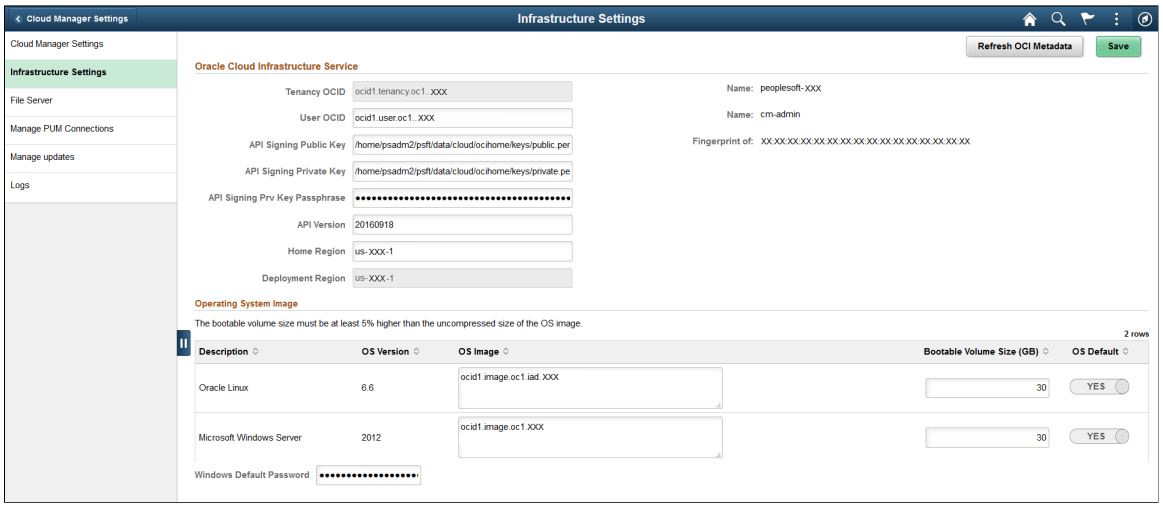
Use Cloud Manager Settings – Infrastructure Settings page (ECL_OCICFG_OCI_FL) to configure OCI related settings for environment provisioning and management.

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.



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.

For details, refer the "Getting the Tenancy's OCID and User's OCID" section below.

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.

For details, refer the "Getting the Tenancy's OCID and User's OCID" section below.

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 the Operating System Image section in the Configuring Cloud Manager for OCI- Classic Cloud Manager Settings Page.

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

Getting the Tenancy's OCID and User's OCID

Both OCIDs are in the Oracle Cloud Infrastructure Console, which is located at https://console.us-ashburn-1.oraclecloud.com. If you don't have a login and password for the Console, contact an administrator.

- Tenancy's OCID: The Tenancy OCID is displayed at the bottom of the Console pages. You can also click the Tenancy name link to view all Tenancy Information.
- User's OCID: In the Console on the page showing the user's details. To get to that page:

- If you're signed in as the user, click your username in the top-right corner of the Console, and then click User Settings.
- If you're an administrator doing this for another user, instead click Identity, click Users, and then select the user from the list.

Cloud Manager Settings – File Server Page

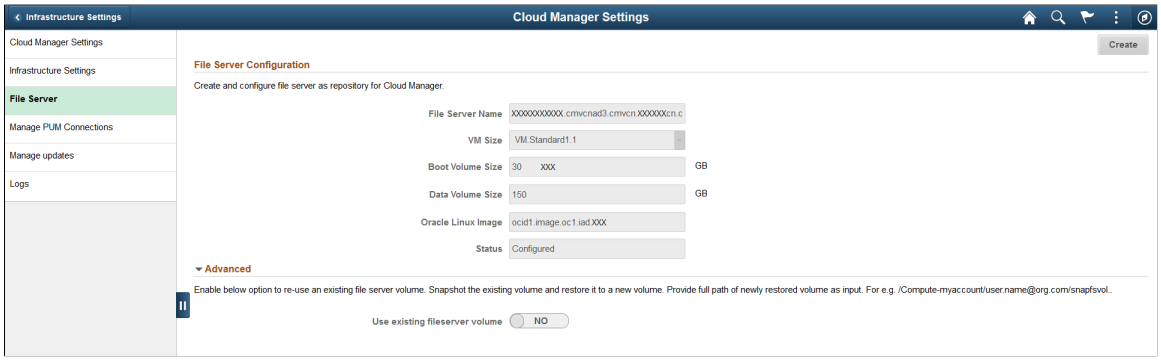
Use Cloud Manager Settings – File Server page (ECL_CMFILESERV_FL) to configure file server as repository for Cloud Manager.

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.



For details on the fields and explanations for the Cloud Manager Settings – File Server Page, see Cloud Manager Settings – File Server Page for Configuring Cloud Manager for OCI–Classic.

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 Cloud Manager Settings – Infrastructure Settings Page.

Cloud Manager Settings – Manage Updates Page

Use Manage Updates page to mange application updates delivered through PeopleSoft IH Updates and PRPs.

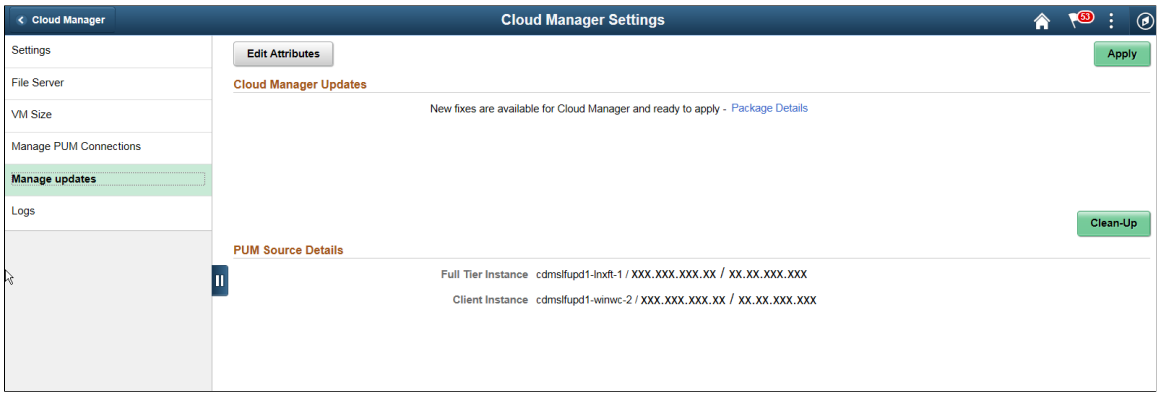
Note: This feature is meant for the Cloud Manager application update only.

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

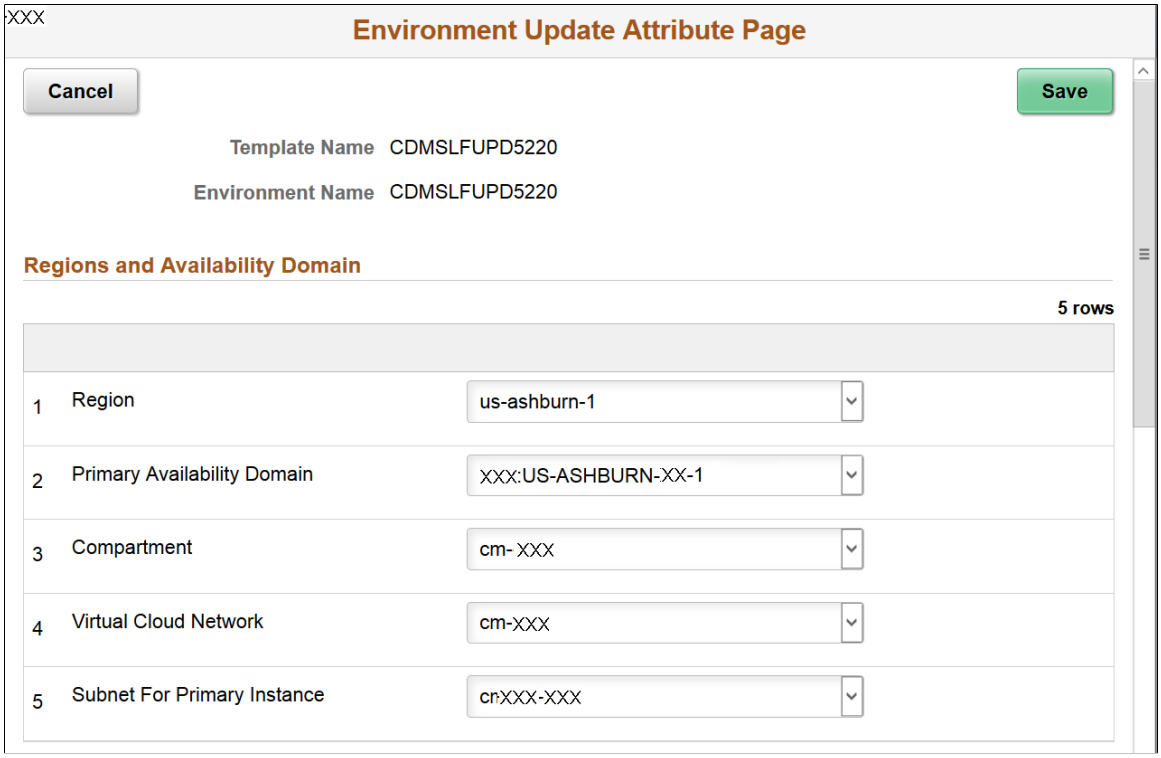
This example illustrates the fields and controls on the Cloud Manager Settings – Manage Updates Page. You can find definitions for the fields and controls later on this page.



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, displaying the Regions and Availability Domain section. You can find definitions for the fields and controls later on this page.



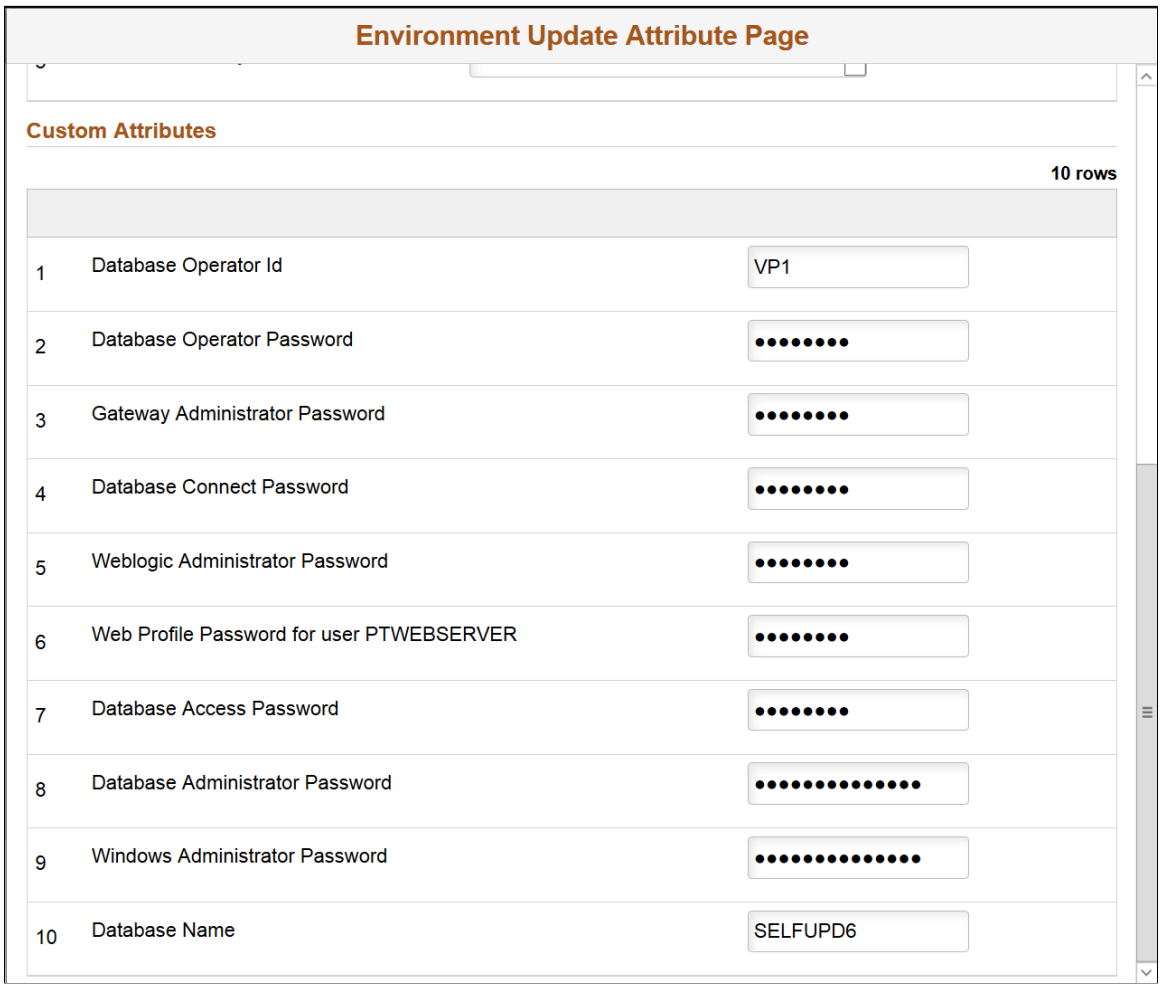
Region A region is a localized geographic area, and an availability domain is one or more data centers located within a region. A region is composed of several availability domains.

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.
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.
Subnet for Primary Instance	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.

Image: Environment Update Attribute page

This example illustrates the fields and controls on the Environment Update Attribute page, displaying the Custom Attributes section.



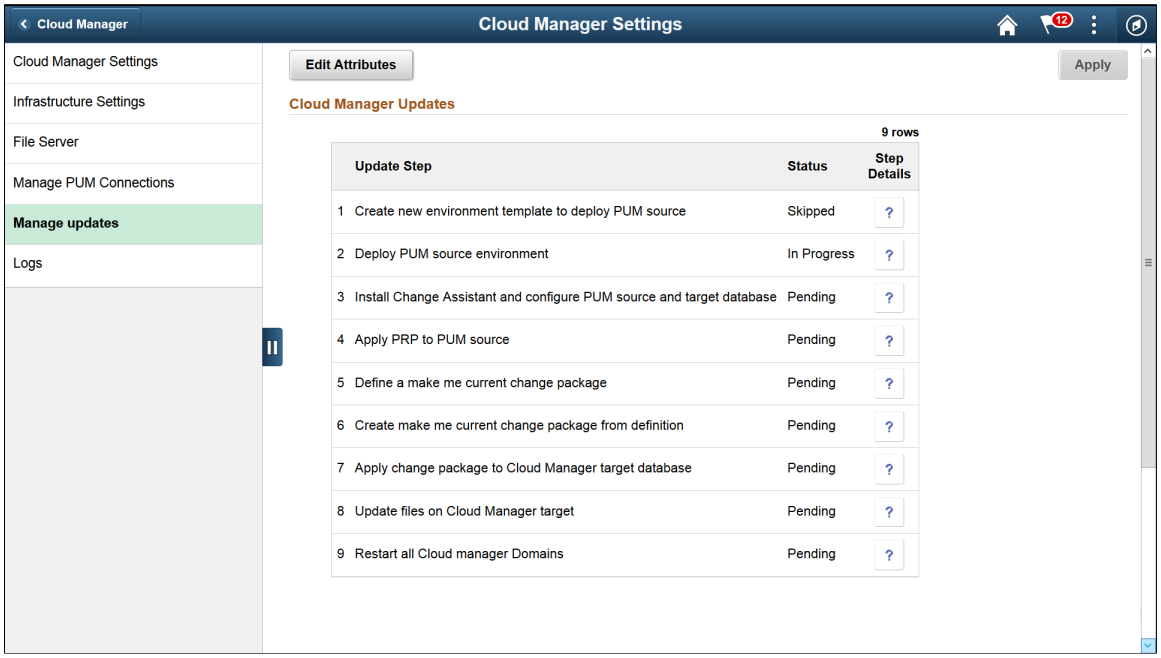
Note: The Database Operator Id field value should always be set as VP1.

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.



For details on the update process, see Applying Updates to Cloud Manager

Chapter 3

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*
Repository Tile	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.
My Downloads Page	ECL_REPO_AMYDLS_FL	View the PRPs and PIs downloaded. New entries are added as soon as new artifacts are downloaded.
Download Subscriptions Page	ECL_REPO_BCHNL_FL	Create download channels and subscribe them to initiate downloads. You can also use predefined download channels to initiate downloads.
Download History Page	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.

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

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

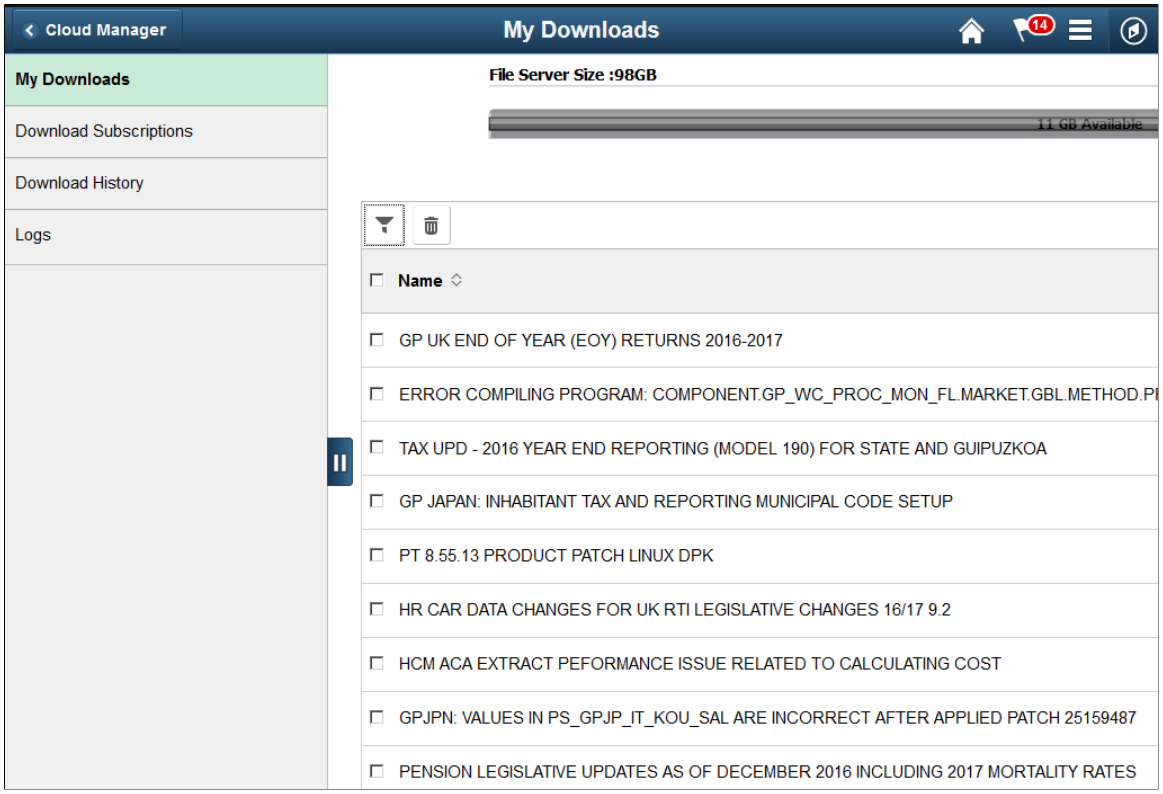
Use the My Downloads page (ECL_REPO_AMYDLS_FL) to view the artifacts downloaded. New entries are added as soon as new artifacts are downloaded.

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. For details see Expanding File Server Capacity for OCI-Classic.
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 create download channels and subscribe to them to initiate downloads.

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

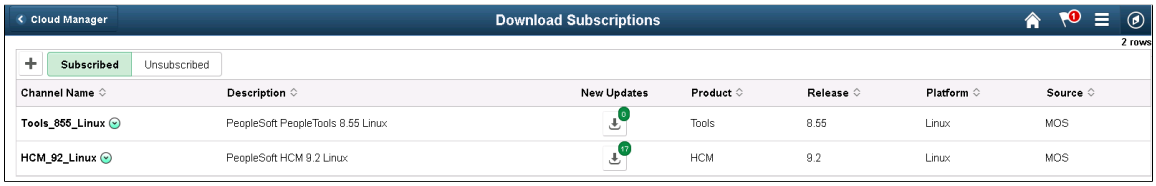
Note: While deploying a PI image which has PeopleTools 8.56, then a Windows image which is updated with latest Windows updates and patches must be used. If not, provisioning of PeopleSoft Client will fail.

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.



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.

Click the + button to create a channel. For details on creating channels, see Download Subscriptions 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.

Downloading PeopleTools Patches

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

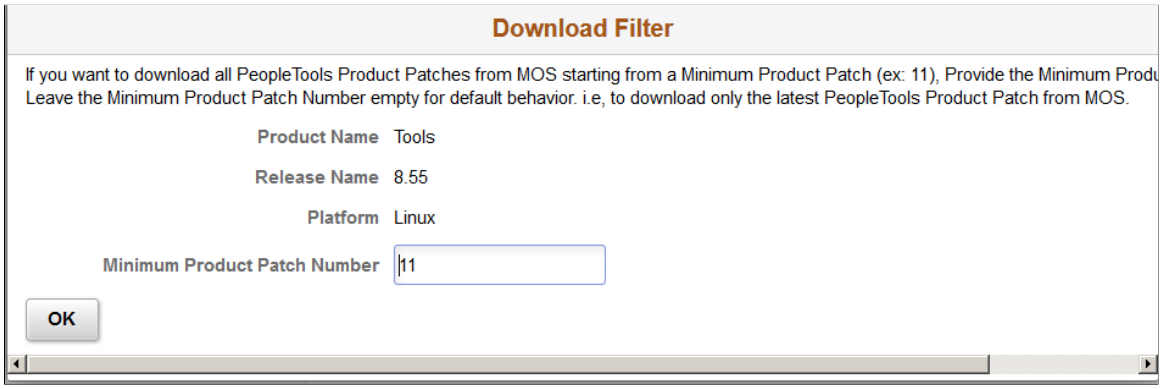
In case of Tools channel subscription, you are presented with a modal window for selecting the patch version you want to download.

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 upto latest.

Download History Page

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

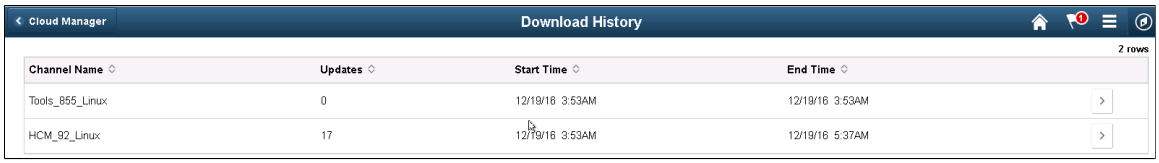
Note: The entries in Download History page are updated in every four minutes. Clicking on an entry in the Download History page displays the current state of the download channel (that is, a list of files already downloaded, another list of files in the download queue and those that are currently downloading).

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.



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

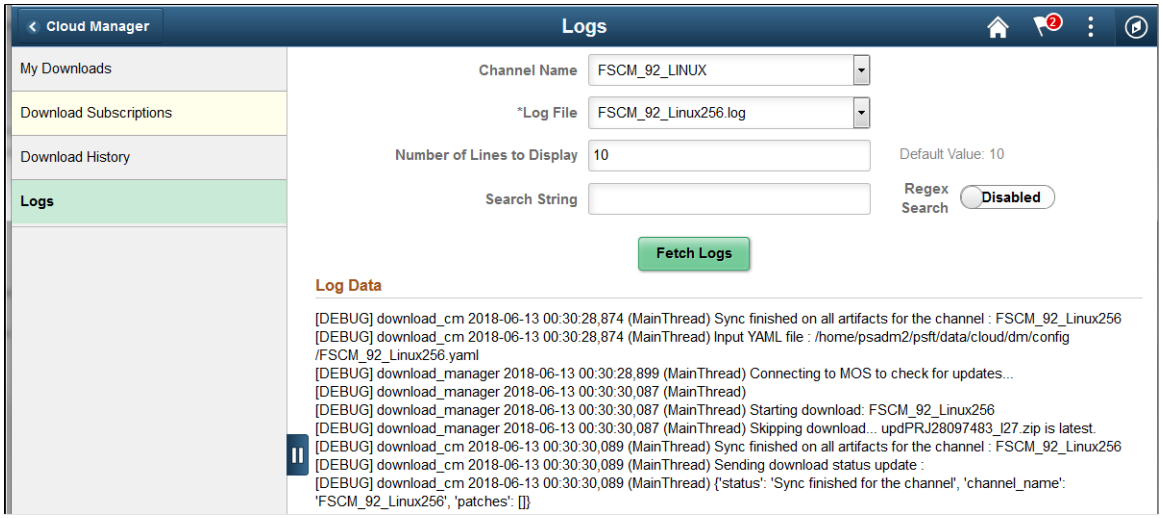
Use the Logs page (ECL_REPO_MLOG_FL) to view the download logs corresponding to the subscribed channels. It displays download logs for all the files that get downloaded.

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.



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 indicate 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 finish 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 Tile.

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.
5. To create a channel, perform the following:

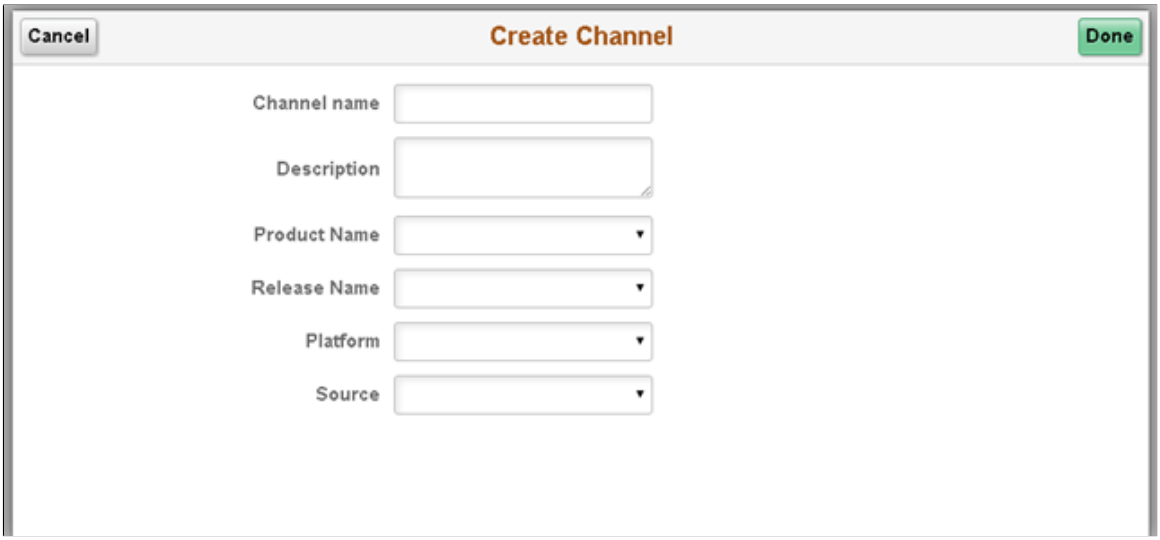
   Note: If no channels are available by default, you need to create channels first followed by the subscribing channels procedure.

   ---

   a. Click on the '+' button to create a channel. The Create Channel modal window is displayed as shown.

      Image: Create Channel modal window

      This example illustrates the fields and control of the Create Channel modal window.

   b. Enter the channel name and the corresponding description.
   c. Select the product name, release name and platform from the drop-down list.
   d. Select MOS from the Source field.

e. Click Done to create the channel.

Note: Downloading PIs and PRPs for a release channel can be time-consuming, depending on the size of the artifacts. The status of the download can be viewed by clicking ‘New Updates’ on the Download Subscriptions page and also on the Download History page by clicking on the corresponding entry.

Expanding File Server Capacity for OCI-Classic

You can manually increase the file server size.

Note: Expanding file server capacilty is not possible in OCI.

Several steps in this process require you to access the file server through SSH. You can log on to the file server by following the steps mentioned below:

1. Log on to CM through SSH.
2. Find the CM SSH key in the CM VM (/home/psadm2/psft/data/cloud/OPChome/<OPC domain>/<OPC user id>.SSH).
3. Login to the File Server VM via SSH as "OPC" user using the private key found in the previous step

Note: Use the sudo command to run administrative tasks.

If an existing file server is attached to a CM instance provisioned later, this login will not work. In such case, you need to add your personal public key to the file server manually after provisioning the file server for the first time.

To manually increase the file server size, perform the following:

1. Bring the file system offline.
   - SSH into the CM VM. Please note the name of the device which is mounted on /cm_psft_dpks (for example, dev/xdvc), you will require this name in a later step and then unmount it.

     umount /cm_psft_dpks
   - SSH into the File Server VM and stop the NFS service and SMB service:

     /sbin/service nfs stop

     /sbin/service smb stop
   - In the File Server VM , unmount the storage disk:

     umount /u01/app/oracle/product
2. Expand the disk.
   - Log on to the Oracle Compute Cloud Service Console.

- Navigate to File Server instance, view instance details, and note down the name of the storage disk which is attached to the File Server.

3. Navigate to Storage section, identify the disk associated with the file server (found in the previous step).
4. Click Update.
5. Select the required size.
6. Click Update to increase its size.
7. Expand the File System.

   In the File Server VM, run the following commands to expand the file system in the attached disk:

   e2fsck -f /dev/<device name>

   resize2fs /dev/<device name>

   <device name> is the device name of the mount in the File Server, for example, dev, xvdb.
8. Bring the File System online.
   - In the File Server VM , mount the expanded disk again with command:

     mount -a
   - In the File Server VM, verify the new size with:

     df -h /u01/app/oracle/product
   - In the File Server VM , start the NFS service and SMB service (which you had stopped in the previous step):

     /sbin/service nfs start

     /sbin/service smb start
   - In the Cloud Manager VM , re-mount the File Server share with the following command:

     mount -a

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 size in terms of OCPU and memory, 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

Page Name	*Definition Name*	*Usage*
Topology Tile	ECL_TOPOLOGY_FL	To access the Topology landing page.
Topology Page	ECL_TOPO_COMP_FL	To create new topologies, edit or clone existing topologies.
Topology Definition Page	ECL_TOPO_COMP_FL	Create a new topology.
Add Node Page for OCI–Classic		Set the values for node attributes like OS, sizing parameter, disk to be attached, and the PeopleSoft component to be installed.

Topology Tile

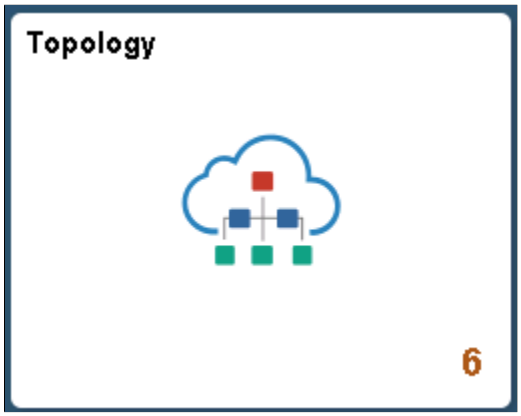
Use the Topology tile to access the Topology landing page.

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:

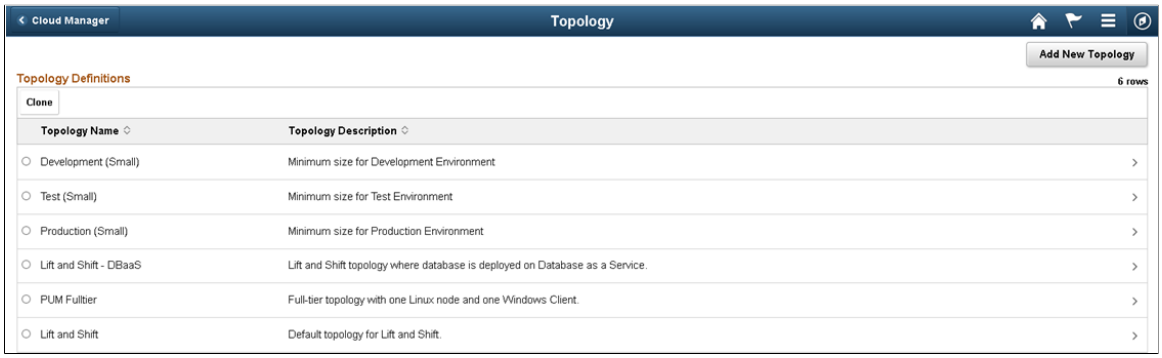
- Create a new topology
- Edit an existing topology
- Clone an existing topology
- Delete an existing topology

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 Name — Name of the topology.

Topology Description — Meaningful description for the topology.

Topology Definition Page

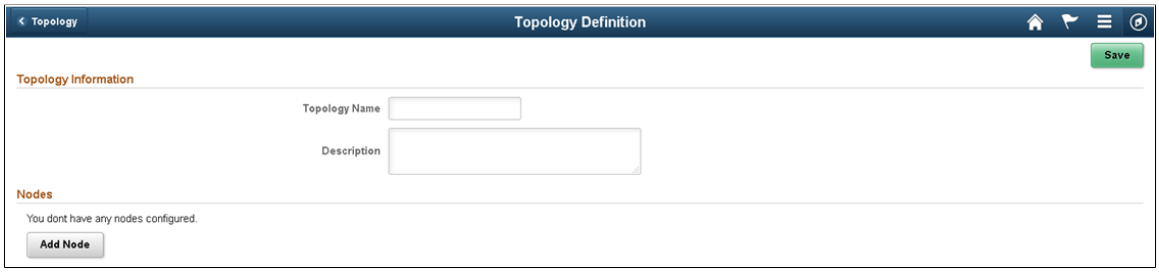
Use the Topology Definition page (ECL_TOPO_COMP_FL) to create a new topology.

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.

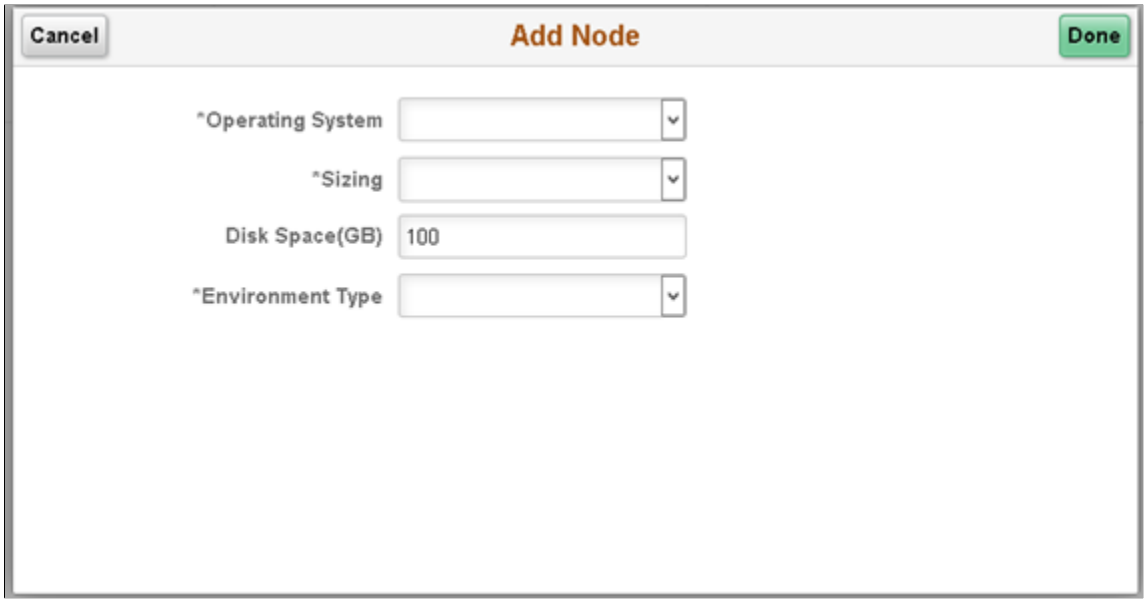


Add Node Page for OCI–Classic

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.

Image: Add Node page for OCI–Classic

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



Operating System

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

Sizing

Select Small, Medium or High as per requirement. These sizes are mapped to Oracle Cloud shapes. The mappings can be viewed/modified on CM Settings page — VM Size.

Note: If you want to deploy RAC, only shapes with OCPUs 2, 4, 8, and 16 are supported.

Disk Space (GB)

Select the amount of disk space attached to the machine. By default, the value ‘100’ is displayed.

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

Environment Type

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

- Database Tier: Deploys the PeopleSoft database on a node.
- Database as a Service: Deploys the PeopleSoft database on Oracle Database Cloud Service.
- 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.

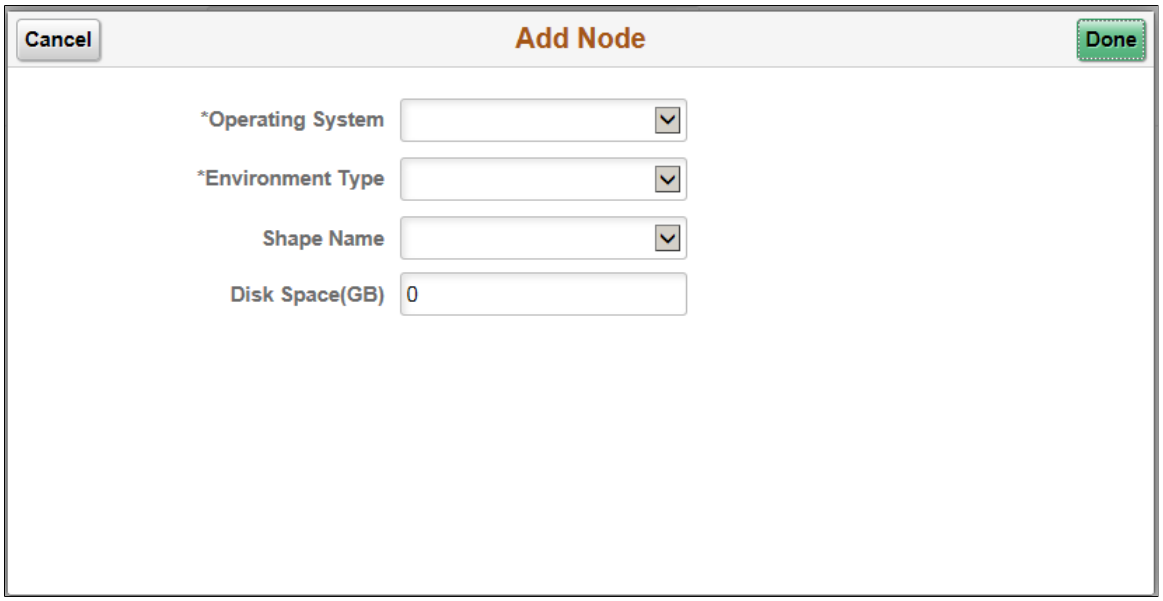
Note: For applying PeopleTools patch to an environment, it is mandatory to have a PeopleSoft client defined in the topology used to deploy the environment.

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.

  You can select VM shapes during topology creation and database edition in the template.

- 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 used to launch DB system. The shape determines the type of DB system and the resources allocated to the system.

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, tcnhen 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 .

Supported VM shapes are:

- VM.Standard 1.1
- VM.Standard 1.16
- VM.Standard 1.2
- VM.Standard 1.4
- VM.Standard 1.8
- VM.Standard 2.1
- VM.Standard 2.16
- VM.Standard 2.2
- VM.Standard 2.24
- VM.Standard 2.4
- VM.Standard 2.8

Disk Space (GB)

Select the amount of disk space attached to the machine. By default, the value ‘100’ is displayed.

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

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.

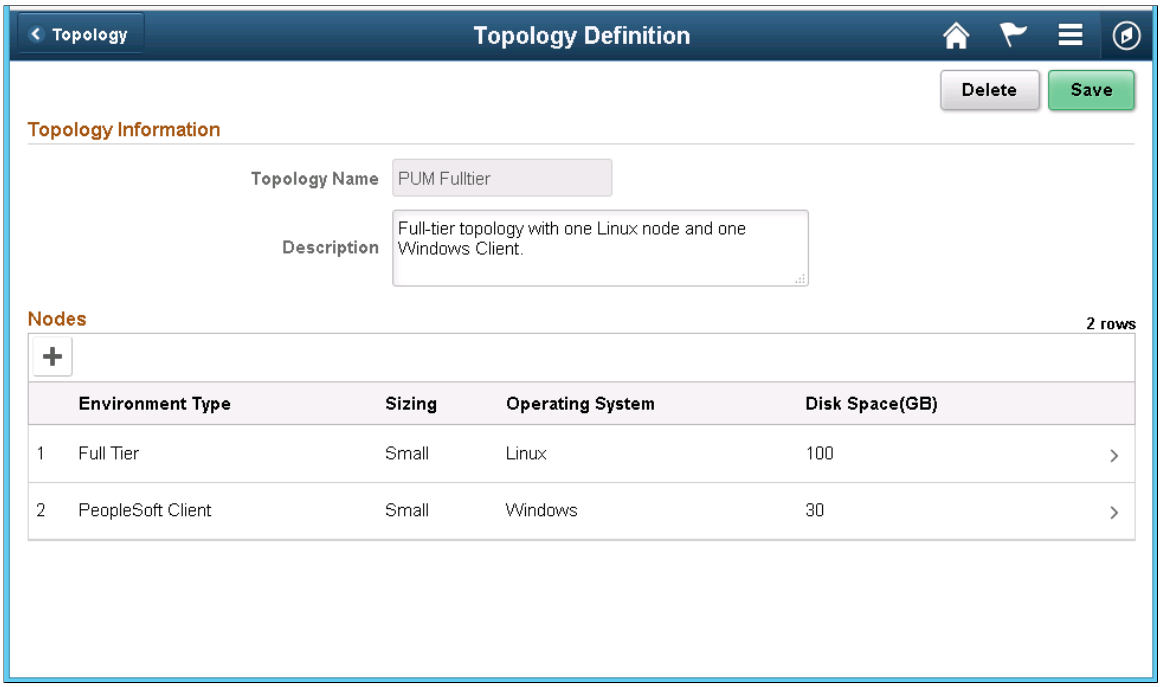
Editing an Existing Topology in OCI–Classic

To edit an existing topology in OCI–Classic, 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–Classic

This example illustrates the fields and controls on the Topology Definition – Edit Page in OCI–Classic.



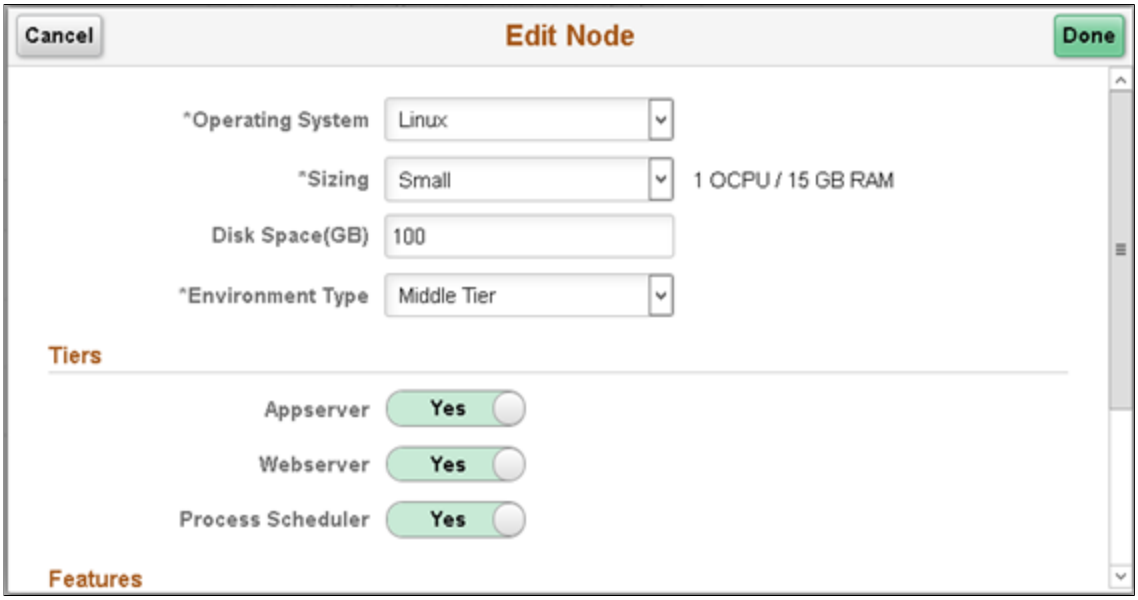
2. You can edit the description, if required.
3. Click + to add new nodes.

   See Add Node Page for OCI–Classic

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

Image: Edit Node modal window

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



Note: Currently, you cannot disable any of the tiers on the middle tier node.

5. Click Save to save the edited details.

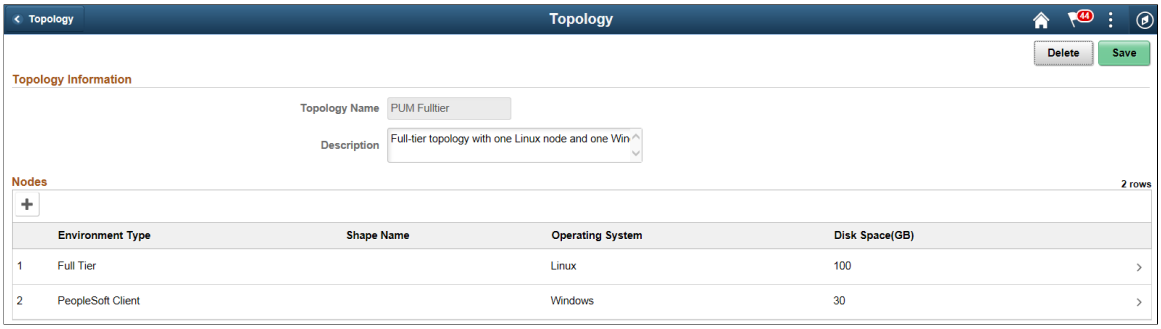
Editing an Existing Topology in OCI

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.



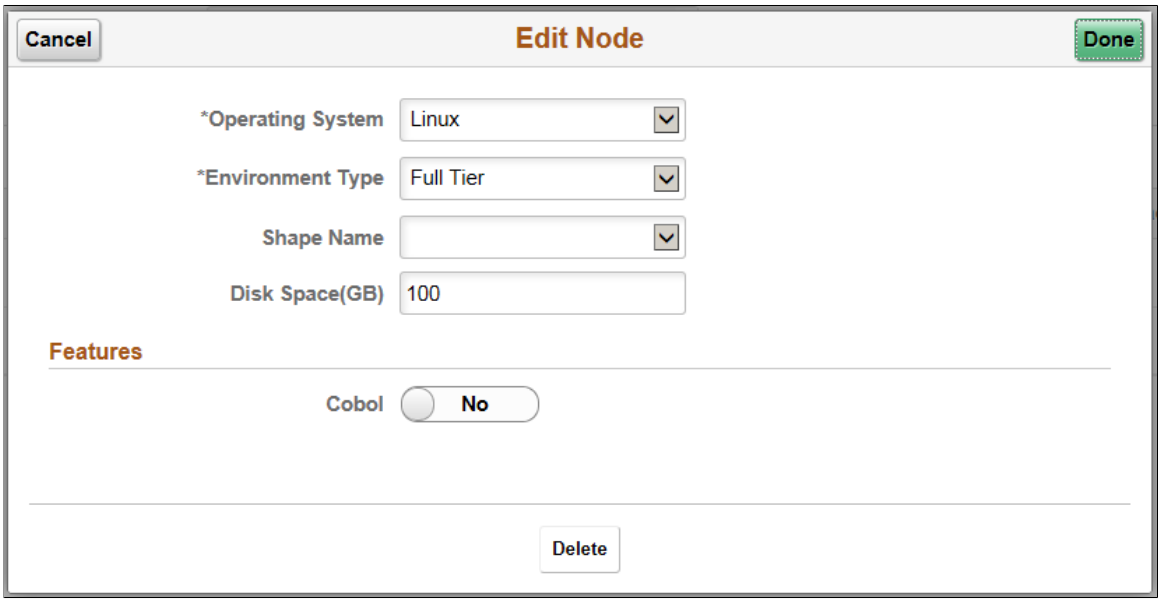
2. You can edit the description, if required.
3. Click + to add new nodes.

   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.



5. Edit the fields as per requirement.
6. Click Done to save the edited details.

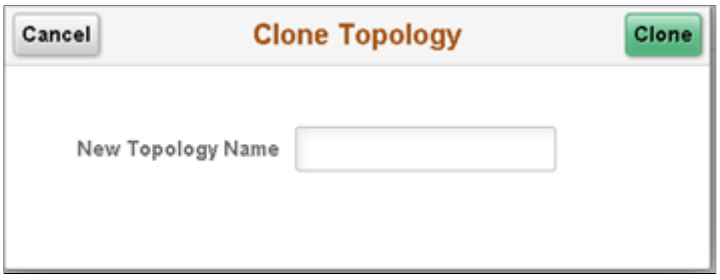
Cloning an Existing Topology

To clone an existing topology, perform the following:

1. Select the radio button corresponding to a topology that you want to clone.
2. 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.



3. 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*
Environment Template Tile	ECL_TEMPLATE_LP_FL_GBL (This is the CREF for the tile.)	Access the Environment Template landing page.
Environment Template Page	ECL_TEMPLATE_FL	Create new templates or edit, delete or clone existing templates.
Environment Template – General Details Page for OCI–Classic and OCI	ECL_TEMPL_GEN_FL	Enter the template name, description, and selecting a database.
Environment Template – Select Topology Page for OCI–Classic	ECL_TEMPL_TOP_FL	Select the topology that you have already defined.
Environment Template – Define Security Page	ECL_TEMPL_SEC_FL	Associate zones in which the environment is created and the roles that have access to the template.
Environment Template – Summary Page	ECL_TEMPL_REV_FL	Displays the summary of the environment template that the user is about to create.

Environment Template Tile

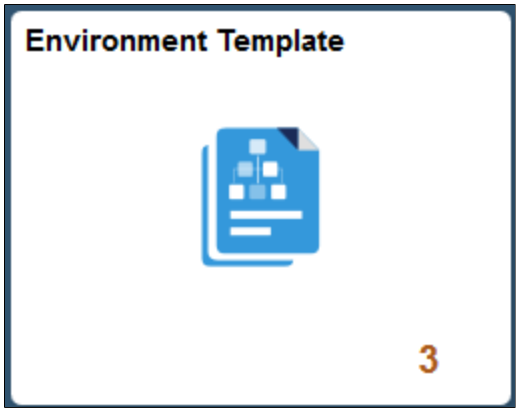
Use the Environment Template tile (ECL_TEMPLATE_LP_FL_GBL) to access Environment Template landing page.

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

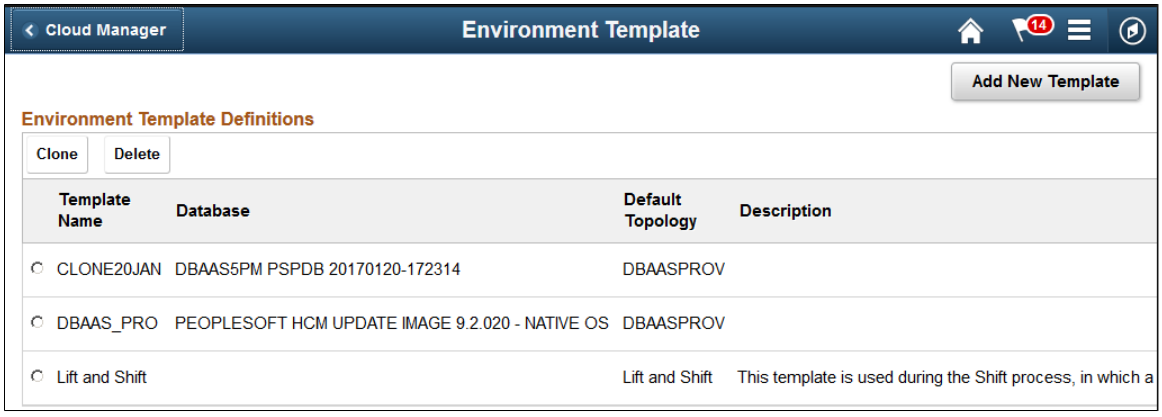
Use the Environment Template page (ECL_TEMPLATE_FL) to create a new template, and edit, delete or clone an existing template.

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.



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 for OCI–Classic and OCI

2. Selecting topologies.

   See Environment Template – Select Topology Page for OCI–Classic

   and 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 for OCI–Classic and OCI

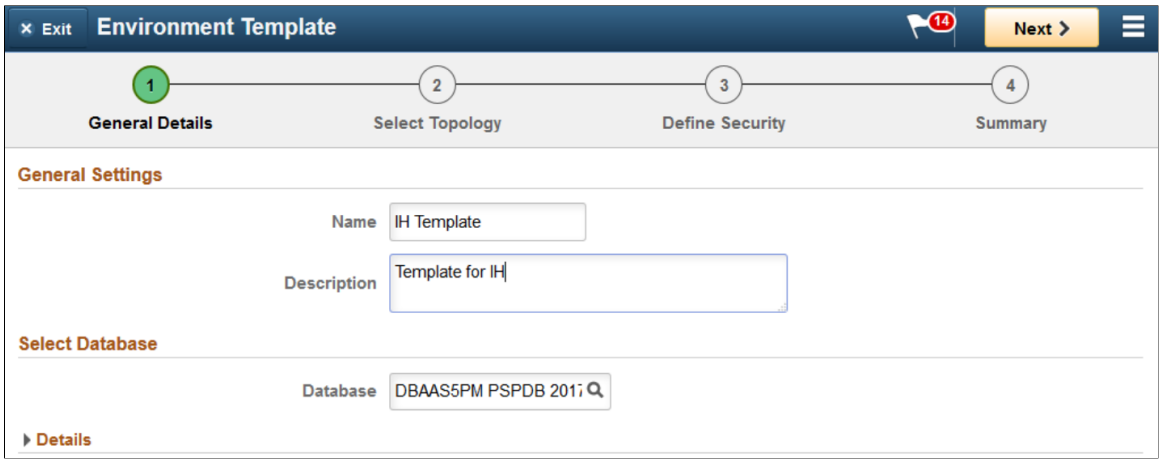
Use the Environment Template – General Details page to enter the template name, description, and selecting a database.

Navigation

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

Image: Environment Template – General Details page for OCI–Classic and OCI.

This example illustrates the fields and controls on the Environment Template – General Details page for OCI–Classic and OCI.



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.

Environment Template – Select Topology Page for OCI–Classic

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.

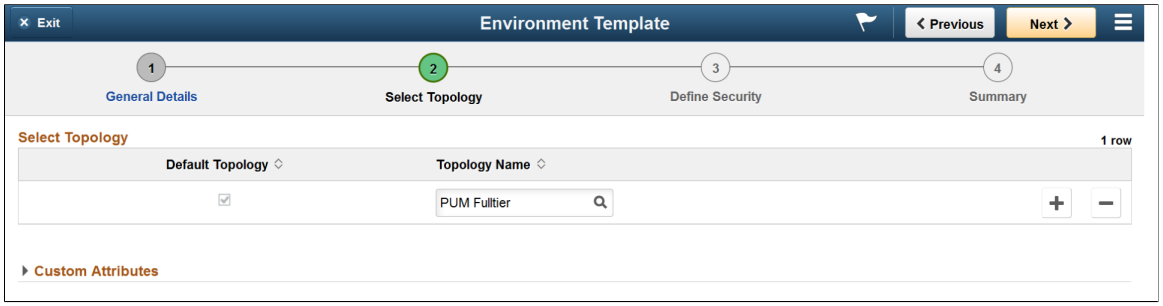
By configuring custom attributes, an administrator can configure environment settings that will be deployed by default. This enables streamlining deployments for self-service users.

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: Environment Template – Select Topology page

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



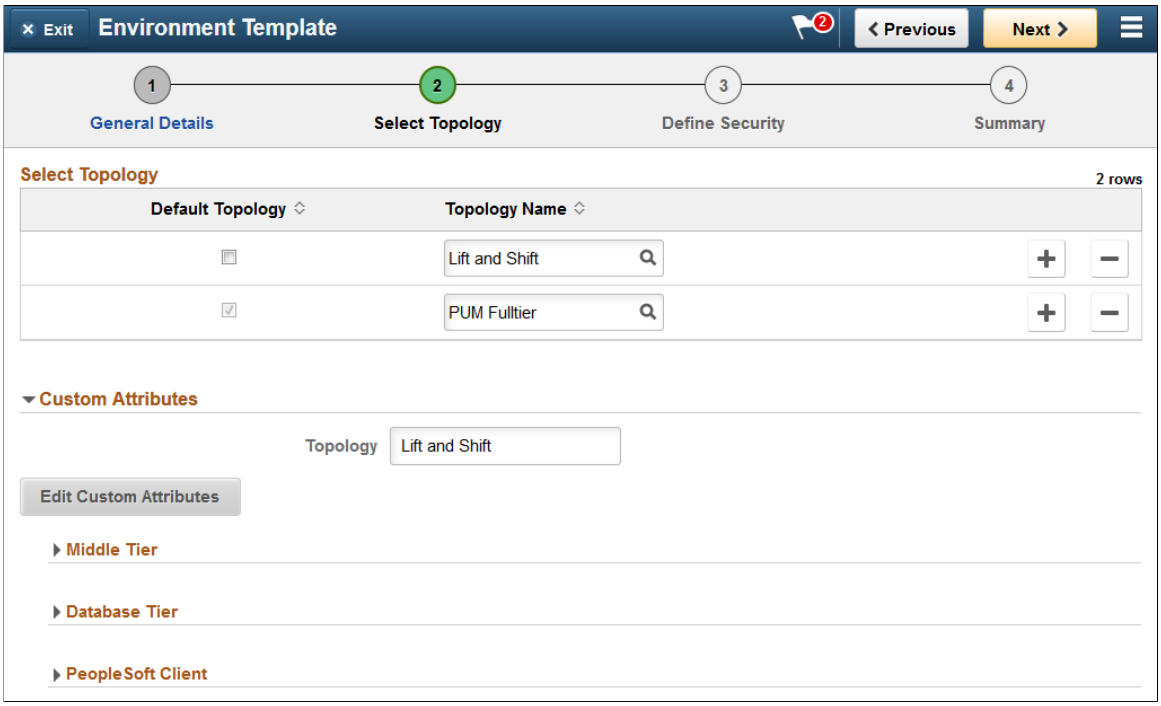
Default Topology	Users can mark one of the topology associated with the template as the default topology. During the environment creation process using a template, you can override this default topology and select any other topology associated with that template. If you don't want to override, then the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

Adding New Topologies for OCI–Classic

1. 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.
2. Expand the Custom Attributes block.
3. Select the required topology. This displays the custom attributes corresponding to the selected topology as shown.

   Image: Creating New Topology

   This example illustrates the Environment Template — Select Topology page.



4. Enter the required attributes and click Next. For details on custom attributes, see Environment Attributes Details section.

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, database tier, or full 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.

Environment Template – Select Topology Page for OCI

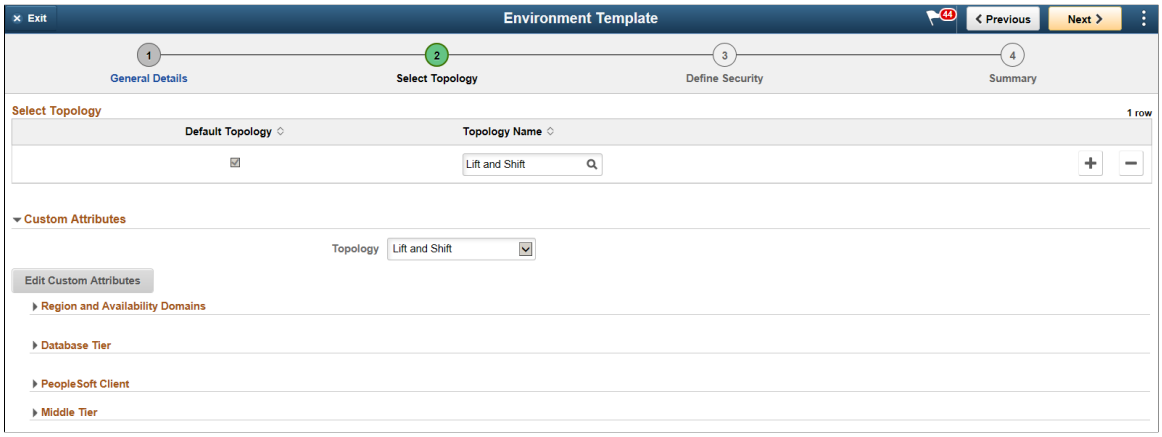
Use the Environment Template – Select Topology page to select the topology that you have already defined. You may edit the default attributes associated with the selected topology.

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: Environment Template — Select Topology page for OCI

This example illustrates the fields and controls on the Environment Template — Select Topology page for OCI.



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.

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.

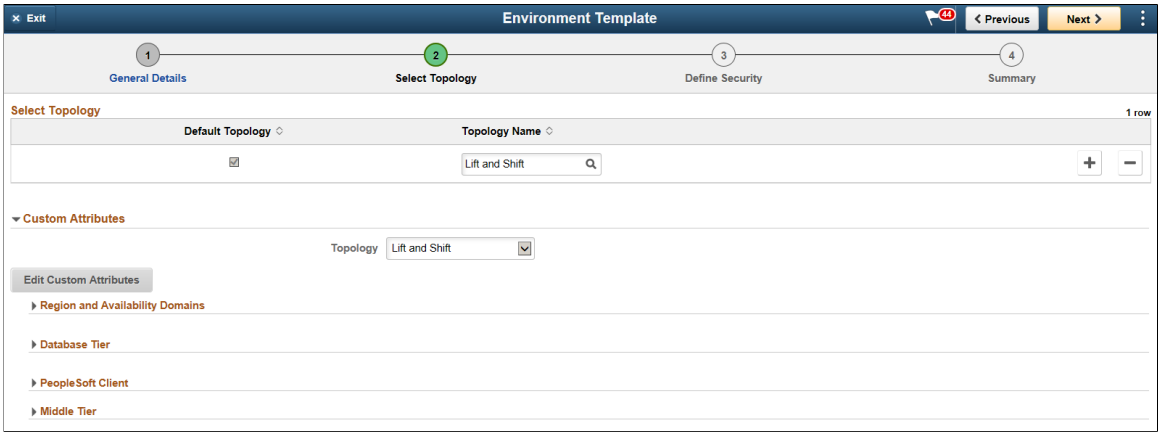
Note: While selecting a topology, the custom attributes associated with the selected topology is displayed. It is possible to override the default attributes based on the requirements.

Adding New Topologies for OCI

1. 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.
2. Expand the Custom Attributes block.
3. Select the required topology. This displays the custom attributes corresponding to the selected topology as shown.

   Image: Environment Template — Select Topology page for OCI

   This example illustrates the fields and controls on the Environment Template — Select Topology page for OCI.



4. Enter the required attributes and click Next. For details on custom attributes, see Environment Attributes Details section.

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.

Environment Attributes Details for OCI–Classic

The different environment attributes used while creating a template are described in this topic.

Middle Tier

General Settings

- Gateway Administrator Username: User id of gateway administrator.
- HTTPS PIA Port: The WebLogic https (ssl) port number for PIA.

- Enable EM agent: Select either Yes or No to enale or disable EM agent.
- PeopleSoft Deployment Path: Location where the PeopleSoft application is deployed.
- HTTP PIA Port: The WebLogic http port number for PIA.
- WLS Port: Port of Web Logic Server.
- Weblogic Administrator Username: User name of the Weblogic administrator. This is used for accessing weblogic console.
- Database is RAC: Select either Yes or No to indicate whether RAC (Oracle Real Application Cluster) is used as the database or not. Two node RAC is supported in Cloud Manager. This field is specific to DBaaS only.

  Note: Only shapes with OCPUs 2, 4, 8, and 16 are supported.

- Jolt Port: Port number for Jolt listener on the app server.

Domain Settings

PeopleSoft Cloud Manager facilitates to configure the mid-tier process for App server, Web server and Process Scheduler.

App Server Settings

- Number of Domains: Number of AppServer domains. In CM 06, the number of domain is always set as 1.
- Number of App Server Instance (PSAPPSRV services) Per Domain: Number of PSAPPSRV instances required. This configuration is applied to all App Server domains.
- Number of Query Server Instances(PSQRYSRV services) Per Domain: Number of PSQRYSRV instances required. This configuration is applied to all App Server domains.
- Number of SQL Access App Server(PSSAMSRV services) Per Domain: Number of PSSAMSRV instances required. This configuration is applied to all App Server domains.
- Number of Jolt Listener(Jolt Handler) Per Domain: Number of Jolt listener.

Process Scheduler Settings

- Number of Domains: Number of process scheduler domains. In CM 06, the number of domain is always set as 1.
- 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 process scheduler job.
- XML Publisher: Number of XML publishers.

- COBOL SQL: Number of COBOL SQL process.
- 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.

Web Server Settings

- Number of Domains: Number of webserver domains. In CM 06, the number of domain is always set as 1.
- Enable Domain as Load Balancer: Enable web server domain as load balancer or not.
- Enable Domain as FailOver: Enable web server domain as failover.

Advanced

Customization YAML: Enter custom YAML for appserver or webserver configuration.

Database as a Service Section

General Settings

- Database Name: Name of the database.
- DBaaS National Character Set: National Character Set of the database environment
- Database Server Port: Listener port number.
- Container Name: Database container name.
- DBaaS Charset: Default DBaaS character set is AL32UTF8.
- Enable EM agent: Select Yes to enable enterprise manager agent for creating the infrastructure that is required to deploy an EM agent.
- 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.

Advanced DBaaS Options

- Service Level: Oracle database cloud service.
- Metering Frequency: Frequency for making the payment. Values in the List are Hourly and Monthly. Hourly indicates payment of a low price for a month irrespective of the hours used. Hourly indicates making the payment based on hours used.
- Software Release: Oracle database release version. Currently, PeopleSoft supports Oracle 12c Release 1.
- Database is RAC: Select either Yes or No to indicate whether RAC (Orale Real Application Cluster) is used as the database or not. This option is enabled only for Oracle 12c Release 1 and Enterprise Edition - Extreme Performance software edition.

- Software Edition: Oracle database software edition. Currently, PeopleSoft supports Enterprise Edition and Enterprise Edition - Extreme Performance.
- Backup Destination: Location for storing backups. Available backup destination options are Both Cloud Storage and Local Storage, Cloud Storage Only, and None. It is not possible to store the backups to cloud storage alone, If database used is RAC.
- Backup Container Name: Name of an existing Oracle Storage Cloud Service Container for taking backup. You need to provide backup container name only if backup destination is specified as either 'Both Cloud Storage and Local Storage' or Cloud Storage Only.

Note: Database as a Service and Advance DBaaS sections are available only for DBCS.

PeopleSoft Client Section

Credentials

Windows Administrator Password: Password for Windows Administrator.

Environment Attribute Details for OCI

For OCI, you need to configure the following in addition to the general environment attributes available for OCI. You need to configure subnet settings for each node in OCI

- Region and Availability Domains
- DB Systems
- Subnet Settings

Region and Availability Domains Section

- 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.
- 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.
- 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.

You need to pre-configure the region and availability domain specific attributes. For details, refer OBE Installation Guide for Cloud Manager.

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 page.

DB Systems Section

General Settings

For details on the fileds available on General settings, see General Settings in Database as a Service Section.

Subnet Settings

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.

DB System Options

- Software Release: Oracle database release version. The supported versions are Oracle Database 12c Release 1 and Oracle Database 12c Release 2 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. Supported VM shapes are:
    - 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.

Environment Template – Define Security Page

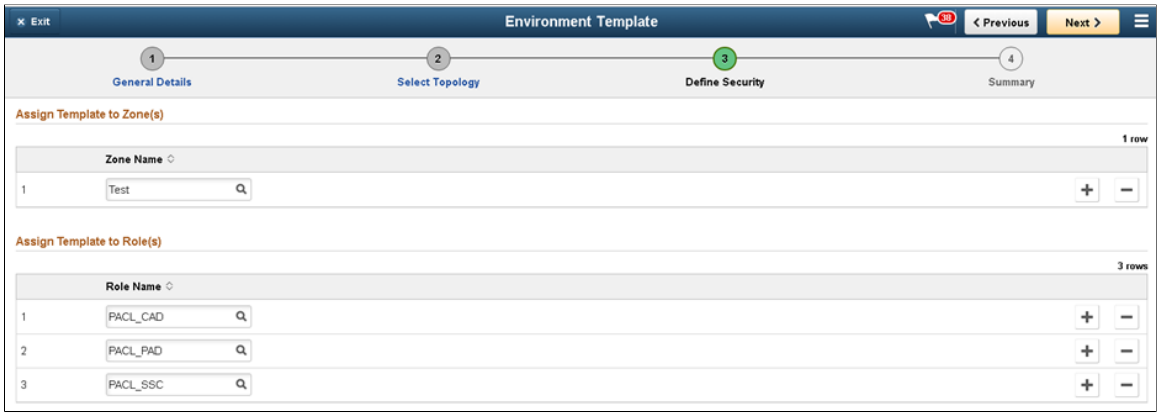
Use the Environment Template – Define Security page to associate the zone in which the environment is created and the role that will have access to the template.

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.



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

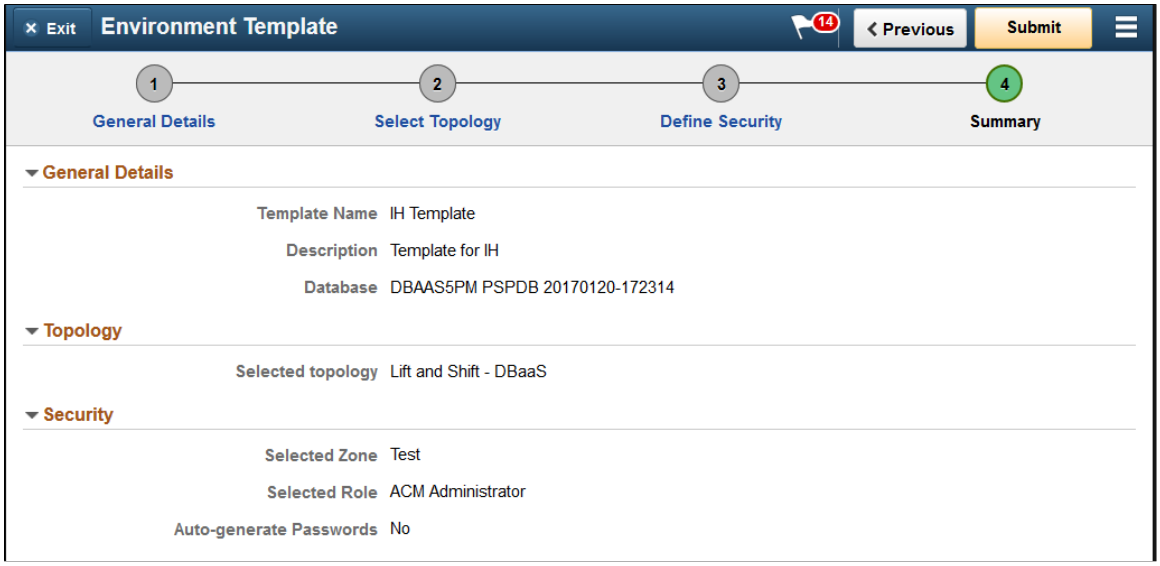
Use the Environment Template – Summary page (ECL_TEMPL_REV_FL) to review and submit the template details.

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 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

There are a set of default templates available out of the box after installing Cloud Manager. They are:

- Lift and Shift
- Lift and Shift – DbaaS

These are sample templates that an administrator can use to clone and modify to suit their organization standards. Currently, sample templates are available for development, testing and production.

A default template for Lift and Shift is also available, 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

Page Name	*Definition Name*	*Usage*
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.
Manage Attributes Page	ECL_ENV_RESET_FL	Update Cloud Manager with environment attributes, if a user modifies it outside Cloud Manager.
Health Check Page	ECL_ENV_HEALT_FL	View the health status of the environment.
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

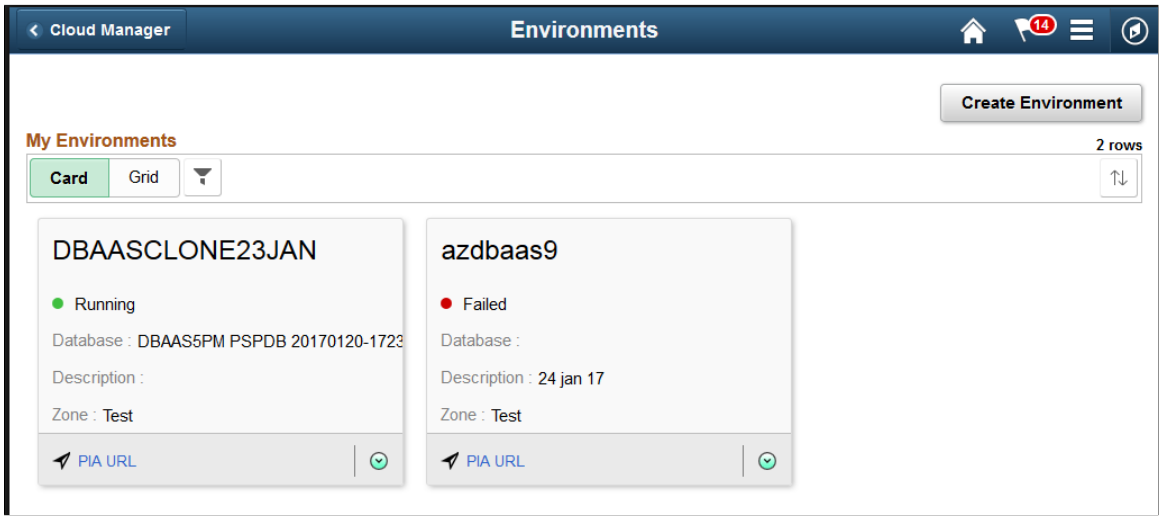
Use the Environments page (ECL_ENVPRO_FL) to access the Environments landing page.

Navigation

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

Image: Environments Page – Card View

This example illustrates the fields and controls on the Environments Page – Card View. 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 22 characters in OCI-Classic and 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.

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: 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.

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 25 characters in OCI-Classic and 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. For more details on environment attributes, see Environment Attribute Details.
2. Click Done to start environment provisioning.

Note: It is possible to enable custom YAML for application server or web server configuration. While creating a new environment, you can input custom YAML under Advanced ,Customization YAML.This facilitates the user to define custom attribute values for the environment being deployed.

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

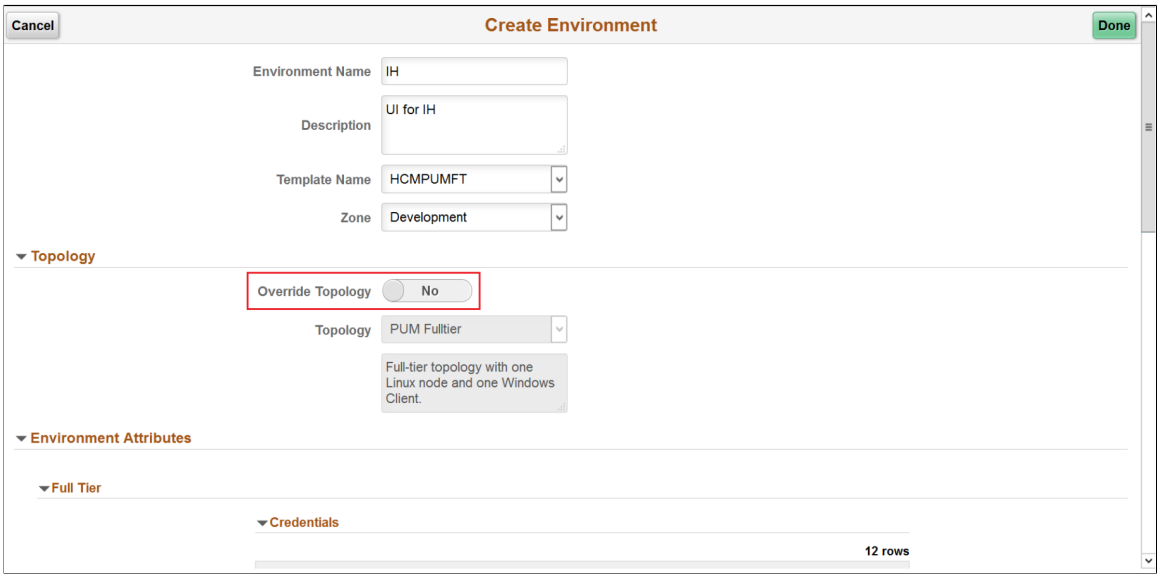
Overriding Default Topology and Attributes

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.



2. Select an appropriate Topology. Corresponding description is displayed in the below text area.
3. Input the required environment attributes. The different attributes are:
   - 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.
4. Enter the PeopleSoft Client credentials and other required attributes.

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.

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

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.

Note: (For OCI-Classic only) After doing a Migrate to Orchestration, the start/stop action will start or stop the VM instances instead.

- Delete: Select this option to remove the environment.
- 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.
- Migrate to Orchestration: Select this option to migrate VMs to Orchestrations version2 in Oracle Cloud.

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.

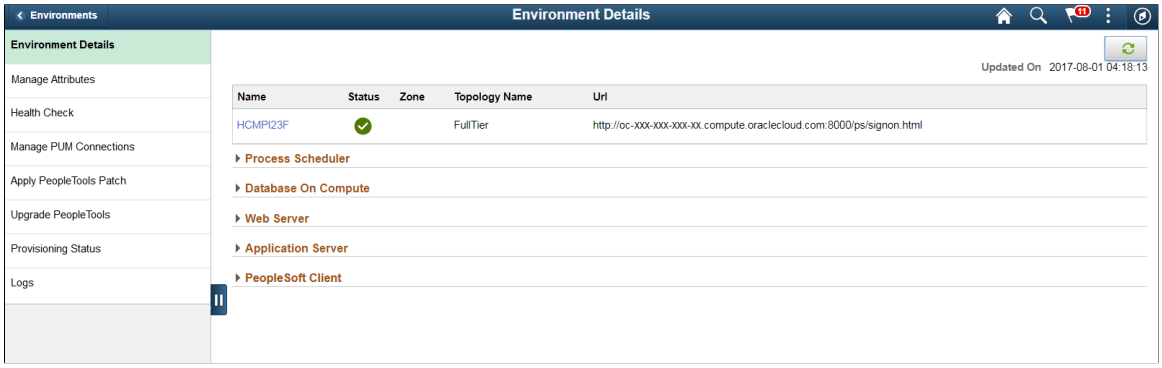
Note: If PeopleSoft client node is not defined in an environment as part of its topology, then Environments page is not displayed.

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.

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

---

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),

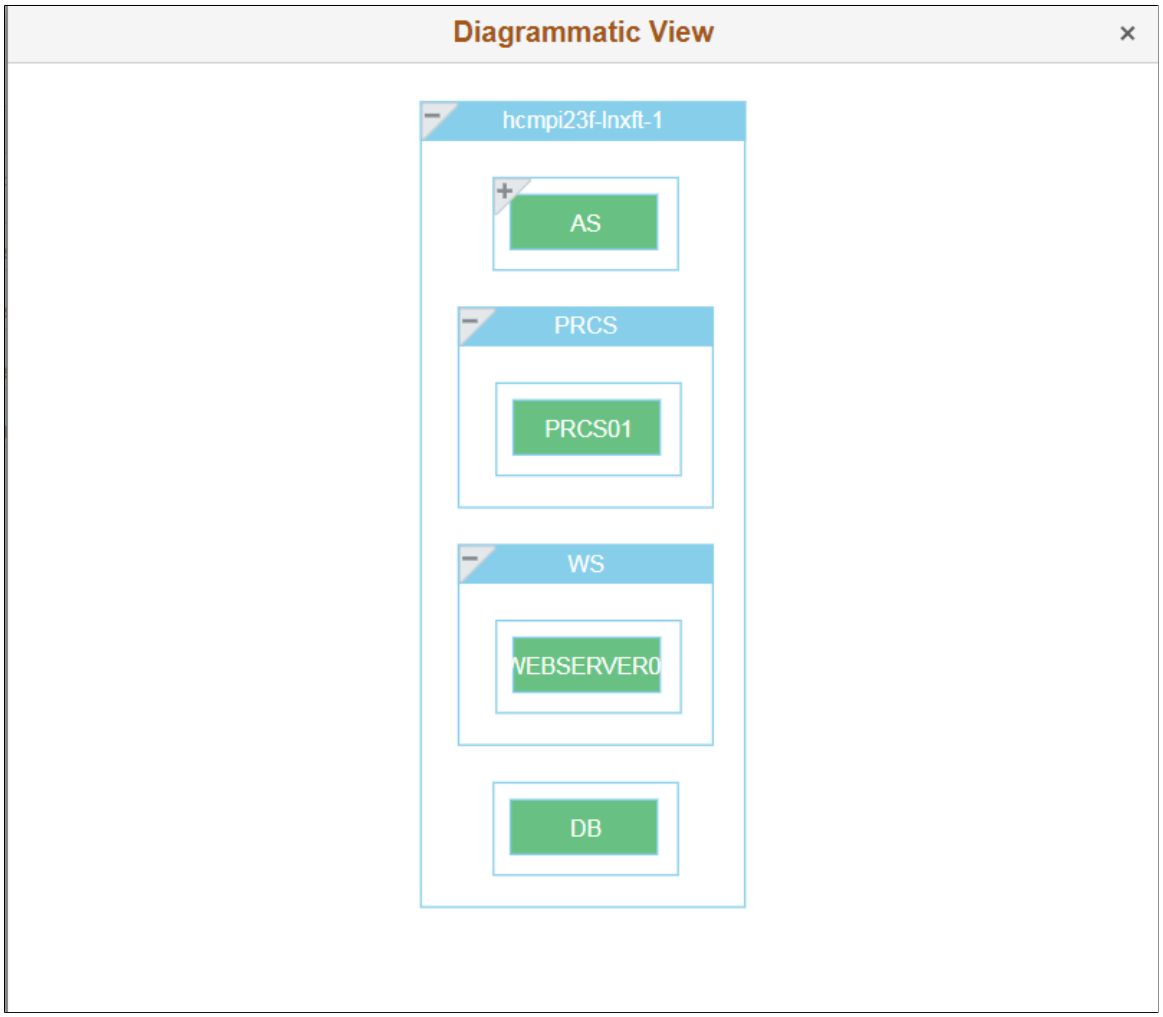
	PeopleSoft Enterprise Learning Management (ELM), PeopleSoft Financials and Supply Chain Management (FSCM), PeopleSoft Human Capital Management (HCM), and PeopleSoft Interaction Hub.
PeopleSoft Client	This section provides details of the Windows Client of the deployed PeopleSoft application environment. 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.

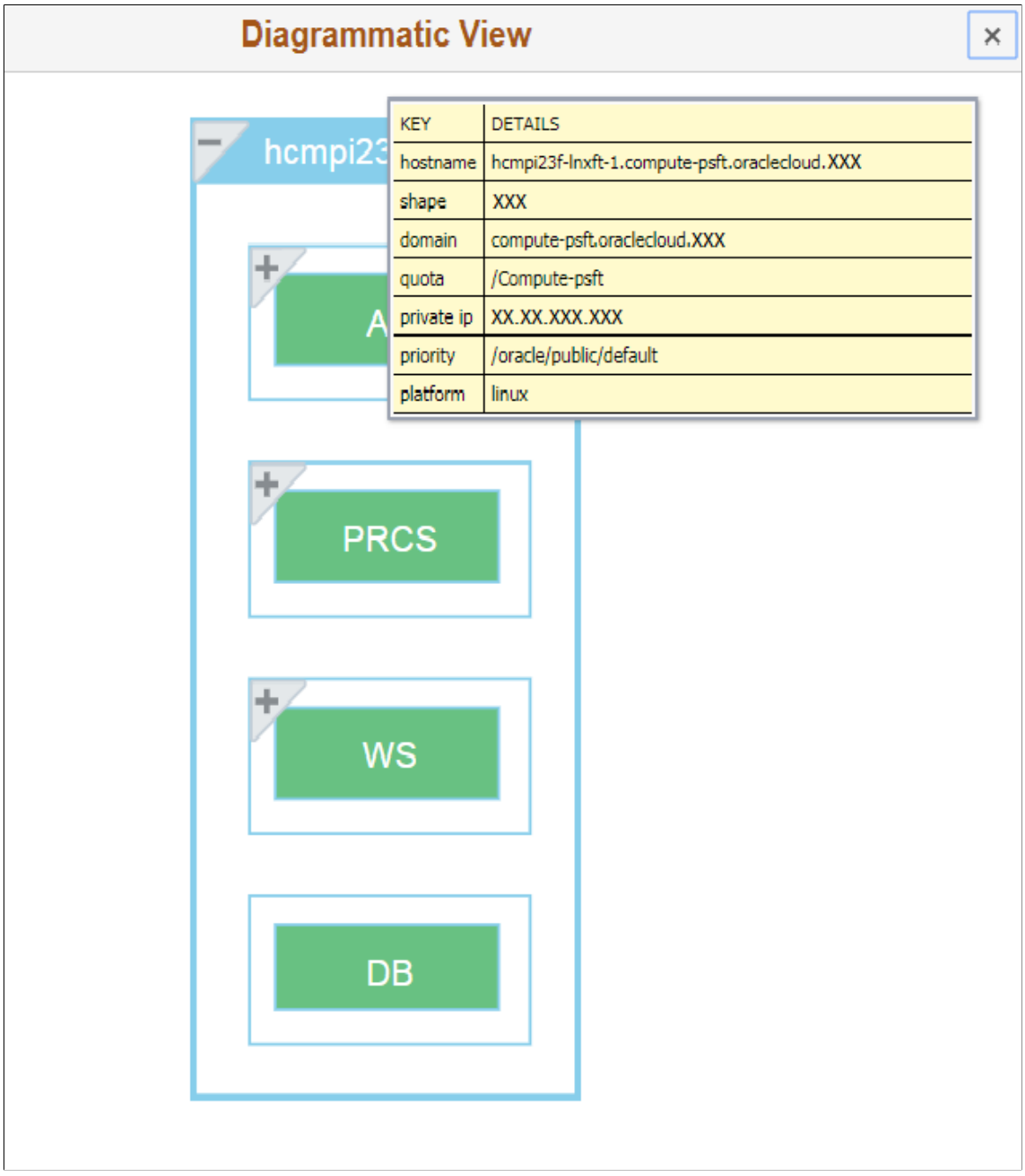


Hover the mouse over each instances for viewing the details.

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

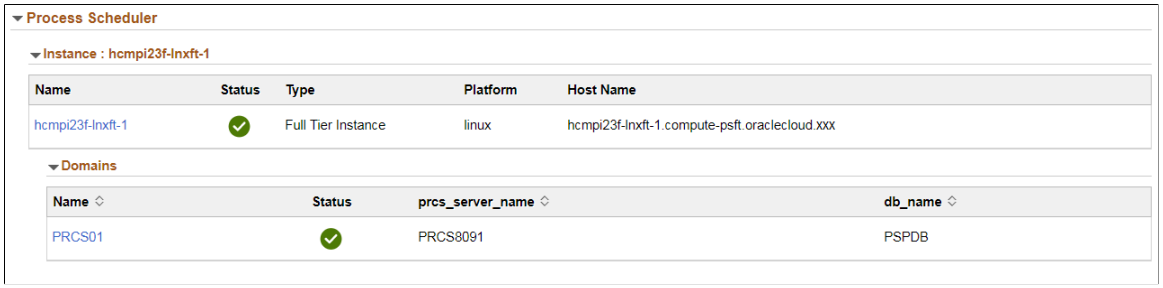
This section provides details of the process scheduler component of the deployed PeopleSoft application environment. The Process Scheduler is responsible for processing scheduled tasks or jobs that typically do not happen during the course of a user's browser request.

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.



Instance Details Modal Window

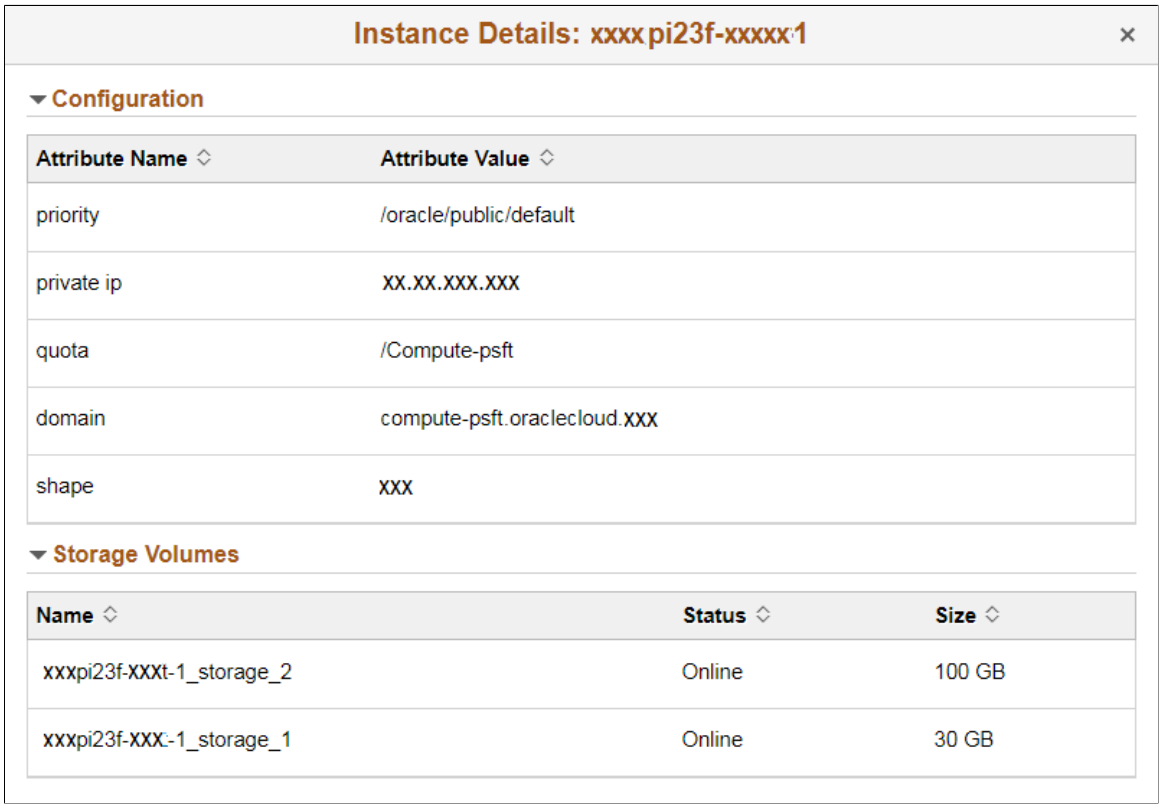
Use Instance Details modal window to view more details about the virtual machine.

Navigation

Click on the instance name.

Image: Instance Details modal window

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



Domain Details Modal Window

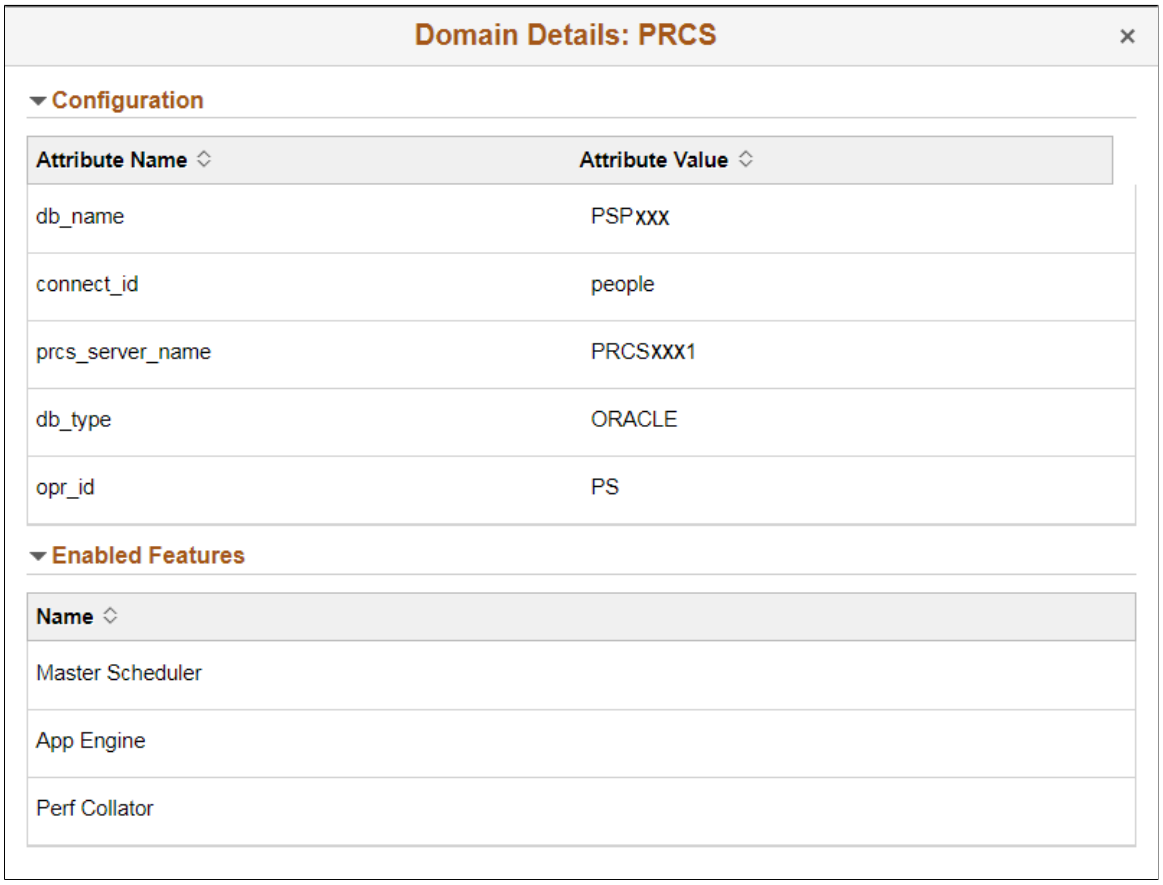
Use the Domain Details modal window to view domain details.

Navigation

Click on the domain name.

Image: Domain Details Modal Window

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



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

Health Check Page

Use the Health Check page (ECL_ENV_HEALT_FL) to view or retrieve latest health status of the environment.

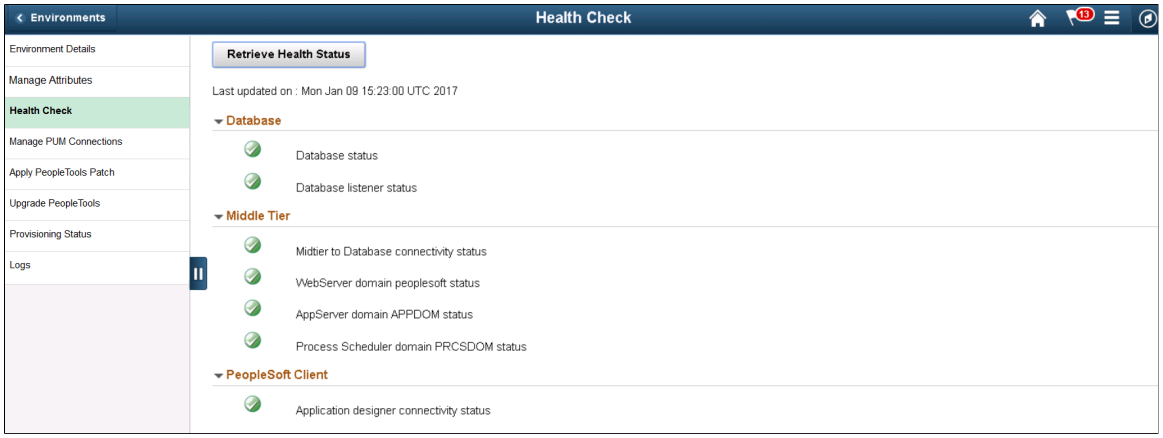
Note: The Health Check page is specific to CM on OCI-Classic. This page doesn't exist in CM for OCI.

Navigation

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

Image: Health Check Page

This example illustrates the fields and controls on the Health Check Page.



Retrieve Health Status button — Click this button to run a health check on the environment. It will take a few minutes to complete health check and a notification will be shown when it is complete.

Manage PUM Connections Page

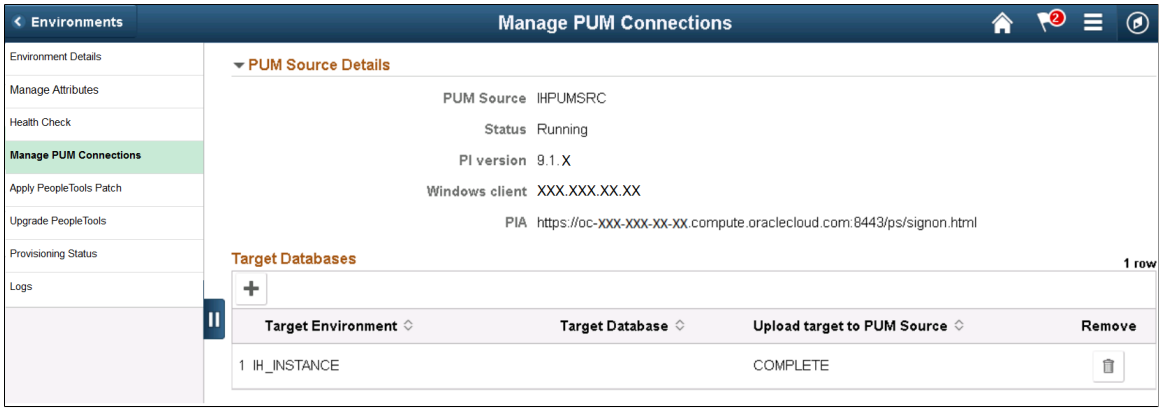
Use the Manage PUM Connections page (ECL_SA_MANAGEPM_FL) for setting up environments for selective adoption. This page appears only for environments that were deployed using a PeopleSoft Update Image and has a PeopleSoft Client (Windows Client) as part of the environment. This environment can act as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

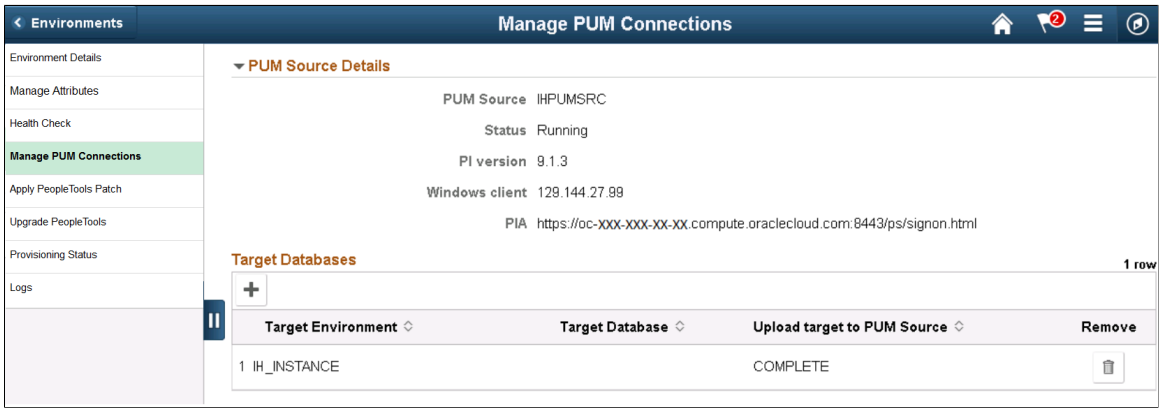
Note: For applying PeopleTools patch, please ensure that the corresponding environment has a Windows client.

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.



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

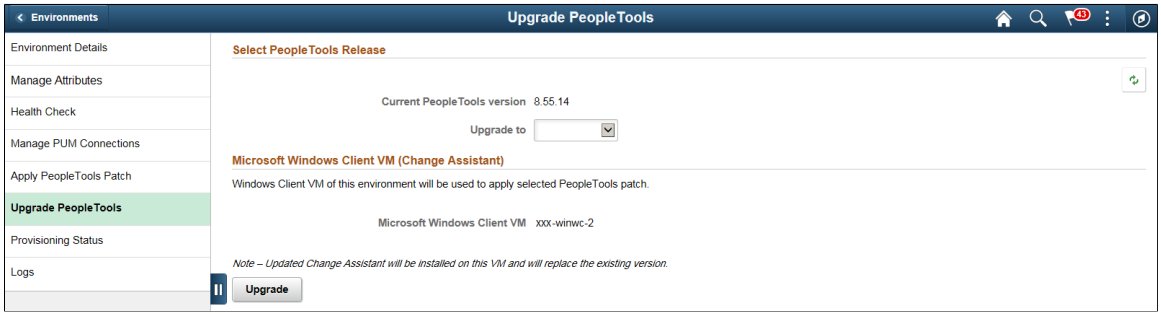
Click the Upgrade PeopleTools link available on the left panel of the Environment Details page. The Upgrade PeopleTools page is displayed in the right panel.

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.



Upgrade to Select the major PeopleTools version.

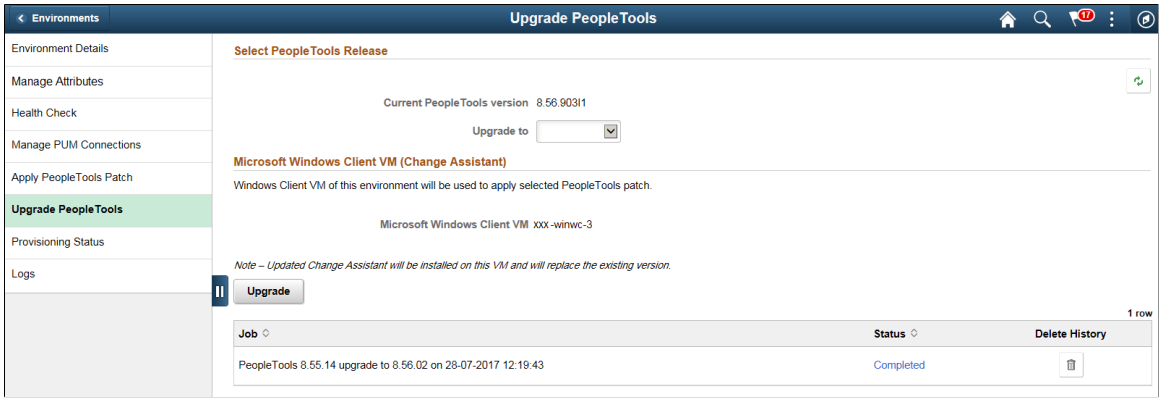
Upgrade Click this button to apply the changes.

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

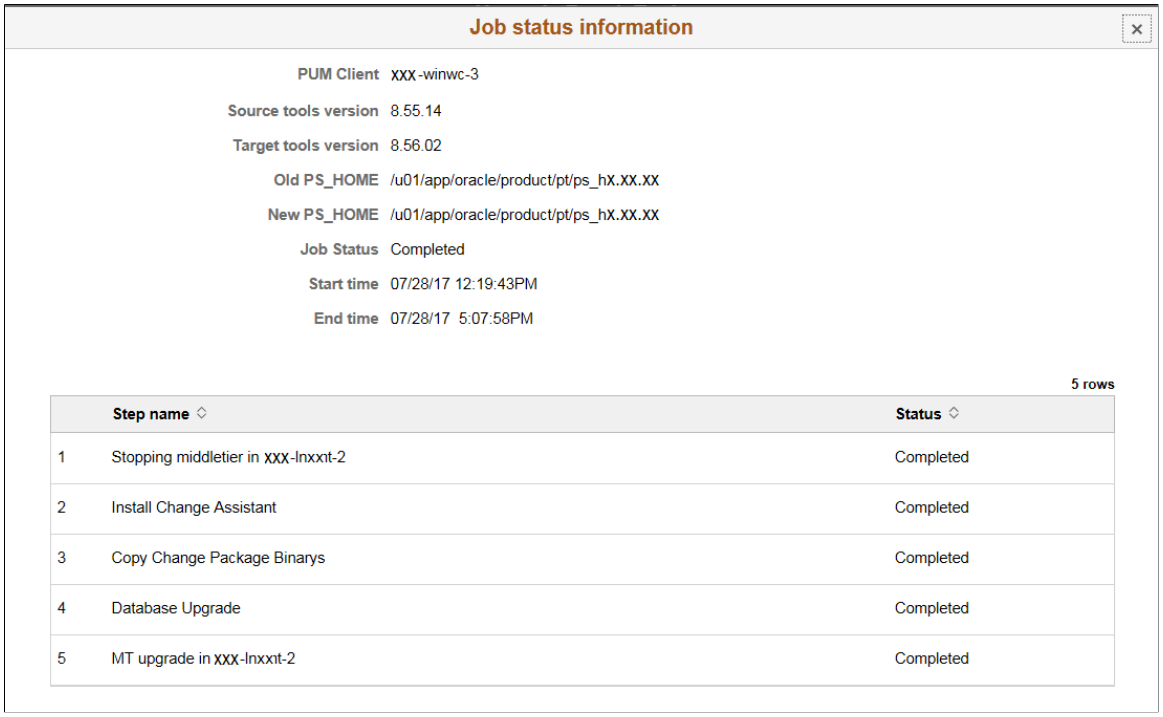
This example illustrates the environment upgraded to 8.56.90311 version from 8.55.14.



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

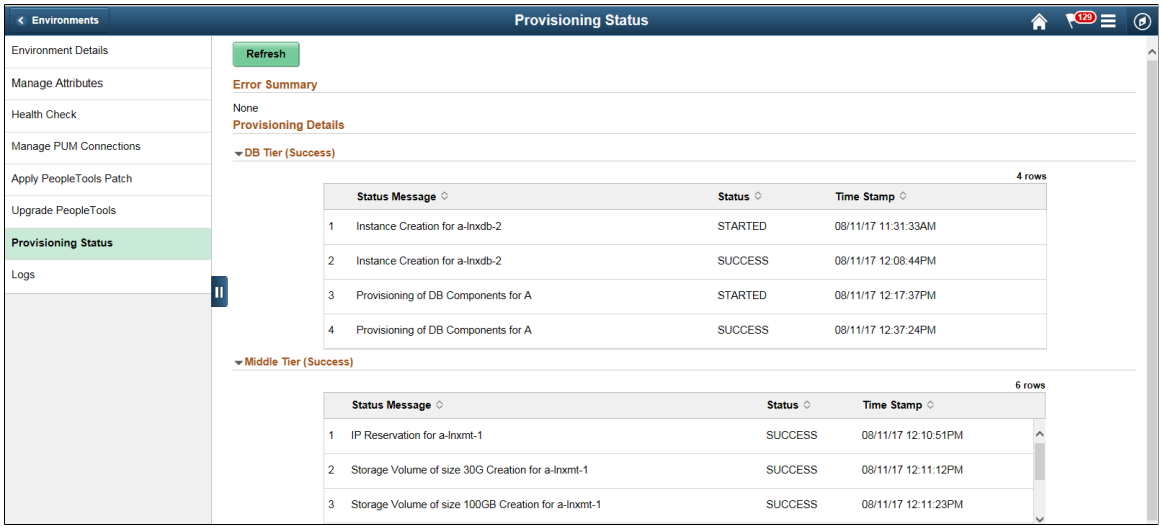
Use Provisioning Status page (PROV_DETAILS_DIAGR) to access provisioning details and error summary, if the provisioning failed.

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-Classic

This example illustrates the fields and controls on the Provisioning Status Page in OCI-Classic.

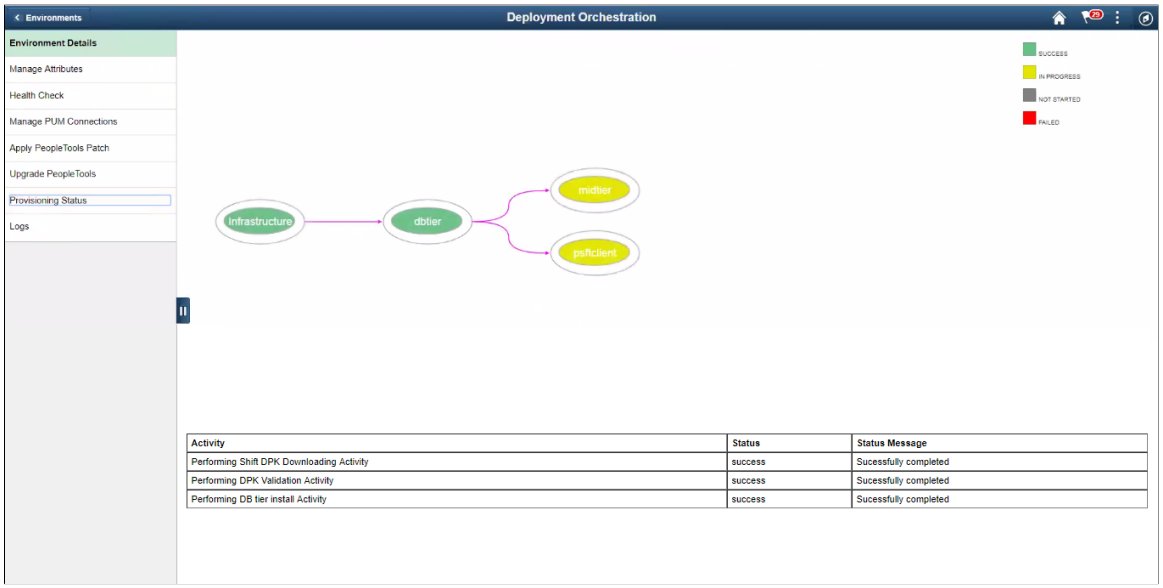


Different provisioning statuses are:

1. IP address reservation - Cloud Manager reserves a public IP address for the VM.
2. Storage Volume creation - Cloud Manager creates a block storage volume in the OPC. Two types of storage volumes in CM of volumes are data volume and boot volume.
3. Instance creation - Creation of actual VM.
4. Provisioning - Installation of PeopleSoft.

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.

Manually Fixing DB Errors in OCI

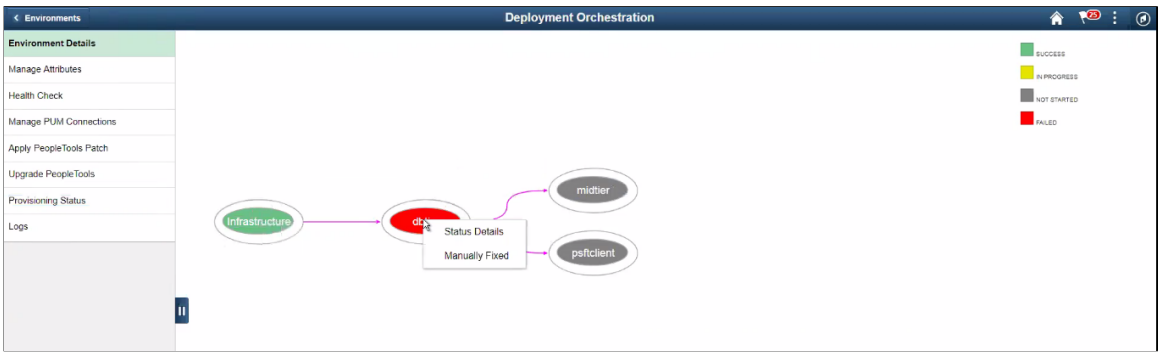
During Lift and Shift process, if any errors are encountered in the DB tier, the tasks of the dependent tiers also stop. Cloud Manager provides an option to manually fix these errors, so that the dependent tier's tasks can automatically start.

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.



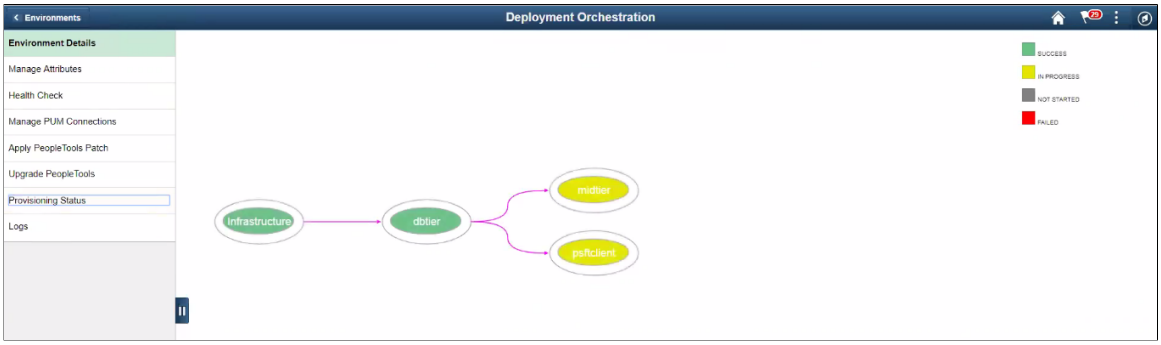
   The successfully processed tasks (here Infrastructure) are displayed in green. For these you can only view the status details. The failed tasks are displayed in red, and you can view the two options: Status Details and Manually Fixed.

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.

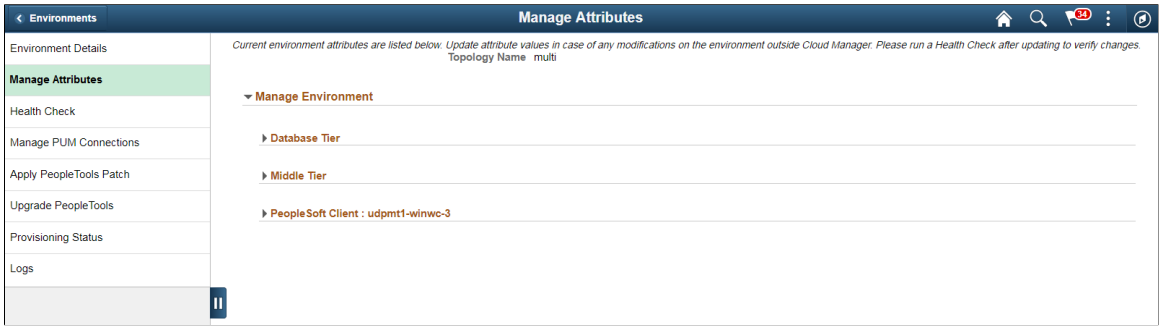
Note: After updating environment attributes on this page, it is recommended to run a health check to ensure the settings are right and the environment is accessible and running.

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.

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 OPR ID 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 OPR ID Password will fail. It is recommended to perform a health check after modifying any attributes, to ensure that changes have not caused any issues in the environment.

Logs Page

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

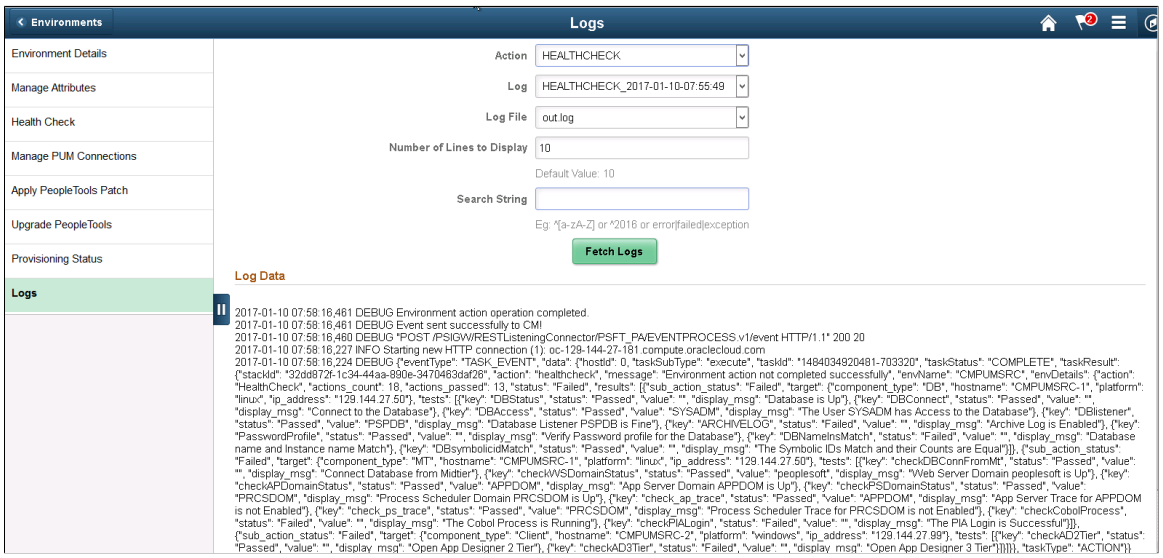
Note: The contents of the log files are displayed in reverse (latest first) order.

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.



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.

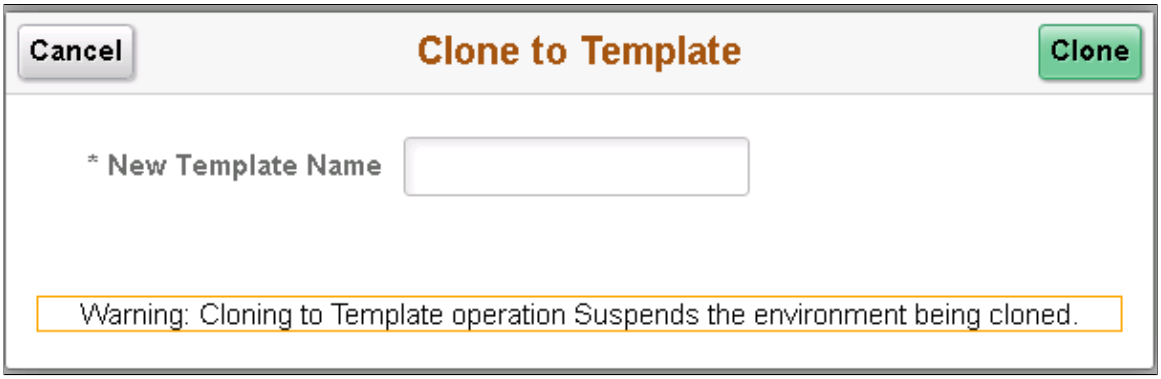
Note: Ensure that the file server has enough capacity for 'Clone to Template' operation. The capacity required is 2.5 times the size of database that is being cloned.

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.



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".

Clone to Template on Environments with TDE-Enabled Database for OCI–Classic

Cloud Manager supports lift and shift of environments with TDE-enabled databases, and users can perform clone to template only on those environments.

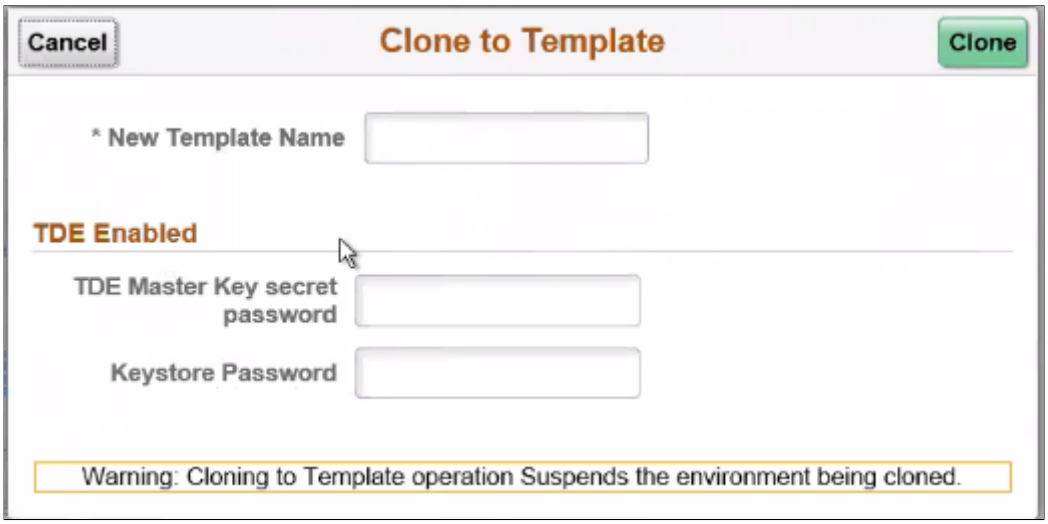
Important! Cloud Manager will not support manually encrypting a managed environment which was not TDE encrypted.

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 for Encrypted Tablespace

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



2. Enter the new template name.
3. Enter the TDE Master Key Secret Password. TDE Master Key Secret Password is a password or phrase with which you use to encrypt the Master key file that is generated while doing the clone.
4. Enter the Keystore Password for the wallet.
5. Click Clone.

Note: When the user clicks the Clone button, a Zip file containing the exported keys, is created on the machine where the clone operation is performed. You need to copy the file from that machine and put it in Cloud Manager before creating environment template. This key file is encrypted using the password that was input in step 3 above. For details on deploying this cloned template, see Clone to Template section.

Migrate to Orchestration for OCI–Classic

Cloud Manager deploys PeopleSoft instances using Launchplan APIs, but you cannot start or stop an instance as per requirements. Migrate to Orchestration feature facilitates to migrate VMs to Orchestrations version2 in Oracle Cloud, so that you can start/stop VMs on demand. With this migration, new orchestrations are created in Oracle Cloud. These new orchestrations can be viewed and managed from the Orchestrations tab in Oracle Cloud web UI console.

Note: This feature is specific to Cloud Manager on OCI-Classic.

Note: VMs are still created using Launchplan APIs, but a new option is now provided that will convert them to Orchestrations v2.

To migrate an environment to Orchestration, perform the following:

Note: It is recommended to stop all services on the managed environment that will be migrated to orchestration to avoid database inconsistencies.

1. Click the Related Actions button corresponding to the environment you want to migrate. Select the Migrate to Orchestration option. This will start migrating the environment to Orchestration. You can verify the operation through the Orchestrations page in Oracle Cloud UI as well as from the psp.log file in $PS_CFG_HOME/appserv/prcs/PRCSDOM/LOGS/ directory.

   Note: Once the environment is migrated to orchestration, the option “Migrate to Orchestration’ is not available in the related actions.

2. You can perform the following actions corresponding to the orchestrated environment:

   - Stop: Click Stop to stop the VM instance. In this case, the storage volumes are persisted, and only the instance is stopped.
   - Start: Click Start to recreate the VM instance.
   - Delete: Click Delete to delete the VM instance. The entire storage volumes as well as the VM instance is removed as part of this operation.

Note: After migrating to orchestrations, the start and stop actions in the related actions menu on the environment card will no longer start or stop MT services and database.

Note: After an environment is migrated to orchestration, if the PIA URL is not accessible, it is most likely the DB and MT services are not running. User must manually start all required services - DB, Listener and App Server, Web Server, and Process Scheduler domains.

Chapter 4

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 and uploaded to Oracle Storage Cloud.

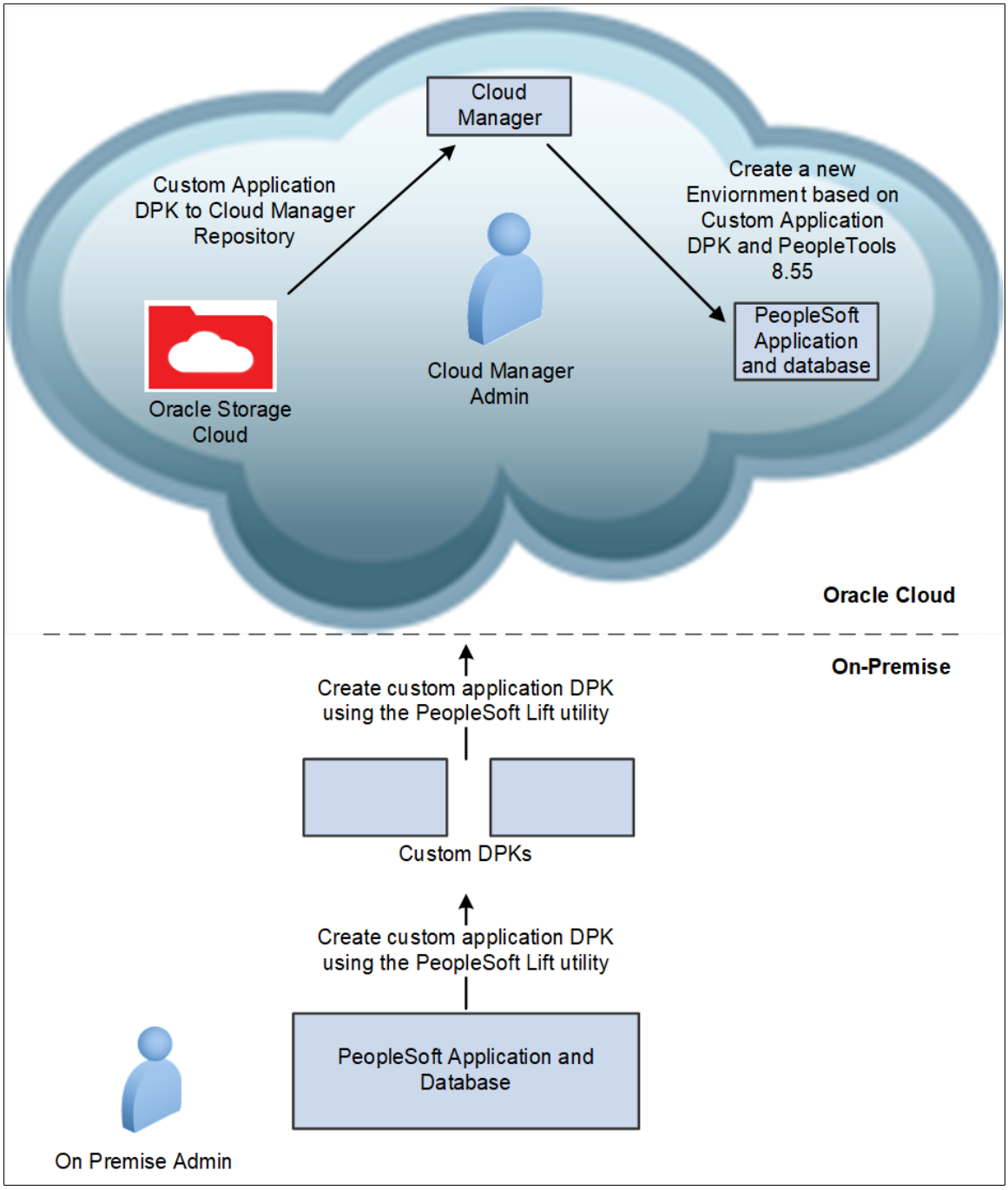
  Note: The DPKs that were lifted using older versions of CM, may not be successfully shifted in CM 6.

- Shift: Cloud Manager downloads the lifted DPKs and 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.

Understanding the Minimum Requirements for the Lift and Shift Process

The following are some of the considerations which users need to plan before migrating environments to Oracle Cloud:

- Supported Oracle versions are 11g and 12c.
- If you do not want to make application access public, other alternatives such as VPN must be evaluated.
- If you do not want your web sites to be public, you will have to work with the Cloud team to figure out alternatives. (For example, VPN)
- All third party integration will need to be manually reviewed and set up.
- If the lifted environment requires COBOL, then it must be manually installed and configured after Cloud Manager shifts the environment.
- Users may have to get new certificates for SSL and SFTP support.
- The minimum PeopleTools version is PeopleTools 8.55.12.
- The minimum PeopleSoft applications version is PeopleSoft 9.2.
- The Lift and Shift process is supported only on Linux environments. Any OS-specific customizations will not be lifted and must be manually re-configured on the shifted environment.
- Any application-specific software or installations or configurations will need to be manually configured.
- Lift of RAC databases is not supported for this release. Shift to RAC is supported.
- Lift of TDE-enabled databases is supported for OCI-Classic only. Source environments must be encrypted using TDE before lift.
- Lift should be performed on a Linux system with Python 2.7.9 set as default for Python.
- When performing Remote Lift and connecting to the remote machine with a password, do not include special characters such as *? [ ] ' " \ # ; & ( ) | ^ < > new-line space and tab in the password.

  Note: Remote Lift for TDE database is not supported.

- Currently, in PeopleSoft Cloud Manager, an updated version of the Lift utility is available that captures more details from the on-premise environment. DPKs that were lifted earlier using older versions of the Lift Utility can no longer be deployed in CM 06. Hence, you must delete those old DPKs and do a lift operation again on the on-premise environments.
- OCI-CLI must be installed in order to lift to OCI.

See Oracle Cloud Infrastructure documentation regarding installing OCI-CLI.

Pre-requisites for Lifting Non-Unicode Database

The source database (Lift) environment must have NLS_LENGTH_SEMANTICS set to 'BYTE' for non-unicode and 'CHAR' for unicode database. The user can run the below SQL command on the source database to identify its NLS_LENGTH_SEMANTICS: SQL> select value from V$NLS_PARAMETERS WHERE PARAMETER = 'NLS_LENGTH_SEMANTICS'.

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

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

Pages Used to Migrate the Environment to Oracle Cloud

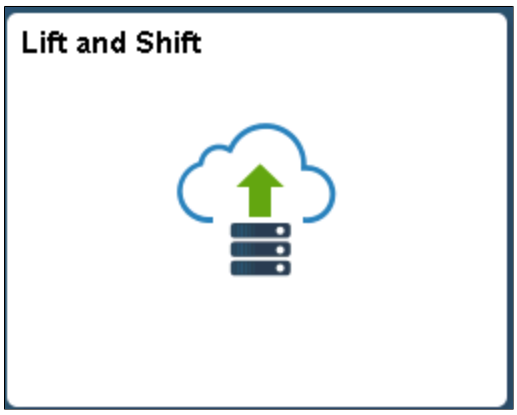
Page Name	*Definition Name*	*Usage*
Lift and Shift Tile	ECL_LAS_HOME_FL_GBL (CREF for the tile)	To access Lift and Shift landing page.
Lift and Shift Page	ECL_LAS_HOME_FL	The landing page containing the lift utility and the lifted containers.

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

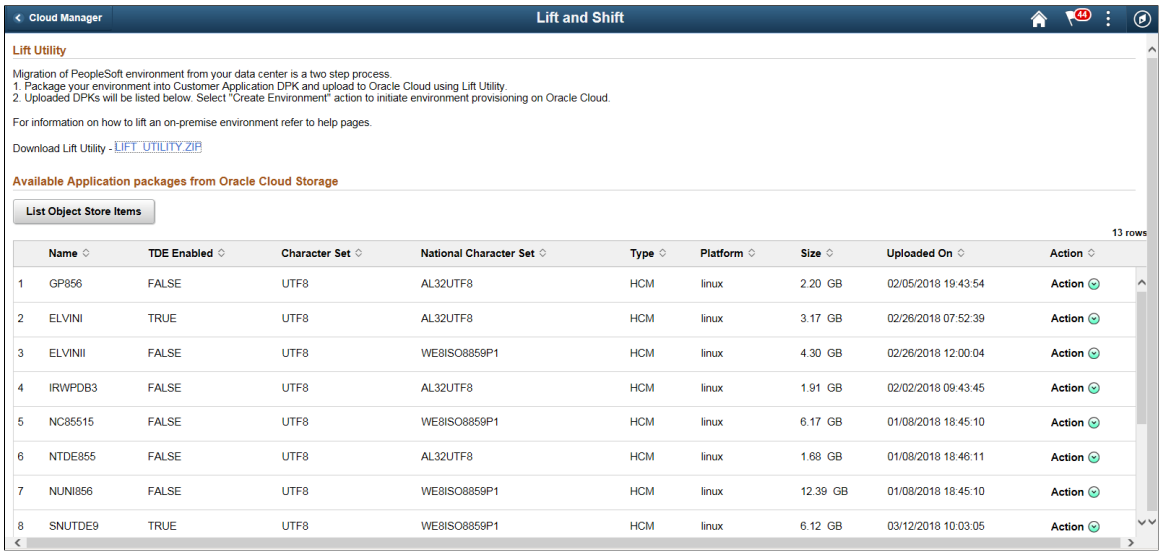
Use the Lift and Shift landing page (ECL_LAS_HOME_FL_GBL) to view and access the lifted environments (uploaded customer DPKs in Oracle Cloud for Cloud Manager).

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.



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 06. 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.

	Note: Assume that if the lifted DPK size is K, then the disk size should be 2.5 times K.
Uploaded On	The date and time on which the DPKs were uploaded in Oracle Cloud.
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.

Lift Prerequisites for OCI and OCI-Classic

The Lift utility provided in Cloud Manager lifts the application tier (middle tier) and database tier independently and packages them into separate DPKs. Prepare the database and middle tier instances as suggested below:

Lift should be performed on a Linux system with Python2.7.9 set as default for python.

Note: The DPKs that were lifted using older versions of CM, may not be successfully shifted in CM 6.

Lift Prerequisites for OCI

On OCI, you must perform the following prerequisites:

1. Install Python 2.7
   a. Remove old Python files by executing the command `rm -rf <Lift_Utility unzipped folder>/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
```

   c. Download Python 2.7 by executing the following commands:

```
cd <temp location to hold the python source>
wget https://www.python.org/ftp/python/2.7.10/Python-2.7.10.tgz
tar xzf Python-2.7.10.tgz
cd Python-2.7.10
```

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

```
./configure --prefix=<Lift_Utility unzipped folder>/lnx_python
make altinstall
```

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

```
cd <Lift_Utility unzipped folder>/lnx_python
ln -s bin/python2.7 python
```

f. Set environment variables. Do the following:

```
export PYTHON_HOME=<Lift_Utility unzipped folder>/lnx_python
export PYTHONPATH=<Lift_Utility unzipped folder>/lnx_python
export PATH=<Lift_Utility unzipped folder>/lnx_python/bin:<Lift_Utility u⇒
nzipped folder>/lnx_python:$PATH
```

g. Install pip with this command:

```
<Lift_Utility unzipped folder>/lnx_python/python -m ensurepip
```

2. Install the oci_cli package.

a. Download the oci_cli package with these commands:

```
cd <temp location to hold the oci-cli install file>
wget https://pypi.python.org/packages/47/c4/c1c3944dfb19a99d9187a89b166f6⇒
4ec1b03ced6ba33efd08b2b3d770ace/oci_cli-2.4.13-py2.py3-none-any.whl#md5=f⇒
9130baf7db6a910a8eae1bb87e6c461
```

b. Install the package with this command:

```
pip install oci_cli-2.4.13-py2.py3-none-any.whl
```

c. Verify if the version displayed is 2.4.13 on executing this command:

```
<Lift_Utility unzipped folder>/lnx_python/bin/oci -v
```

Output displayed after executing the command is: 2.4.13

d. Install YAML with this command:

```
pip install pyyaml
```

e. Install XMLTODICT with this command:

```
pip install xmltodict
```

For APP Lift

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 can be performed on the APP instance itself (Local Lift) or remotely from another instance that has access to the APP instance (Remote Lift).

Note: Local Lift is recommended.

---

2. If Lift is performed remotely, the connection from the remote Linux instance to the APP instance can be established using an SSH key (recommended) or password.

Note: If a password is used, please ensure that the **expect** utility (version 5.43.0) is available on the Linux instance (where the Lift utility will be run) under the location "/usr/bin/expect". You can choose to install the same using any package manager, for example, yum install expect expectk.

---

3. Be sure to use only the PeopleSoft Admin Owner user (for example, psadm3) to perform APP Lift.

4. 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.

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” and PS_APP_HOME PS_CUST_HOME directories.

For DB Lift

DB Lift means lifting of the Database Tier instance. This is the instance where the PeopleSoft Oracle Database is running.

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.

---

1. Lift can be performed on the DB instance (Local Lift) itself or remotely from another instance that has access to the DB instance (Remote Lift).

   Note: Local Lift is recommended.

   ---

2. If Lift is performed remotely, the connection from the remote Linux instance to the DB instance can be established using SSH Key (recommended) or Password.

   Note: In case of using the Password, please ensure the “expect” utility (version 5.43.0) is available on the (APP/DB) Linux instance under the location “/usr/bin/expect”. You can choose to install the same using any package manager (for example, “yum install expect expectk”).

   ---

3. Ensure to use only the Database Owner user (for example, Oracle) to perform DB Lift.

4. Ensure to have sufficient free disk space for DB Lift based on DB size.

5. The supported Oracle versions are "11.2.0.3.0", "11.2.0.4.0", "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.

   ---

6. The PeopleSoft Database instance should be on Oracle 12c. If the PeopleSoft environment is on an Oracle 11g environment, you must download the ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip to the DB instance and keep the path of this file handy (as the script will prompt for this files path). The Lift utility will use the ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip package to temporarily upgrade Oracle 11g database to Oracle 12c in order to create a pluggable database for Lift. The upgrade process first deploys Oracle 12c on the same DB server and creates a pluggable database from the Oracle 11g database. After the pluggable database is created the lift utility switches the database back to its original version (Oracle 11g).

   The ODS DPK package is located:

   - In OCI: /opt/oracle/psft/dpks/ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip

- In OCI-C: /opt/oracle/psft/dpk/ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip

Note: The ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip file can be copied from the Cloud Manager VM. Users can use any scp client to download from Cloud Manager VM.

7. Ensure to take the back up of your Database environment 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.
8. Ensure to back up the ORACLE_HOME.

Note: During the Lift process, the ORACLE Database is shut down.

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

Running the Lift Process for OCI

This topic discusses the one-step Lift automation procedure. 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 (OPCOracle Cloud).

Note: Installing OCI-CLI is a prerequisite for the lift utility. See Lift Prerequisites for OCI and OCI-Classic

To perform the one-step Lift automation procedure:

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:

   cd <LIFT_UTILITY.ZIP>/setup

3. For Linux, run the **sh psft-osl.sh** command to perform lift.
4. Choose any one of the below options:

   1. Oracle Cloud Infrastructure
   2. Oracle Cloud Infrastructure–Classic

5. Here, choose Oracle Cloud Infrastructure.
6. Select one of the following options when prompted:

1. Local Lift

2. Remote Lift

Note: Remote Lift is not supported for OCI.

The script will perform a basic validation to check whether the lift is being triggered with all the necessary packages needed to perform one step lift.

7. In Local Lift, you have to lift the APP and DB environments separately. Repeat this flow on both APP and DB instances.

   a. Choose any one of the below options:

      – Create and save DPK in APP/DB environment.

      – Create and upload the DPK to Oracle Storage Cloud.

   b. 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:

      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.

      ---

   c. If you want to migrate the PeopleSoft Application instance. Enter “Y” to proceed; else enter “N” to Lift the DB instance or “Q” to quit.

      To create the PeopleSoft App Server DPK, you need to provide the database name 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.

d. If you want to migrate the PeopleSoft DB instance. Enter “Y” to proceed; else enter “N” or “Q” to quit.

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.

The script verifies the Oracle version (on the machine where the DB is being lifted). If the Oracle version is Oracle 12c (recommended), the script continues. If the Oracle version is Oracle 11g, then the script prompts to ask for the path where the “ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip” file is located. The “ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip” file can be copied from Cloud Manager VM. This zip file is located at /opt/oracle/psft/dpk/ODS-DPK-LNX-12.1.0.2-<YYMMDD>-1of1.zip. Users can use any scp client to download from Cloud Manager VM.

e. 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.

Image: Local One Step Lift - Details

This example provides the details captured from the user and prompts for the user’s confirmation to proceed.

```
================================================================================
=======================PeopleSoft One Step Lift=================================
================================================================================
dbsrvr0
        username
                oracle
        app_db_name
                HRxxxxxx
        app_type
                HCM
        sshkey

        oracle_home
                /u01/app/oracle/product/11.2.0.x/db_1
        hostname
                xxx.us.oracle.com
        env_type
                db
        oracle_dpk_loc
                /lift
        db_name
                HRxxxxxx
        dest_dir
                /lift/migration/db_HCM_HRxxxxxx
        cdb_name

        is_db_pdb
                NO
================================================================================
Please verify the above details and confirm: (Y/N)
                        Enter "Q" to exit: Y
```

f. The entire execution is logged into psft_session_<session_name>_<session_count>_<PID>.log file, where ‘n’ stands for the number of executions triggered.

g. The output APP and DB DPK files that get created and uploaded are named in the format shown below:

— For Application DPK: APP-DPK-<platform>-<app_type>-<db_name>-1of3.zip (ex: APP-DPK-LNX-HCM-DBHCM-1of3.zip)

— For Database DPK: APP-DPK-<platform>-<app_type>-<db_name>-2of3.zip (ex: APP-DPK-LNX-HCM-DBHCM-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 8.56 tools dpk when the shift is triggered from Cloud Manager.

The Lifted DPKs created are available in the destination directory. If you choose 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.

Note: Be sure to run the Local Lift steps on both PeopleSoft APP and DB instance.

Locating OCI Credentials

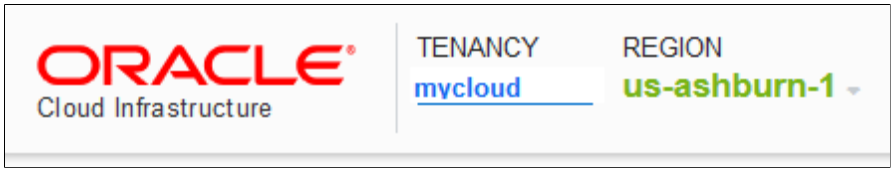
During the Lift operation you will be prompted for OCI details.

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.

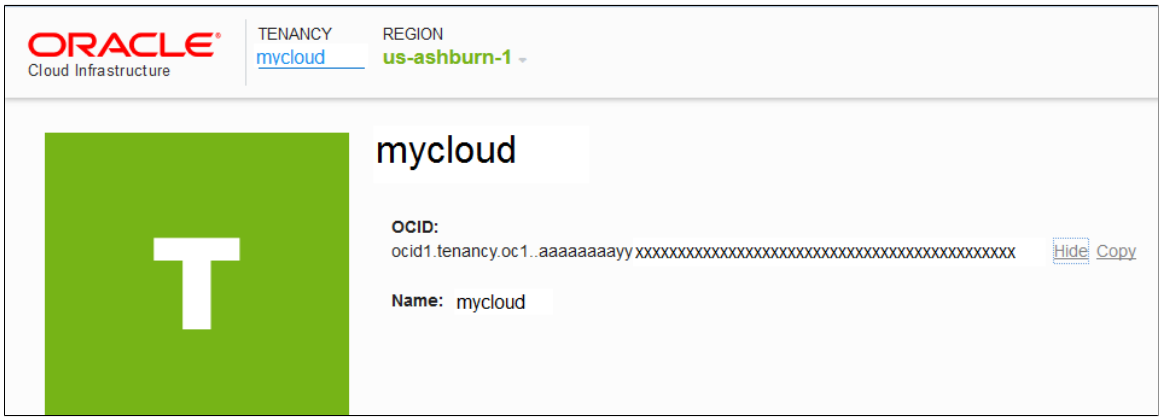


Oracle Cloud Infrastructure Tenancy ID

Click on the Tenancy name on the header to display the tenancy id.

Image: Tenancy ID

This example illustrates the Tenancy ID.



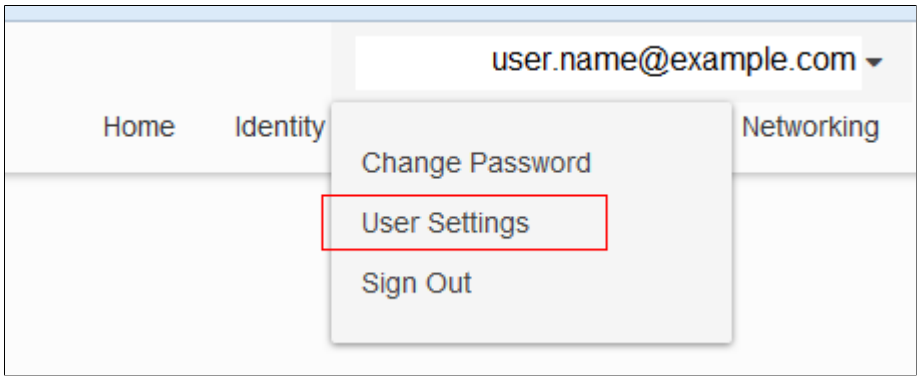
You can use the Copy link to copy the tenancy OCID.

Oracle Cloud Infrastructure User ID

Mouse over on the user name on right top of the OCI console and selectUser Setting link.

Image: User Settings Link

This example illustrates the User Settings Link.



The user

Image: User Information page

This example illustrates the User Information page.

You can use the Copy link to copy the user OCID.

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.

Uploading the DPK Manually to Oracle Cloud Infrastructure

During the process to upload the lifted APP/DB DPKs to OCI object store, if you chose to only create and save the DPK in the APP/DB environment. then to upload it to the Oracle Cloud Infrastructure (Object Store), perform the following:

1. Set the following environment variables:
   a. export PYTHON_HOME=<*Lift_Utility unzipped*>/lnx_python. For example, export PYTHON_HOME=/tmp/lift_util/lnx_python/lnx_python
   b. export PYTHONPATH=<*Lift_Utility unzipped*>/lnx_python. For example, export PYTHONPATH=/tmp/lift_util/lnx_python/lnx_python

c. export PATH=$PATH:<*Lift_Utility unzipped*>/lnx_python/bin. For example, export PATH= $PATH:/tmp/lift_util/lnx_python/lnx_python/bin

2. Create an OCI_Config file with the below contents:

   a. [DEFAULT]

   b. user=<*user ID*>

   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 ID*>

   g. region=<*region name*>

   For example:

   Image: Example of OCI_Config file

   Example of OCI_Config file.

```
[DEFAULT]
user=ocid1.user.oc1..xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
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..aaaaaaaayy35pigxxxxxxxxas3tlt42nxg4idzrsui52gma5a
region=us-ashburn-1
```

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

```
<Lift_Utility unzipped>/lnx_python/bin/oci --config-file /tmp/oci_config os bu⇒
cket create -ns <tenancy name> --name psft_oci_las --compartment-id <Compartme⇒
nt ID>.
```

   For example,

```
<Lift_Utility unzipped>/lnx_python/bin/oci --config-file /tmp/oci_config os bu⇒
cket create -ns mycloud --name psft_oci_las --compartment-id ocid1.compartment⇒
.oc1..aaaaaaxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

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 unzipped>/lnx_python/python upload_dpk_to_oci.py -d <Tenant Name⇒
```



```
>-c <Bucket Name> -s <Source folder containing DPK file> -t <Target Folder Nam⇒
e on OCI. Should be Platform/AppType>-f <INI file location generated during li⇒
ft operation> -g <Full path of oci config 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 unzipped>/lnx_python/python upload_dpk_to_oci.py -d <Tenant Name⇒
>-c <Bucket Name> -s <Source folder containing DPK file> -t <Target Folder Nam⇒
e on OCI. Should be Platform/DBName>-f <INI file location generated during lif⇒
t operation> -g <Full path of oci config file>
```

Running the Lift Process for OCI–Classic

This topic discusses the one-step Lift automation procedure. 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 (OPCOracle Cloud). To perform the one-step Lift automation procedure:

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:

   cd <LIFT_UTILITY>/setup

3. For Linux, run the **sh psft-osl.sh** command to perform lift.

4. Choose any one of the below options:

   1. Oracle Cloud Infrastructure

   2. Oracle Cloud Infrastructure-Classic

5. Choose Oracle Cloud Infrastructure-Classic.

6. Select one of the following options when prompted:

   1. Local Lift

   2. Remote Lift

   Local Lift refers to running the Lift utility on the (same) node where PeopleSoft environment components (app/web/db servers) are running. Remote Lift refers to running the lift utility from a different node which has APP/DB owner access to PeopleSoft environment components (app/web/db servers).

   For details on remote lift see section Performing Remote Lift for OCI-Classic.

   Note: Access as “psadm” user for Application Server and “oracle” user for Database Server.

The script will perform a basic validation to check whether the lift is being triggered with all the necessary packages needed to perform one step lift.

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

Note: Be sure to run the Local Lift steps on both PeopleSoft APP and DB instance.

---

7. In Local Lift, you have to lift the APP and DB environments separately. Repeat this flow on both APP and DB instances.

   a. Choose any one of the below options:

      — Create and save DPK in APP/DB environment

      — Create and upload the DPK to Oracle Storage Cloud

   b. 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 in order to upload the DPK once it is created:

      — Oracle Cloud Username

      — Oracle Cloud Password

      — Oracle Cloud DomainName

      Note: If the option to create and save DPK in APP/DB environment was selected, you can upload the DPKs to Oracle Cloud Service using the manual upload process. See Uploading the DPK Manually to OCI-Classic

      ---

   c. If you want to migrate the PeopleSoft Application instance. Enter Y.

      To create the PeopleSoft App Server DPK, you need to provide:

      — Database name

      — 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.

      ---

   d. If you want to migrate the PeopleSoft DB instance. Enter Y.

      To create the PeopleSoft Database DPK, you need to provide:

      — Container Database name if the database is an Oracle 12c Container DB, else leave it blank

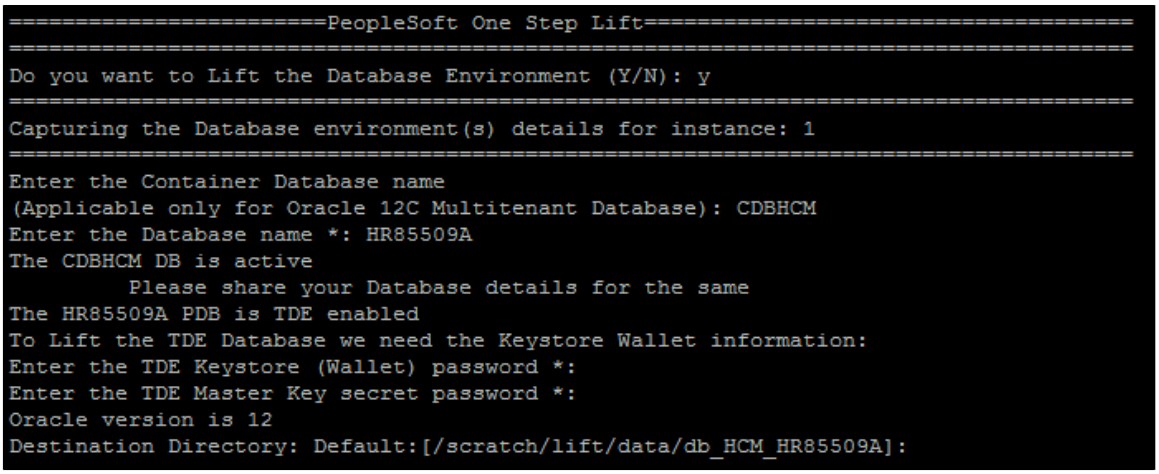
      — Pluggable database name

      — If the database is TDE enabled, you need to enter the "TDE Keystore (Wallet) password" and "TDE Master Key secret password” to proceed. If you are using a non TDE enabled database, then these options are not displayed

— Destination directory

Image: One Step Lift

One Step Lift



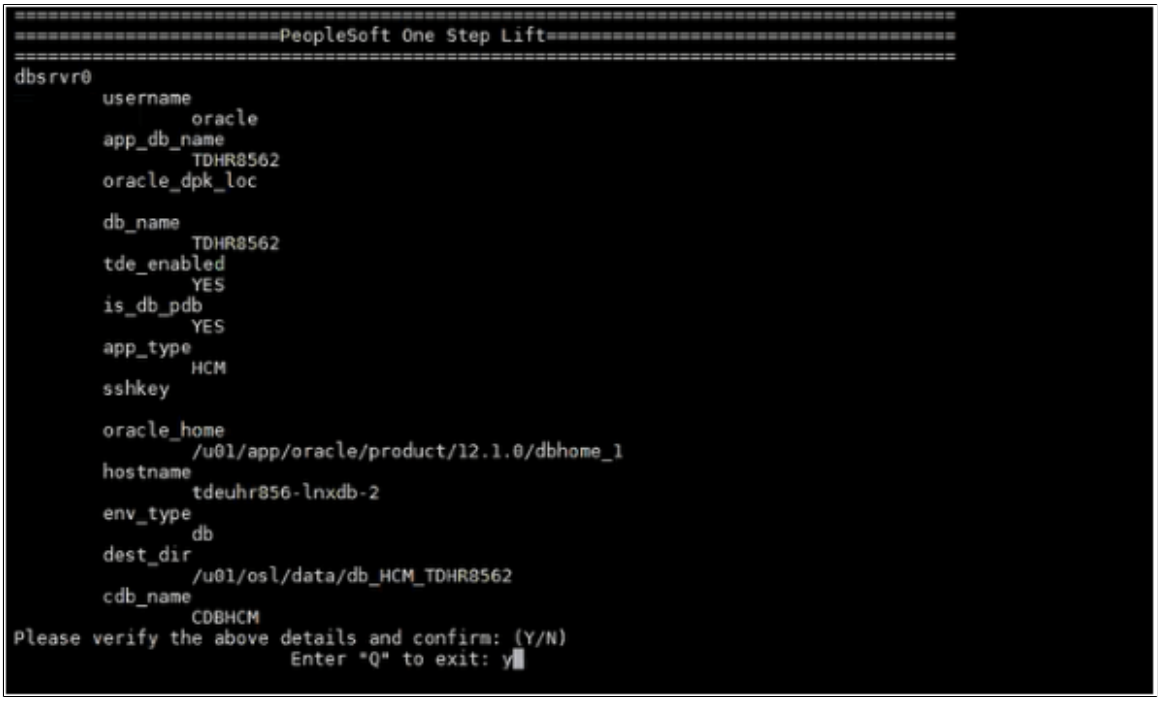
Note: If the utility is unable to fetch the data from the environment, it will prompt the user to input the same.

The script verifies the Oracle version (on the machine where the DB is being lifted). If the Oracle version is Oracle 12c (recommended), the script continues. If the Oracle version is Oracle 11g, then the script prompts to ask for the path where the 'ODS-DPK-LNX-*.zip' file is located. The “ODS-DPK-LNX-*.zip” file can be copied from Cloud Manager VM. This zip file is located at /opt/oracle/psft/dpk/ODS-DPK-LNX-12.1.0.2-160718-1of1.zip. Users can use any scp client to download from Cloud Manager VM.

e. 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.

Image: One Step Lift — Details

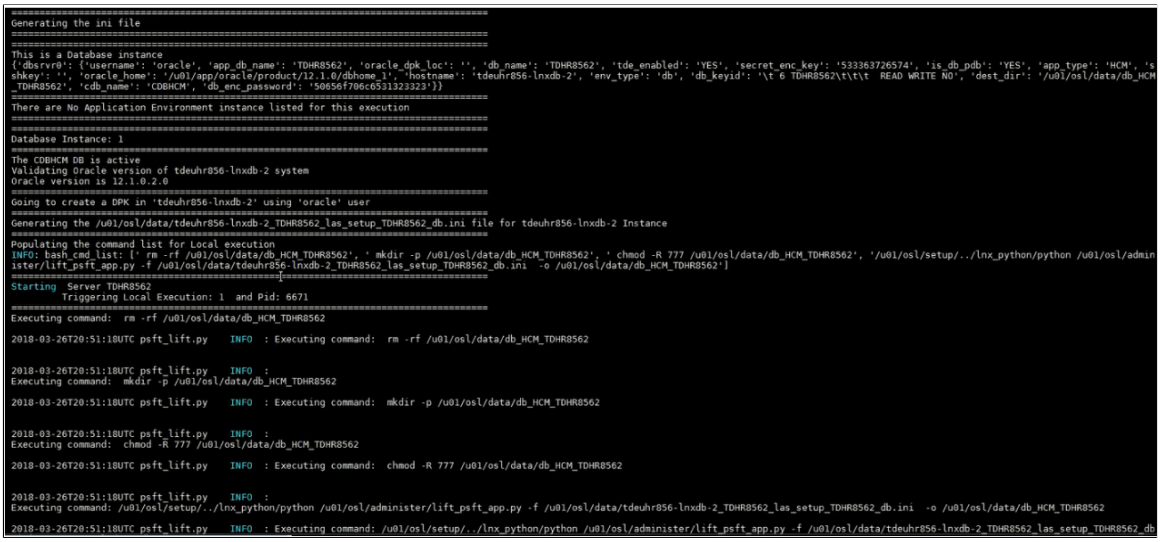
One Step Lift — Details



f. The Lift process generates the ini file.

Image: Lift Progress

This example illustrates the Lift progress.



8. The entire execution is logged into psft_session_<session_name>_<session_count>_<PID>.log file, where' n' stands for the number of executions triggered.

9. The output APP and DB DPK files that get created and uploaded are named in the format shown below:

    - PeopleTools 8.55:
        - For Application DPK: APP-DPK-<platform>-<app_type>-<db_name>-1of2.zip (ex: APP-DPKLNX- HCM-DBHCM-1of2.zip)
        - For Database DPK: APP-DPK-<platform>-<app_type>-<db_name>-2of2.zip (ex: APP-DPKLNX- HCM-DBHCM-2of2.zip)
    - PeopleTools 8.56:
        - For Application DPK: APP-DPK-<platform>-<app_type>-<db_name>-1of3.zip (ex: APP-DPKLNX- HCM-DBHCM-1of3.zip)
        - For Database DPK: APP-DPK-<platform>-<app_type>-<db_name>-2of3.zip (ex: APP-DPKLNX- HCM-DBHCM-2of3.zip)

    Note: For 8.56 the APP-DPK-<platform>-<app_type>-<db_name>-3of3.zip will be taken from the 8.56 Tools DPK during Shift process.

    The Lifted DPKs created are available in the destination directory. If you selected the option to create and save DPK in APP/DB environment, then the uploaded DPKs are available in the Lift and Shift page of Cloud Manager as well as Oracle Storage Cloud.

Performing Remote Lift for OCI-Classic

To perform Remote Lift:

Note: In Remote Lift you can lift either the APP or DB, or Both (APP and DB) environments in parallel. When performing Remote Lift and connecting to the remote machine with a password. Please ensure not to have special characters such as *? [ ] ' " \ # ; & ( ) | ^ < > new-line space and tab in the password. Ensure to set the default python version to Python2.7.9 on the APP/DB instance.

1. You need to choose any one of the below options:

    — Create DPK in APP/DB environment.

    — Create and upload the DPK (APP/DB environment) to Object Storage Cloud.

2. If the option to upload the DPK to Oracle Storage Cloud is selected then the script prompts the user to input Oracle Cloud account credentials as shown below in order to upload the DPK once created:

    — Oracle Cloud username

    — Oracle Cloud password

    — Oracle Cloud domain name

3. If you want to migrate the PeopleSoft Application instance. Enter *Y* to proceed. Enter *N* to Lift the DB instance.

    Enter the following to establish a connection to the Application instance:

— Host name

— User name

— SSH key (recommended) or password.

To create the PeopleSoft App Server DPK, you need to provide:

— Database name

— 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.

---

4. If you want to migrate the PeopleSoft DB instance. Enter *Y* to proceed

   To create the PeopleSoft Database DPK, you need to provide:

   — Container database name (If the database is an Oracle 12c Container DB, else leave it blank).

   — Pluggable database name.

   — Destination directory.

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

   ---

5. The script verifies the Oracle version (on the machine where the DB is being lifted). If the Oracle version is Oracle 12c (recommended), the script continues. If the Oracle version is Oracle 11g, then the script prompts to ask for the path where the 'ODS-DPK-LNX-*.zip' file is located.

   Note: The “ODS-DPK-LNX-*.zip” file can be copied from Cloud Manager VM. This zip file is located at /opt/oracle/psft/dpk/ODS-DPK-LNX-12.1.0.2-160718-1of1.zip. Users can use any scp client to download from Cloud Manager VM.

   ---

6. The script will then display the details captured from the user and prompts for the user’s confirmation to proceed, (the script allows the user to modify the above listed inputs, if required).

7. The entire remote execution is logged into psft_session_<session_name>_<session_count>_<PID>.log file, where n stands for the number of remote executions triggered.

8. The output APP and DB DPK files that get created and uploaded will be named in the format shown below:

   For Application DPK: APP-DPK-<platform>-<app_type>-<db_name>-1of2.zip (ex: APP-DPK-LNX-HCM-DBHCM-1of2.zip)

   For Database DPK: APP-DPK-<platform>-<app_type>-<db_name>-2of2.zip (ex: APP-DPK-LNX-HCM-DBHCM-2of2.zip)

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

Uploading the DPK Manually to OCI-Classic

If you selected to upload the DPKs later, then perform the following steps to upload the Lifted DPKs to Oracle Storage Cloud and make it available in Cloud Manager:

1. Navigate to the <LIFT_UTILITY> and change directory to <LIFT_UTILITY>/migration/las
2. Run the below two utilities sequentially for both APP and DB DPKs.

Note: Run the script as “psadm” user for Application Server and “oracle” user for Database Server

---

a. Invoke the **upload_opc_silent_install.py** to upload the DPK created from the above step onto the container in Oracle Storage Cloud.

```
<python2.7.9> upload_opc_silent_install.py -u <user> -d <domain> -c psft_⇒
las -s <source_dir> -t <target_dir> -p <password> -e <Storage_REST_Endpoi⇒
nt> -a <Storage_Auth_REST_Endpoint>
```

b. Invoke the **psft_dpk_cm.py** to capture and upload the Metadata information of the created DPK in the Oracle Storage Cloud.

```
<python2.7.9> python psft_dpk_cm.py -u <user> -d <domain> -c psft_las -s ⇒
<source_dir> -f <dpk_ini_file> -p <password> -e <Storage_REST_Endpoint> -⇒
a <Storage_Auth_REST_Endpoint>
```

-u <user>	Oracle Cloud username
-d <domain>	Oracle Cloud Identity Domain
-s <source_dir>	The destination directory where the DPK is saved. Ensure to have only the DPKs are inside the destination directory.
-t <target_dir>	linux/<app_type>/<app_db_name> where app_type stands for application type - [HCM, FSCM, ELS, ELM, CRM] and app_db_name is the name of the database.
-c psft_las	The Oracle Storage Cloud container name. You are not allowed to edit the name.
-f <dpk_ini_file>	An ini file is created capturing the necessary information to create the DPK. This file is available under <LIFT _UTILITY>/migration/las/ on the environment being lifted.
-p <password>	Oracle Cloud password.
-e <Storage_REST_Endpoint>	The OCI-Classic storage rest endpoint URL.

-a <Storage_Auth_REST_Endpoint>	The OCI-Classic storage authentication rest endpoint URL.

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 <*cloud*>*/instance/data/psftinfra.yaml* file.

This table lists the usage parameters for Local Lift:

Parameters	***Description***
psft-osl.sh -h	Displays the available usage parameters
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 <*cloud*>*/instance/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 <*cloud*>*/instance/data* folder)

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 to add VM shape and save it. 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

Page Name	*Definition Name*	*Usage*
Lift and Shift — Create Environment Wizard	ECL_LAS_GENERAL_FL	Use the Lift and Shift – Create Environment wizard to perform shift operation by means of a guided process.
Lift and Shift – Advanced Options Page	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–Classic	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_REVIE_FL	Use Lift and Shift – Review and Submit page to review and submit the entered environment details.

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).

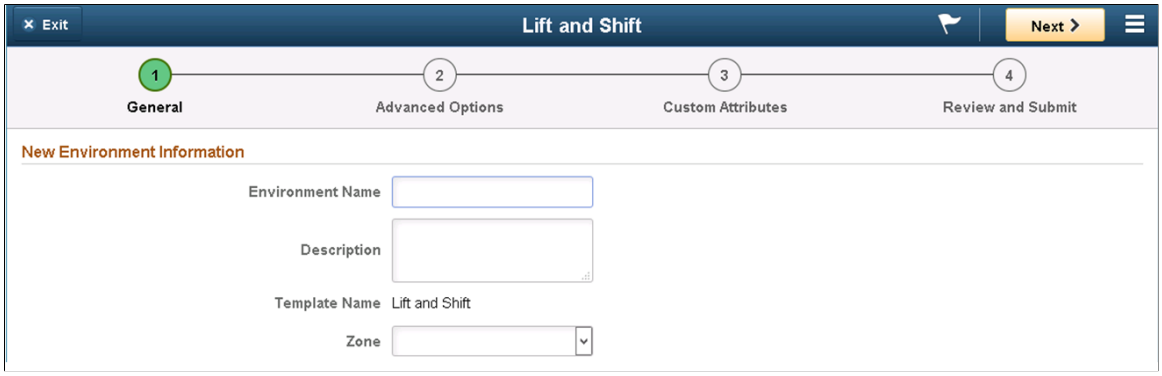
Note: Shift needs the DB type set to DEMO in the Lift and Shift template, else it causes shift failure. By default the Lift and Shift template has DEMO as the DB Type and the value can be changed to SYS. You should not modify this value while editing the Lift and Shift template. This field does not appear 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

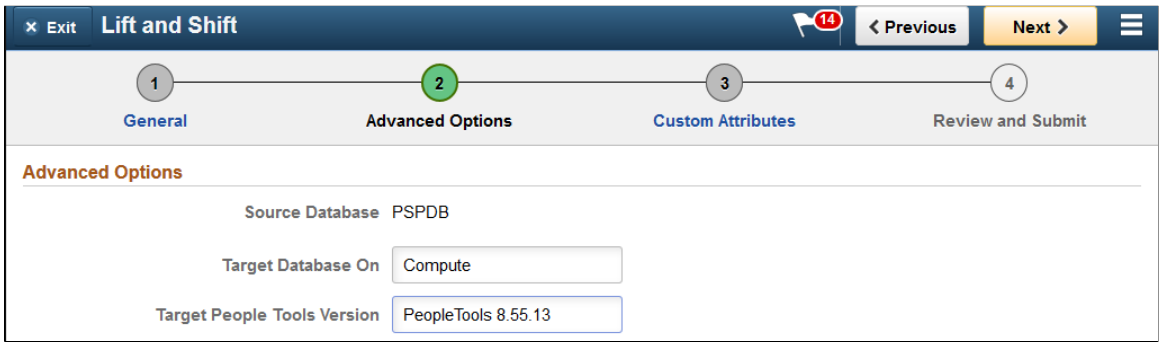
Use the Lift and Shift – Advanced Options page (ECL_LAS_ADV_FL) for defining target database details.

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–Classic

Use Lift and Shift – Custom Attributes page (ECL_LAS_CUSTATR_FL) 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: (Tablet) Lift and Shift – Custom Attributes Page for OCI — Classic (1 of 3)

This example illustrates the fields and controls on the Lift and Shift – Custom Attributes page for the tablet.

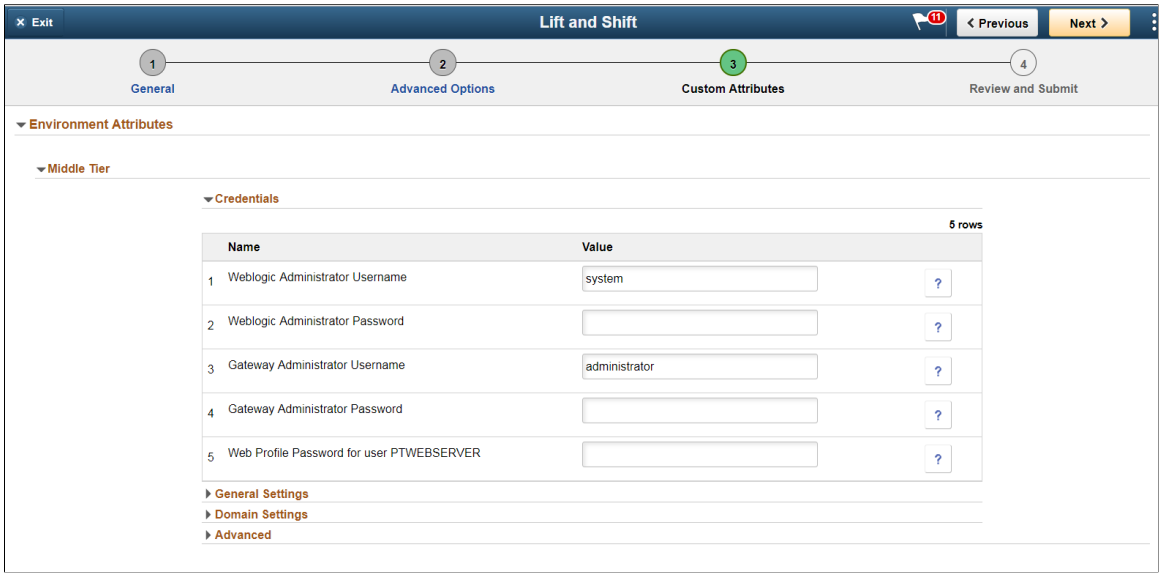


Image: (Tablet) Lift and Shift – Custom Attributes Page for OCI–Classic (2 of 3)

This example illustrates the fields and controls on the Lift and Shift – Custom Attributes page for the tablet.

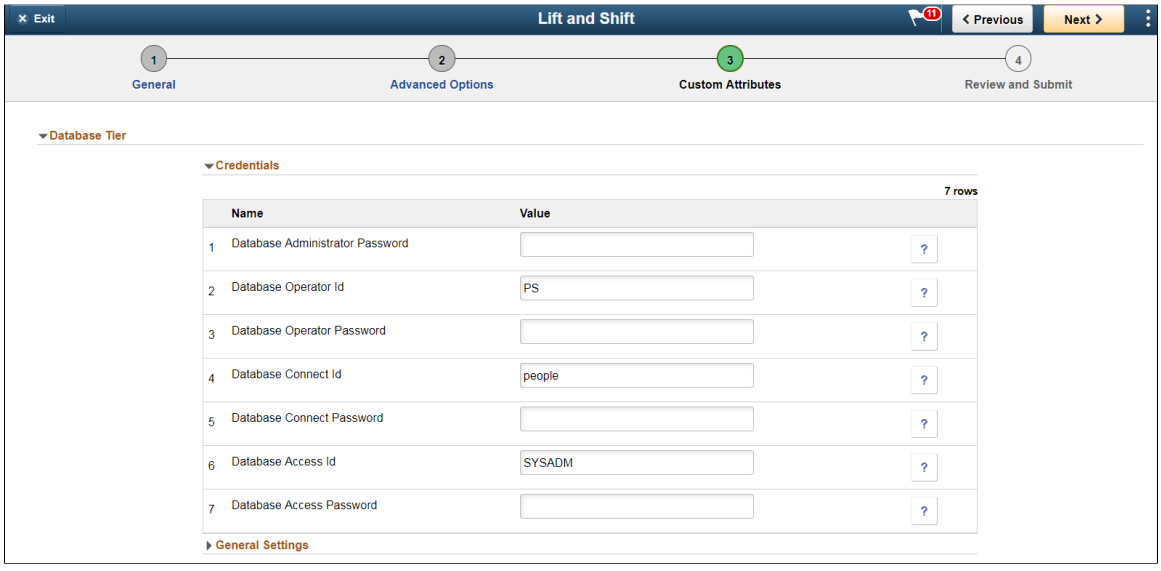


Image: (Tablet) Lift and Shift – Custom Attributes Page for OCI–Classic (3 of 3)

This example illustrates the fields and controls on the Lift and Shift – Custom Attributes page for the tablet.

Note: For details on custom attributes, see Environment Attributes Details section in Environment Attributes Details for OCI–Classic

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-pemise configuration. For example, 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.

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 — Custom Attributes Page for OCI

Use Lift and Shift – Custom Attributes page for defining the custom attributes as per the lifted environment. All the custom attributes are similar to OCI–Classic, except the region and availability domain and subnet settings.

Image: Lift and Shift - Custom Attributes page for OCI (1 of 3)

Lift and Shift - Custom Attributes page for OCI (1 of 3)

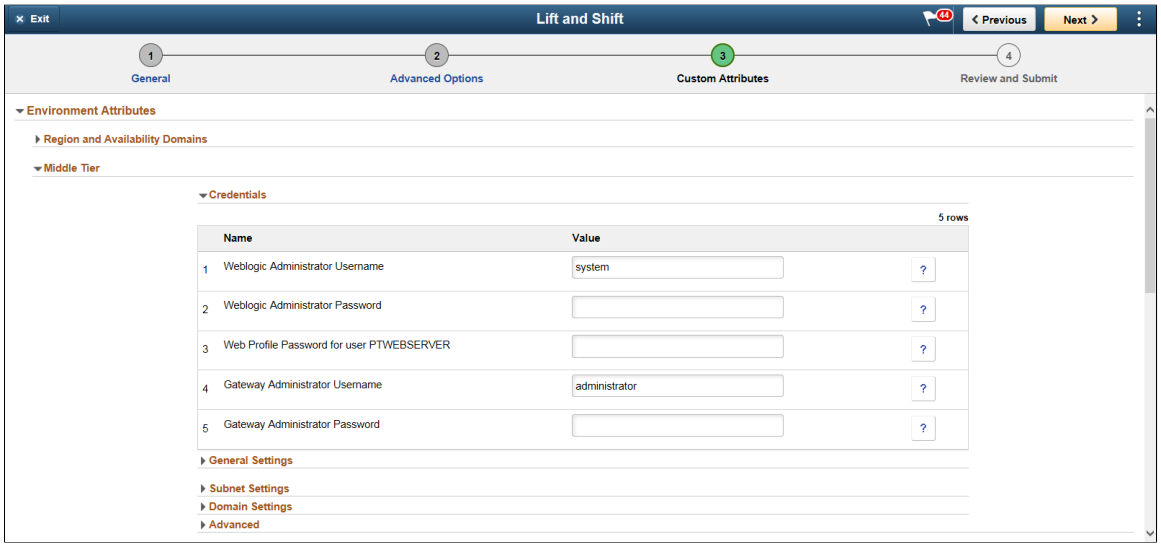


Image: Lift and Shift - Custom Attributes page for OCI (2 of 3)

Lift and Shift - Custom Attributes page for OCI (2 of 3)

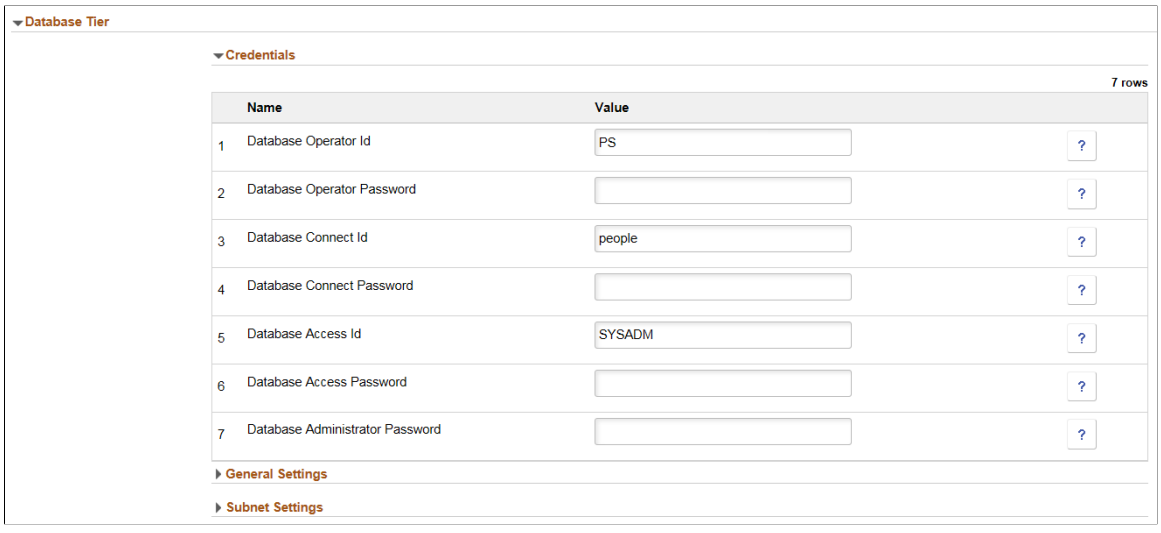
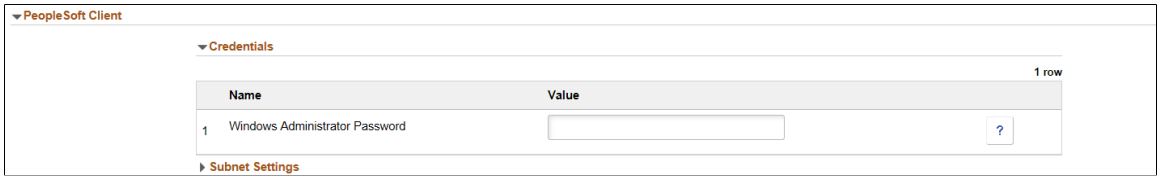


Image: Lift and Shift - Custom Attributes page for OCI (3 of 3)

Lift and Shift - Custom Attributes page for OCI (3 of 3)



For details on custom attributes, see Environment Attributes Details for OCI section in Managing Environments.

Lift and Shift – Review and Submit Page

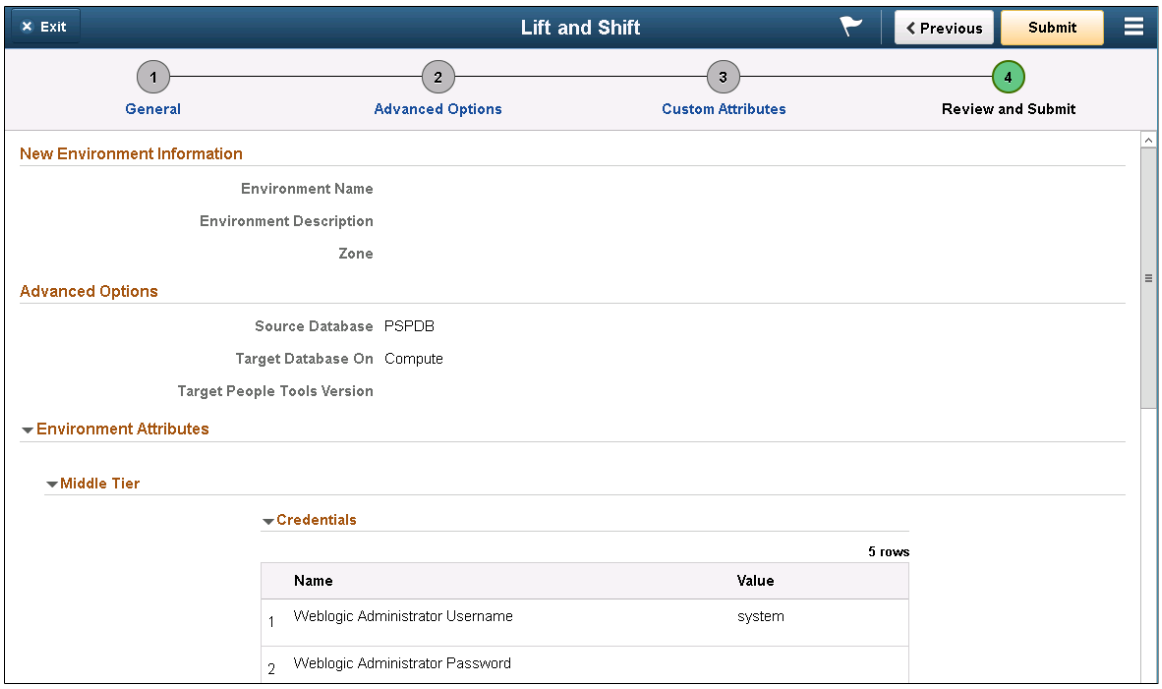
Use the Lift and Shift – Review and Submit page (ECL_LAS_CUSTATR_FL) to review and submit the entered environment details.

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.



Weblogic Administrator Username	User id for administering the PIA Web Logic server
HTTP PIA Port	The WebLogic http port number for PIA.
HTTPS PIA Port	The WebLogic https (ssl) port number for PIA.
WLS Port	The Workstation Listener port in the application server.

Jolt Port	Port number for Jolt listener on the app server.
Database is RAC	Whether Real Application Cluster is enabled or not.
Customization YAML	Optional YAML data for advanced customization.
Database Connect Id	Connect Id for the database.

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 Infrastructure – Classic using PeopleSoft Cloud Manager

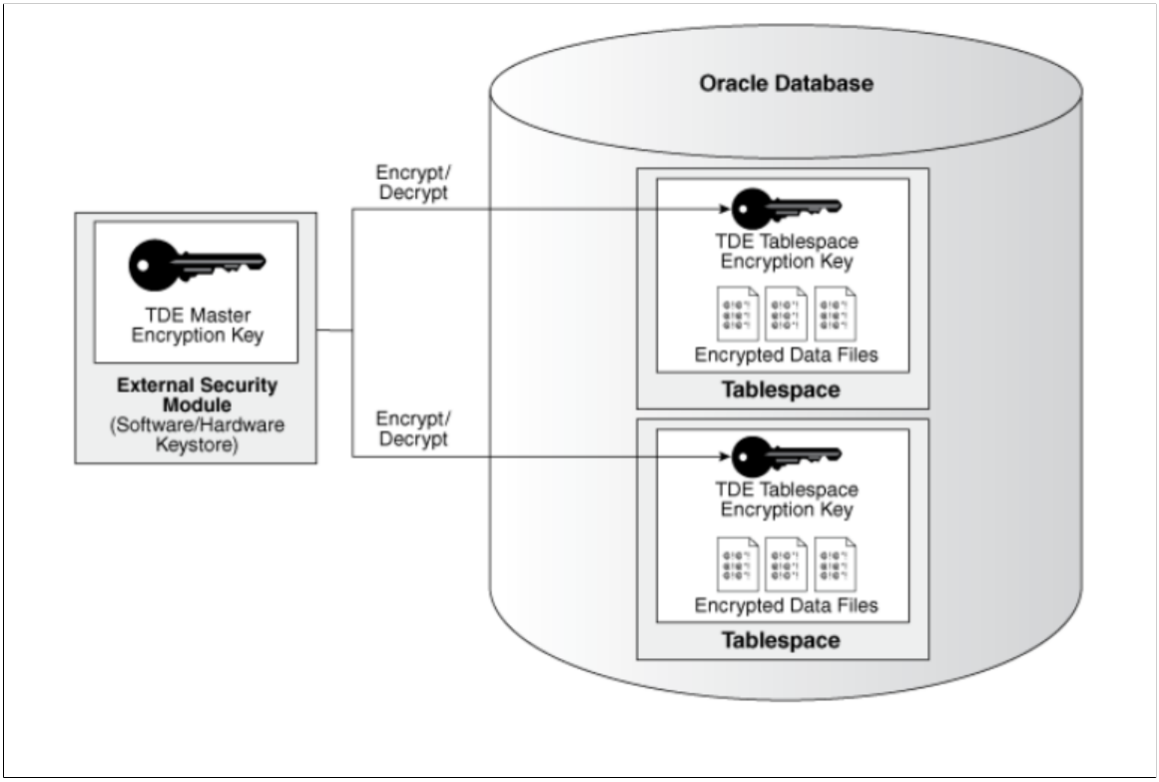
Transparent Data Encryption (TDE) enables customers to encrypt sensitive data, such as Personally Identifiable Information (PII), that are stored in tables and tablespaces.

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.



Pre-requirements

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 8.55.12. Environments with PeopleTools 8.56 is not supported.
- Minimum PeopleTools version on the Shifted environment must be 8.55.17.
- 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 Classic. 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.

   See Running the Lift Process for OCI–Classic for details on running the lift utility.

4. Lift utility uploads the DPKs to Oracle Cloud Infrastructure Object Storage Classic.

   See Running the Lift Process for OCI–Classic Step 4.

   DPKs can also be uploaded to Object Storage Classic manually, see Uploading the DPK Manually to OCI-Classic

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

```
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.

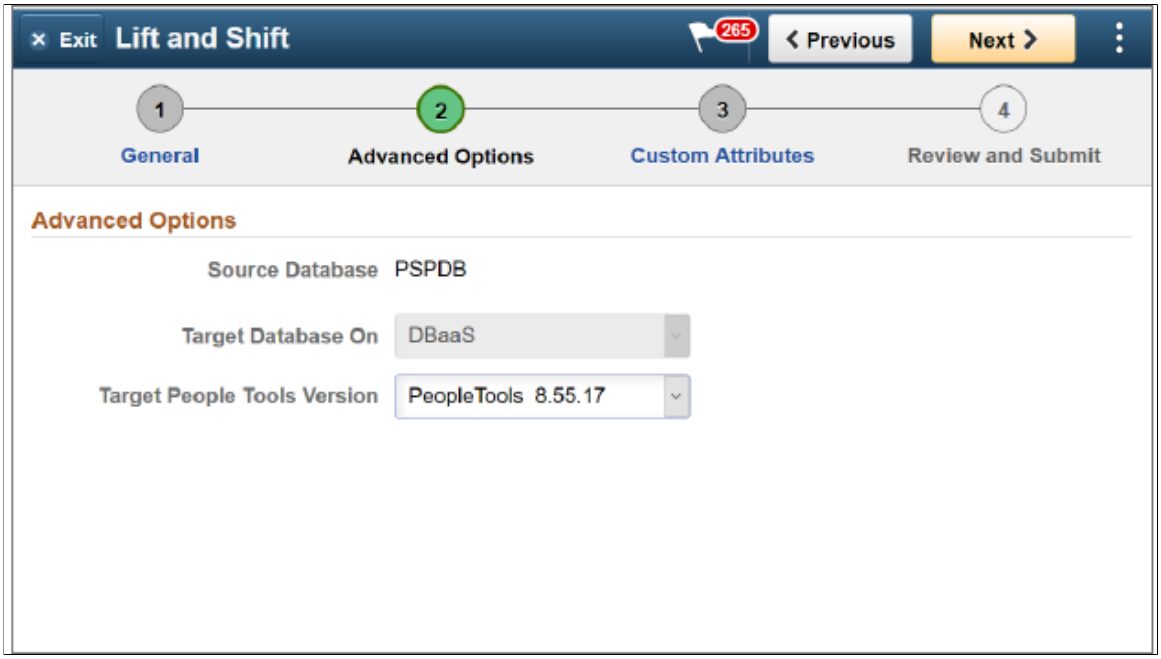
1. Securely copy the TDE encryption key export file (masterkey.zip, this is accessible for psadmin2 users) to Cloud Manager instance using your favorite SCP tool.

   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.
4. 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

Lift and Shift - Advanced Options page



Note: Minimum PeopleTools version on the Shifted environment must be 8.55.17. PeopleTools 8.56 versions are not supported.

5. 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

6. Finally, review all inputs and submit the request to start provisioning the lifted DPKs.

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 Location>/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>ADMINSTER KEY MANAGEMENT SET KEY IDENTIFIED by "<Strong password>" CONTAIN⇒
ER=ALL;System altered.
```

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 altdatafilesoonlineexec.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.

Chapter 5

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.

Creating PUM Environments

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.

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

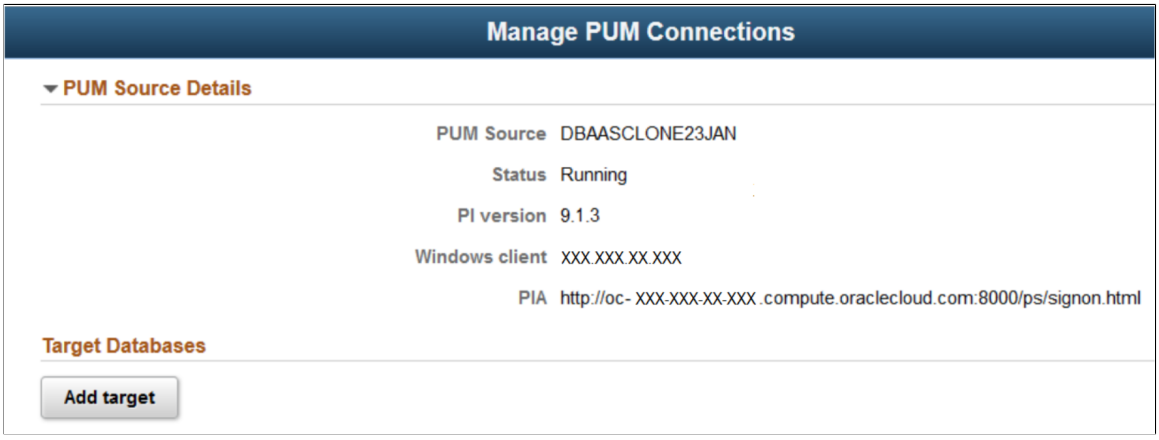
After the PUM source environment is deployed and is in running state, you can add the target database to the PUM source by performing the following:

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

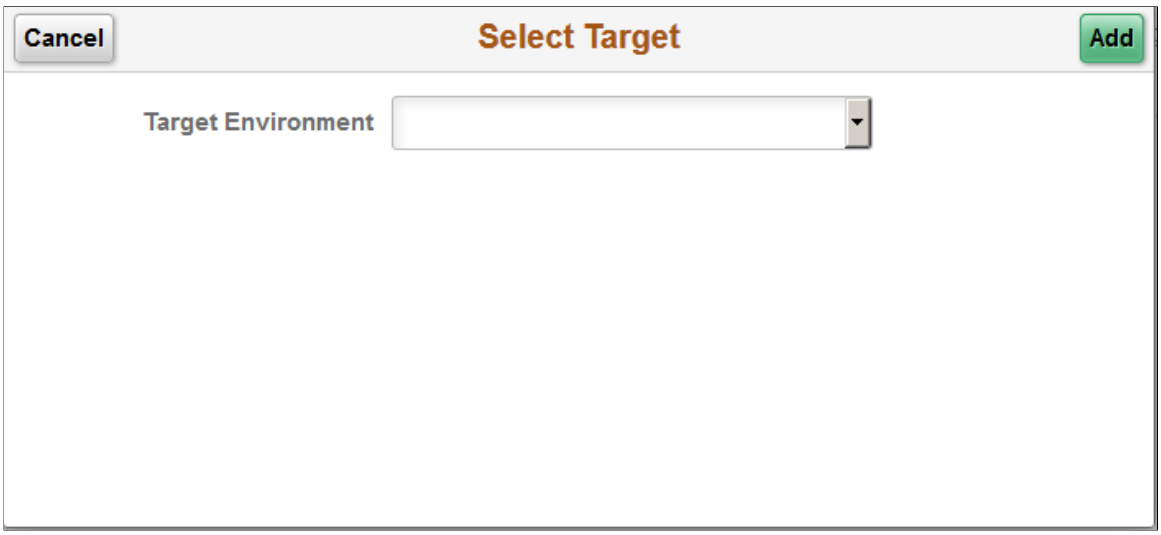
   This example illustrates the fields and controls on the Manage PUM Connections page.



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.



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. Copy PRPs to Windows Client 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.

For details on selective adoption, refer to Selective Adoption.

Chapter 6

Updating Cloud Manager

Applying Updates to Cloud Manager

PeopleSoft Cloud Manager instance can be updated in the following ways:

- Applying Updates Using Selective Adoption
- Applying Updates using Manage Updates

Note: It is recommended to use an updated Windows image with latest updates. To update CM using IH PI 5 image that has PeopleTools 8.56, you must first apply a POC patch (POC bug number: 26584770) to CM 06. Also, to deploy IH PI 5, you will need an updated Windows image.

Note: While performing a PeopleTools upgrade on a managed environment, you must manually log into Windows client before starting the upgrade.
Also, customizations are not supported on CM. Customizations are overwritten during updates.

Applying Updates Using Selective Adoption

To apply updates using Selective Adoption, perform the following:

1. Deploy the IH PUM source.

   To deploy an IH PI environment using Cloud Manager, perform the following.

   a. Subscribe to the IH and PCM download channels. The PCM 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 (_,-,#).

   Windows Client IP can be determined by going into the Environment Details page and looking at PeopleSoft Client section.

   Configure IH PUM Source in Cloud Manager Settings

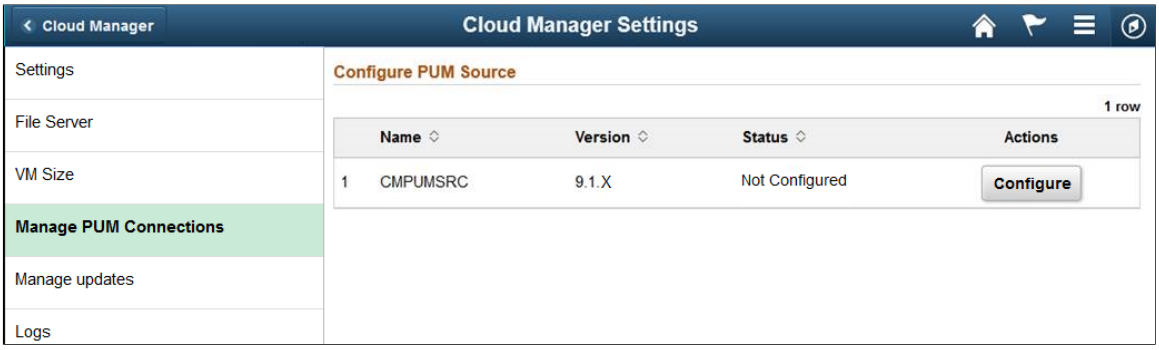
   a. Log in to Cloud Manager as CLADM user.

   b. Navigate to the Manage PUM Connections page. You can view the provisioned IH PUM Source in the list of available PUM source databases. Click Configure to add Cloud Manager as a target

to the PUM Source. This step will add Cloud Manager as a target database in the PUM Source's Change Assistant and also upload the target information to the PUM Source database.

Image: Cloud Manager Settings — Update Settings

This example illustrates the fields and controls on the Cloud Manager Settings — Update Settings page.



c. If the configuration is completed successfully, you will see the below status:

Image: Cloud Manager Settings - Status

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

You should now see the PUM Source configuration when you launch Change Assistant on the Windows client.

Note: Ensure that both the source and target databases are added in Change Assistant.

Note: That needs to be used later in the procedure.

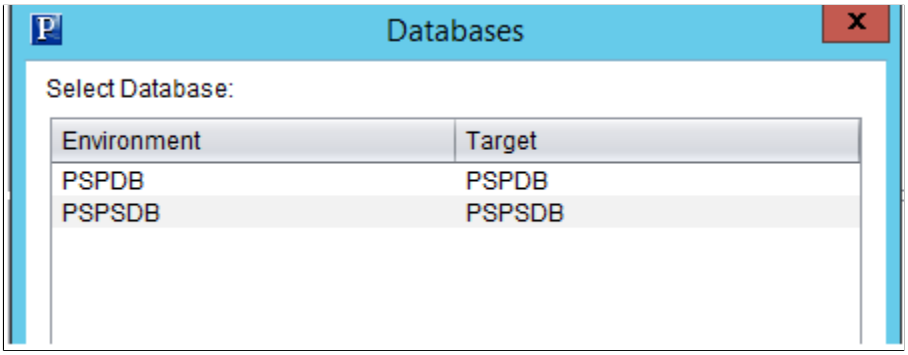
2. To execute the post update utility script for MMC package updates in Cloud Manager, collect required information for pum_source_host_name and pum_source_base_dir parameters from CM UI, where pum_source_host_name is the hostname of PUM source instance. The hostname can be determined in the Environment Details page for the PUM source environment. Do not use a fully qualified hostname. This is a mandatory input. The pum_source_base_dir parameter is the 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.
3. Verify source and target databases in Change Assistant.
   a. Navigate to the file.

b. Open databases. You should now see the PUM Source configuration when you launch Change Assistant on the Windows client.

Note: The PUM Source configuration when you launch Change Assistant on the Windows client.

Image: Databases window

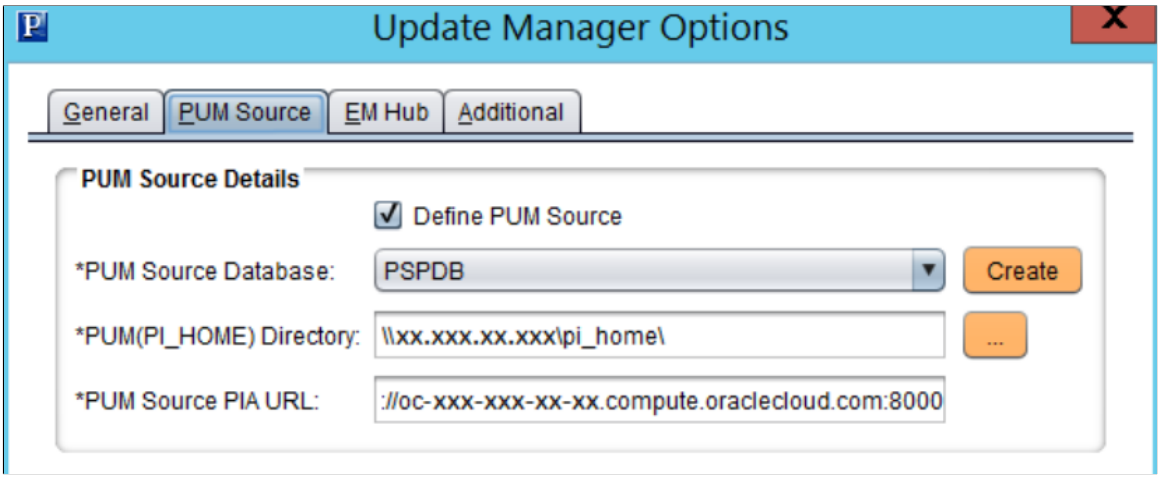
This example illustrates the fields and controls on the Databases window.



c. Navigate to the PUM Source tab. You should see the PUM Source defined and configured as shown below.

Image: Update Manager Options window

This example illustrates the fields and controls on the Update Manager Options window.



4. Back up Cloud Manager. You can back up CM by means of script method or snapshot method.

   Be sure to take a Cloud Manager backup before applying any updates.

   For more details on backup, see Understanding Cloud Manager Backup and Restore.

5. Start PSEMAgent on the target Cloud Manager.

   a. Change ownership of PSEMAgent dir from psadm1 to psadm3.

      [psadm3@c6e65e ~]$ cd /opt/oracle/psft/pt/ps_home8.55.11/PSEMAgent/

```
[psadm3@c6e65e PSEMAgent]$ ll
total 44
-rw-r--r-- 1 psadm3 appinst 23728 Jan  6 08:46 APPSRV.LOG
-rw-r--r-- 1 psadm3 appinst  2221 Jan  5 11:22 MyAgent.log
-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 - /opt/oracle/psft/pt/ps_home8.55.xx/PSEMAgent/envmetadata/config/configuration.properties.

Note: In the above mentioned location, ‘xx’ denotes the PeopleTools version used in Cloud Manager.

---

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.

1. Login to CM instance using SSH.

2. Navigate to /opt/oracle/psft/pt/ps_home8.55.12/PSEMAgent/envmetadata/config.

3. Edit the configuration.properties.

6. Manually remove jar files after applying change packages which updates jar files under PS_APP_HOME.

   Remove the file originalfile_1_com.peoplesoft.pa.cl.jar (if it exists) from the directory $PS_APP_HOME/appserv/classes/

   Remove the file originalfile_1_com.peoplesoft.pa.cl.jar (if it exists) from the directory $PS_APP_HOME/class/

7. Modify PI HOME share permissions on the PUM Source.

   By default, the PI HOME share on the 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, hence you must modify the share permissions.

   ```
   [opc@c6e65e ~]$ sudo su - psadm2
   ```

   ```
   [psadm2@c6e65e ~]$ ssh -i /home/psadm2/psft/data/cloud/opchome/<identity_domain_name>/<opc_user_id>/.ssh/id_key_rsa opc@CMPUMSRC-1
   ```

Note: In CM for OCI, the path is - /home/psadm2/psft/data/cloud/ocihome/keys/cm_adm_pvt_key opc@CMPUMSRC-1.

[opc@cmpumsrc-1 ~]$

Set SMB password for user psadm3.

[opc@cmpumsrc-1 ~]$ sudo smbpasswd psadm3

New SMB password:

Retype new SMB password:

[opc@cmpumsrc-1 ~]$ sudo vi /etc/samba/smb.conf

Ensure the following section is changed as below:

[pi_home]

path = /u01/app/oracle/product/pt/pi_home

writable = yes

available = yes

guest ok = no

valid users = psadm3

[opc@cmpumsrc-1 ~]$ sudo service smb restart

Shutting down SMB services: [OK]

Starting SMB services: [OK]

[opc@cmpumsrc-1 ~]$

Note: Check if PI HOME is accessible in read-write mode on the Windows client.

8. Apply PRPs to the IH PUM Source.

   Copy all PRPs to be applied to the Windows Client under the D:\psft\pum_download location.

   Launch Change Assistant and navigate to Apply PeopleSoft Release Patchset in the Tools tab.

   PRPs must be copied from the file server share. To do so:

   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. Access \\<file_server_ip\prp

d. Copy the required PRPs to D:\psft\pum_download.

Note: The Apply PeopleSoft Release Patchset link is enabled only if source is configured correctly.

---

9. Start PSEMAgent on the target Cloud Manager.

   a. Change the ownership of PSEMAgent dir from psadm1 to psadm3.

      [psadm3@c6e65e ~]$ cd /opt/oracle/psft/pt/ps_home8.55.11/PSEMAgent/

      [psadm3@c6e65e PSEMAgent]$ ll

      total 44

      -rw-r--r-- 1 psadm3 appinst 23728 Jan 6 08:46 APPSRV.LOG

      -rw-r--r-- 1 psadm3 appinst 2221 Jan 5 11:22 MyAgent.log

      -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 - /opt/oracle/psft/pt/ps_home8.55.xx/PSEMAgent/envmetadata/config/configuration.properties.

      Note: In the above metioned loacation, ‘xx’ denotes the PeopleTools version used in Cloud Manager.

      ---

   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.

      1. Login to CM instance using SSH.

      2. Navigate to /opt/oracle/psft/pt/ps_home8.55.12/PSEMAgent/envmetadata/config.

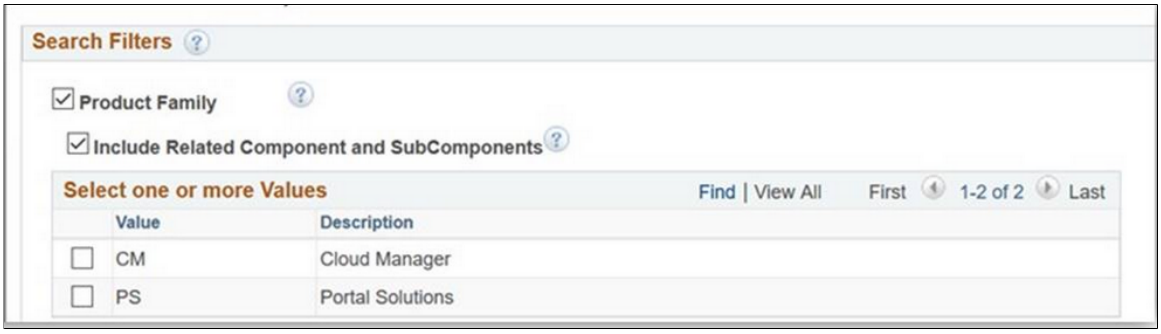
      3. Edit the configuration.properties.

10. Define a Change Package using IH PUM PIA. You can also filter "Search by Product Family" and choose "CM" while defining the change package.

    Note: While defining the change package, it is recommended to search by Product Family and select CM to include all fixes delivered for Cloud Manager.

Image: Search by Product Family

Search by Product Family



11. Create a Change Package using Change Assistant.
12. Apply a Change Package using Change Assistant.
13. Run the script to complete the updates on Cloud Manager. The script does the following tasks:

    - Update files from PUM source
    - Synchronize code to File Server
    - Clean up old jar files
    - Restart the domains

    To execute the post update utility script for MMC package updates in Cloud Manager, perform the following steps:

    - Log in to Cloud Manager VM.
    - Change to root user $sudo bash.
    - Change directory to /opt/oracle/psft/pt/ps_app_home/cloud.
    - Execute the cm_update_customization.sh script as root user.

```
$sudo bash
$cd /opt/oracle/psft/pt/ps_app_home/cloud/ #$PS_APP_HOME/cloud/scripts
$sh cm_update_customization.sh <pum_source_host_name> <pum_source_base_dir> <i⇒
dentity_domain_name> <cloud_user_name>
```

    For example, sh cm_update_customization.sh ihpi5-lnxft-1 /u01/app/oracle/product idendom user.name@org.com.

    Where,

    - pum_source_host_name — 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.

- identity_domain_name — Oracle Cloud identity domain. This is an optional input. The domain name is defaulted to the configured domain name.
- cloud_user_name — Oracle Cloud user name that is configured in Cloud Manager Settings page having access to the pum_source_host_name. This is an optional input. User name defaults to a configured user in Cloud Manager.

14. 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.

Applying Updates using Manage Updates

After updating to PI 5, users can use the automated method to uptake PRPs for PI 5 and update image PI 6. To enable this automation, you need to download 'Updater Utility' from MOS along with IH DPKs. Every IH DPK (update image) version on MOS has an associated utility available for download. The Updater Utility easily releases any updates to the utility itself. Whenever there is an update required for the utility, a new one will be posted and that can be auto-downloaded by CM and that can be used during updates.

Note: If user chooses to use manual selective adoption method, then they need to follow the method (step 1 to 10) described in the previous section.

Manage Updates feature in Cloud Manager facilitates to automatically:

1. Download latest Updater Utility, along with update images (PI) and PRPs.
2. Invoke the update process from CM UI which will -
    a. Provision a new PUM Source instance and a Windows Client
    b. Apply PRPs (if any) on the PUM Source
    c. Install and configure Change Assistant on Windows Client
    d. Define a Change Package
    e. Create Change Package
    f. Apply Change Package
    g. Reboot domains (as needed)

You need to manually subscribe to IH and PCM download channel. Whenever there is a new IH PI or new PRPs get posted, CM 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, rest of the automation kicks in and applies new updates to Cloud Manager instance. In case of failures during automated update process, admin must resolve the issue and come back to Cloud Manager to continue the update process. For example, if applying change

package failed, then admin must connect to the Windows Client VM, launch Change Assistant and run the update job to completion. After which, admin must come back to 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 IH and PCM download channel
- Ensure a Windows Image is available in your account
- Configure Windows Image path in Cloud Manager Settings page
- Ensure to have a maintenance window before updating
- Ensure no user is using CM or submitting new operations
- Ensure to take a backup of CM 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 Cloud Manager application update, perform the following:

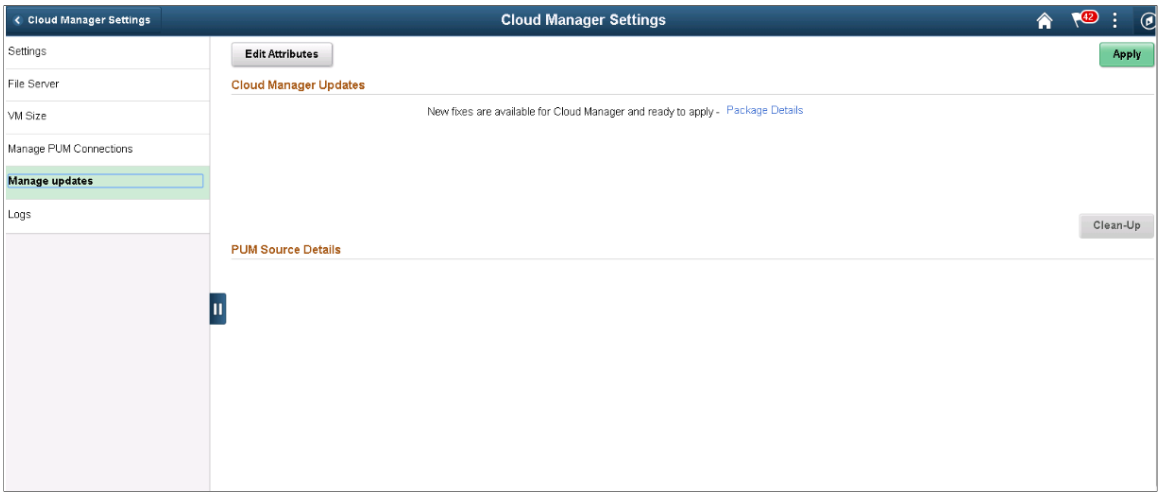
Note: Please ensure to take a backup of CM instance (using CM backup utility or snapshot method).

---

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

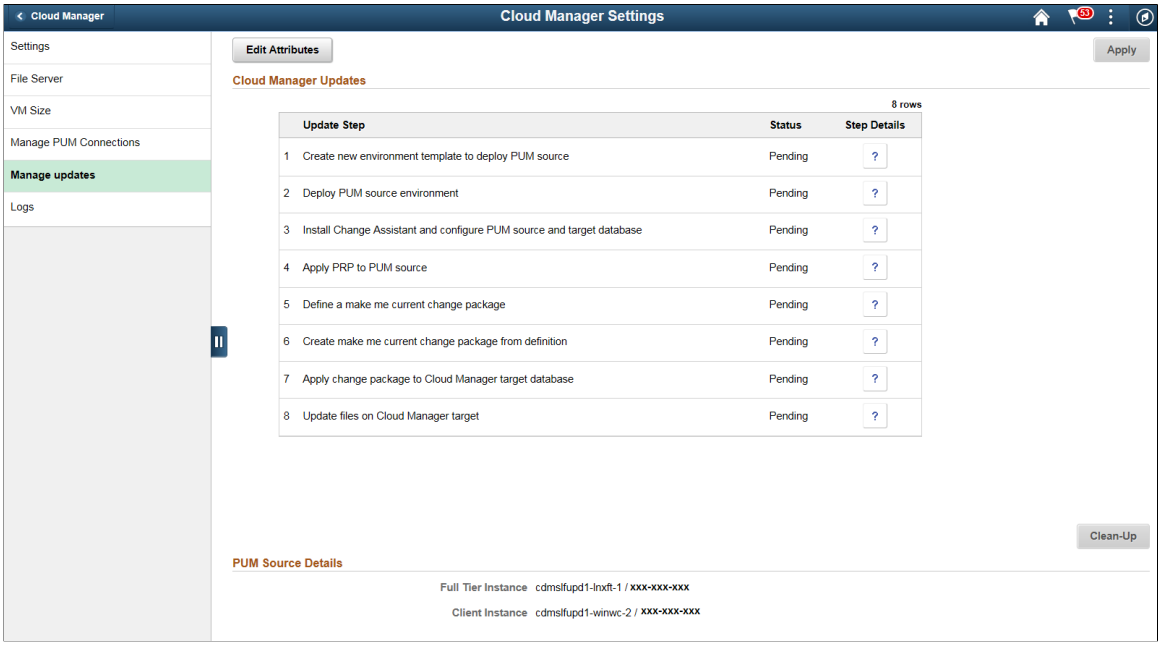
   This example illustrates the fields and control on the Manage updates page.



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

This example illustrates the fields and controls on the Manage Updates page.



This table lists the update steps:

Step	***Description***
Step 1: Create new environment template to deploy PUM source	In this step, a new environment template *CDMSLFUPD1* 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. If the status is *Success* - A new template was successfully created. If the status is *Failure* - Template creation failed. In this case, the Retry is enabled. You can delete the template if it was created incorrectly and retry the step.
Step 2: Deploy PUM source environment	In this step, a new PUM source environment named *CDMSLFUPD1* using the template that was created in the previous step. If the status is *Success* - A new PUM source is created and the details are provided in the PUM Source Details section. If the status is *Failure* - Creating a new PUM source environment failed. Retry enabled - Yes 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.

Step	*Description*
Step 3: Install Change Assistant and configure PUM source and target database	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. If the status is *Success* - Change Assistant is installed and configured with source and target database information. If the status is *Failure* - Failed to install or configure Change Assistant. Retry enabled - Yes Remedial Action - Retry step. Alternatively choose to skip this step after configuring the source and target database manually using Change Assistant and retry
Step 4: Apply PRPs on PUM source	In this step, any PRPs that were downloaded are applied and available in Repository on the PUM source. If the status is *Success* - All PRPs were successfully applied on the PUM source environment. If the status is *Failure* - Failed to apply one or more PRPs. Retry enabled - Yes 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.
Step 5: Define make me current change package	In this step, a new change package is defined. If the status is *Success* - Successfully defined a change package which includes all bugs for CM product code. If the status is *Failure* - Failed to define a change package. Retry enabled - Yes 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.

Step	*Description*
Step 6: Create make me current change package from definition	In this step, a change package using the definition that was created in previous step. If the status is *Success* - Successfully created a change package. If the status is *Failure* - Failed to create a change package. Retry enabled - Yes 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.
Step 7: Apply change package to Cloud Manager target database	In this step, the change package that was created in the previous step is applied. If the status is *Success* - Successfully applied the change package. If the status is *Failure* - Failed to apply the change package. Retry enabled - No Remedial Action - Warning: Reapplying a change package may apply the fix once again. It is recommended to complete the apply step manually using the Change Assistant and continue with next step.
Step 8: Update files on Cloud Manager target	. In this step, the new and updated files are copied to Cloud Manager target. If the status is *Success* - Successfully copied all file updates. *Failure* - Failed to copy one or more files. Retry enabled - Yes Remedial Action - Retry step.

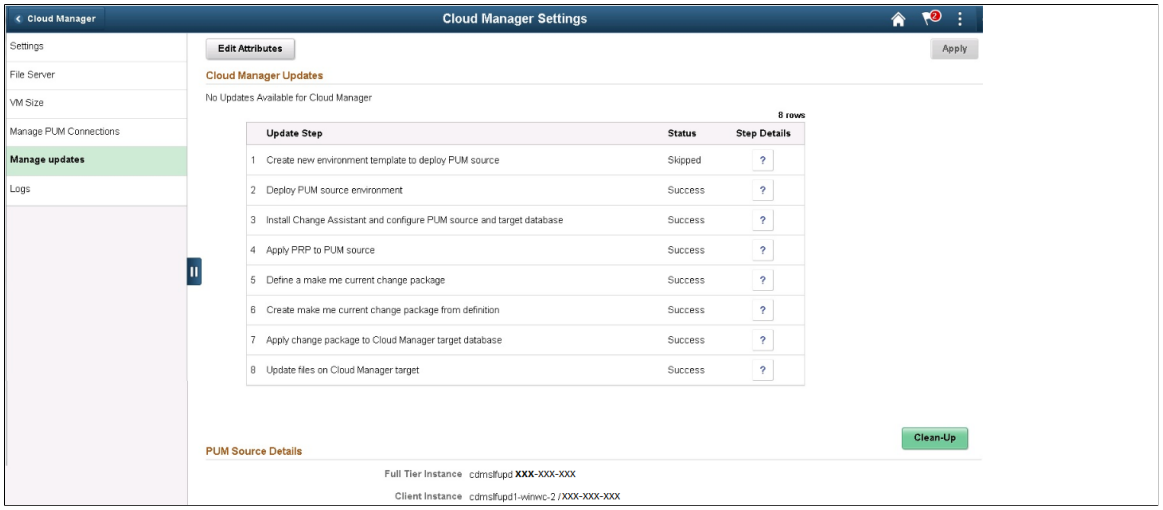
After all steps are executed successfully the status of the update process is shown as below.

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: Manage Updates page

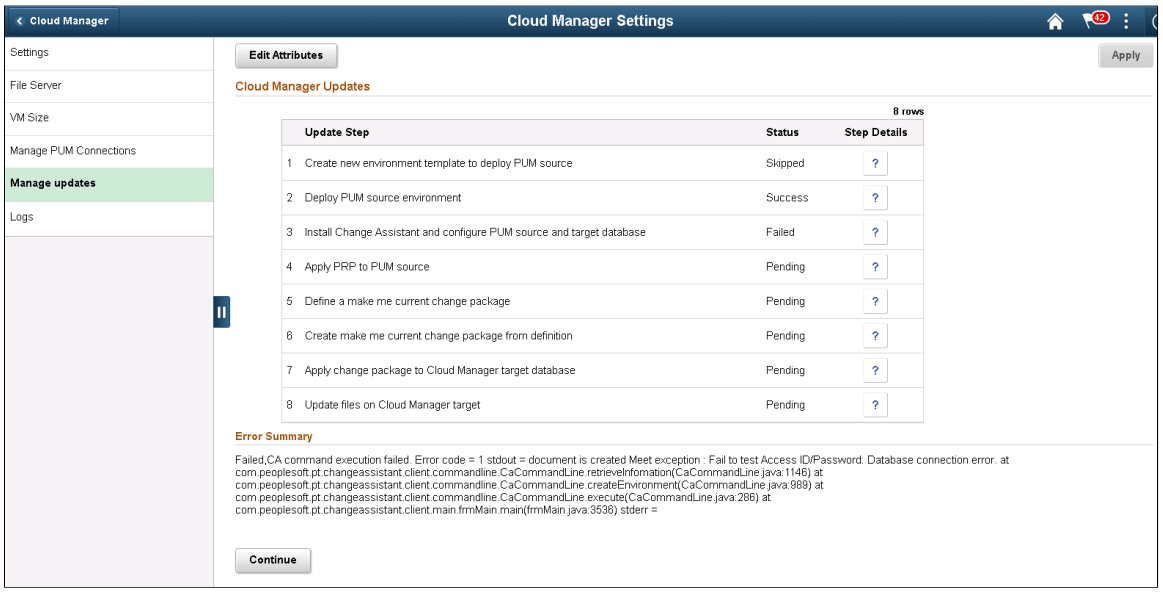
This example illustrates the fields and controls on the Manage Updates page.



In case of failure, a Continue button is displayed as shown.

Image: Manage Updates page with the Continue button

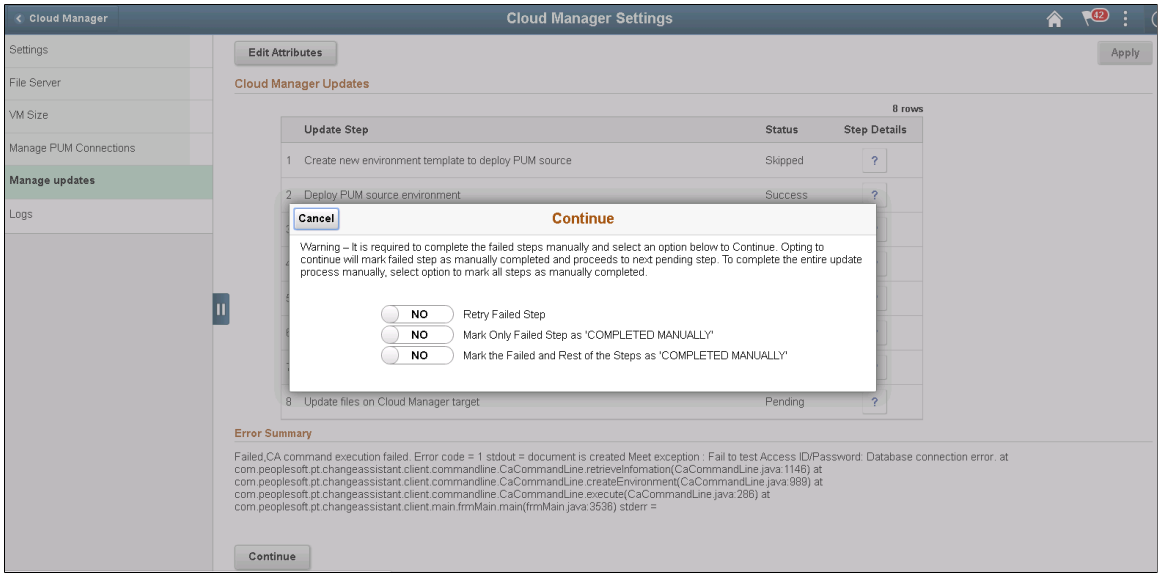
This example illustrates the fields and controls on the Manage Updates page for failed steps.



On clicking the Continue button, three options are shown as below:

Image: Continue Modal Window

This example illustrates the fields and controls on the Continue modal window.

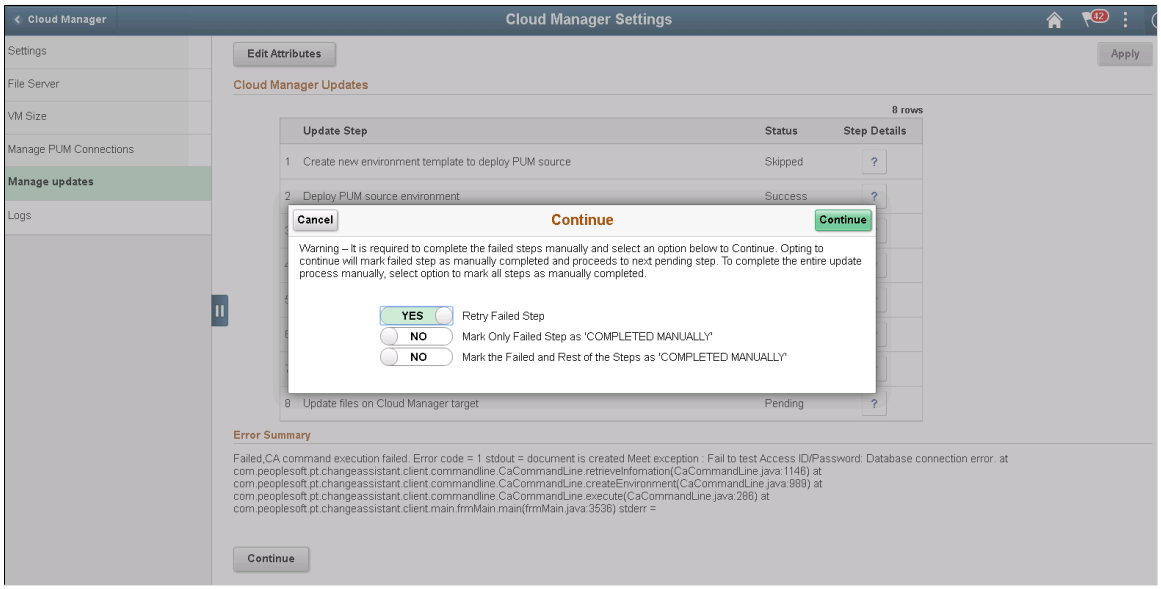


1. Retry Failed Step - retry the step again.
2. Mark only failed step as 'Completed Manually' - skip the failed step and continue from subsequent step to completion.
3. Mark the failed and rest of the pending steps as 'Completed Manually' - skip all steps and set update as complete.

After selecting ‘Yes’ in the Retry Failed Step field, a Continue button is displayed in the top right corner of the Continue modal window as shown.

Image: Continue Retry Modal Window

This example illustrates the fields and controls on the Continue Retry modal window.



Related Links

Manage PUM Connections Page
Configuring Cloud Manager

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:

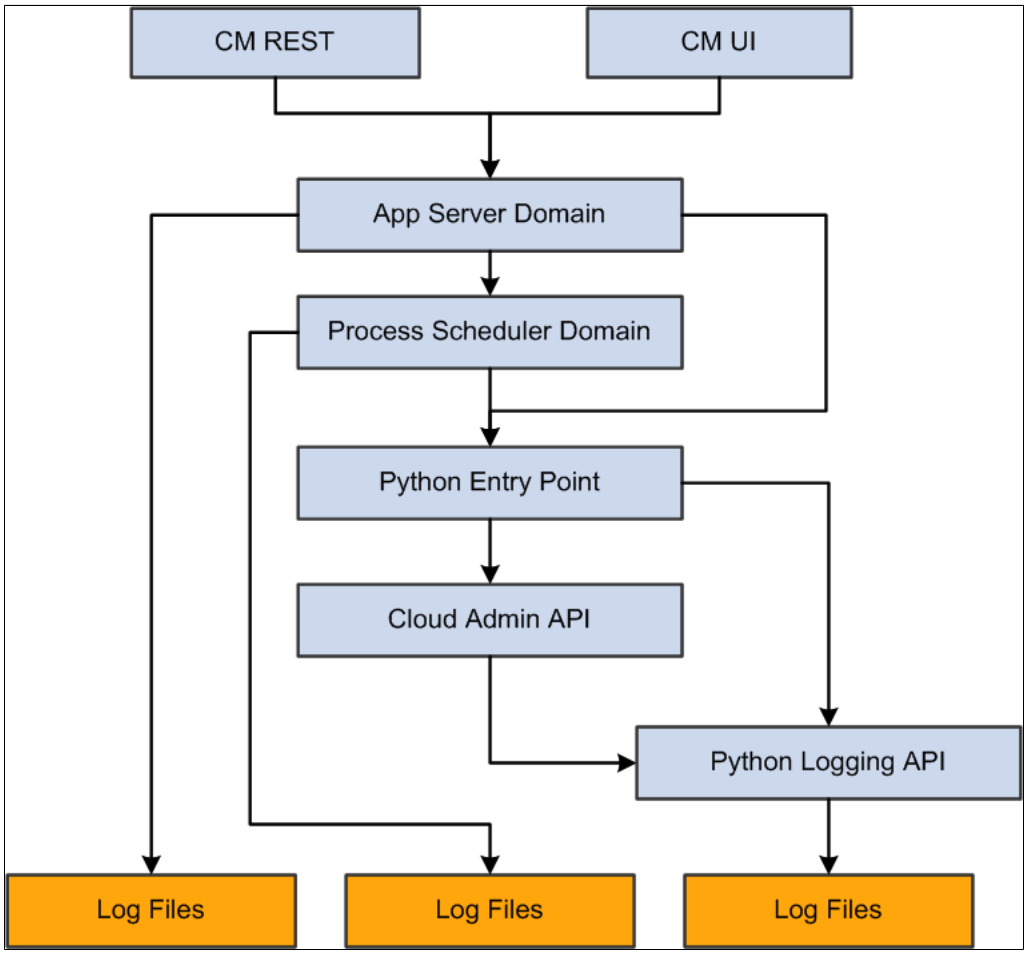
- Types of logs
- Log levels
- Changing log levels

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 (Only for OCI. 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 Manger 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.

Attribute name	*Format*	*Description*
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/<Environemnt 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.

Chapter 8

Backing Up and Restoring Cloud Manager

Understanding Cloud Manager Backup and Restore

Cloud Manager delivers a utility to backup and restore Cloud Manager data and necessary configuration. It is a command line utility available in the Cloud Manager image. The backup files are uploaded to Oracle Storage Cloud and when restoring is retrieved from it. The backup and restore utility does a cold backup and hence requires Cloud Manager domains to be shut down manually. Ensure that there are no running jobs in Cloud Manager before shutting down Cloud Manager domains. Use the PSADMIN utility to gracefully shut down Cloud Manager domains.

Prerequisites

Below are the prerequisites prior to backup and restore of Cloud Manager:

1. APP, WEB and PRCS domains to be shutdown manually.
2. Ensure enough space is available on the Cloud Manager VM.

Backup Process

The Backup process in Cloud Manager backs up PS_APP_HOME and Database (PDB). These backups are loaded to the Oracle Cloud storage.

In Cloud Manager, the back up operation is performed by means of a command line utility, similar to a backup utility.

Note: This feature is not supported in OCI.

To perform a backup operation, follow the steps below:

1. Log in to a Cloud Manager instance via SSH.
2. Change directory to **cd /opt/oracle/psft/pt/ps_app_home/cloud/cm_backup sh cm_backup.sh -n <backup_name>**
3. Launch backup utility and follow the prompts.

Example for Cloud Manager Backup

[opc@adf99a cm_backup]$ sh cm_backup.sh -n dec16_01

Cloud Manager Backup files will be...' ** Warning **: Before taking a backup, you must shutdown application and process scheduler domains. Ensure there are no running jobs or new jobs getting submitted by users before shutting down the domains. If you backup while jobs are running or interrupt a backup process, then it might lead to an inconsistent backup. Restoring an inconsistent backup will make Cloud Manager unstable Would you like to proceed? [y|N]: y

Cloud Manager Backup files will be uploaded to Oracle Cloud Storage. Please provide Oracle Cloud credentials below:

Enter Oracle Cloud User Name: xyz@xxx.com

Enter Oracle Cloud Password: xxx

Re-Enter Oracle Cloud Password: xxx

Enter Oracle Cloud Domain Name: xxxxxx

Validating Oracle Cloud credentials... Login Success!!!

Backing up database... This will take a few minutes. Please wait...

DB Backup complete.

Backing up Midtier... This will take a few minutes. Please wait...

Mid tier backup complete.

Uploading Contents of folder /tmp/dec16_01 to Oracle Cloud Storage...

Upload Success.

Removing the local backup folder /tmp/dec16_01.

Cloud Manager backup completed successfully. Detailed logs can be found under /tmp/cm_backup_20161216_055212.log

Restore Process

The Restore operation retrieves backups from the Oracle Cloud Storage.

To perform a restore operation, follow the steps below:

1. Log in to a Cloud Manager instance via SSH.
2. Change directory to **cd /opt/oracle/psft/pt/ps_app_home/cloud/cm_backup**.
3. Launch restore utility and follow the prompts.

Note: For OCI–Classic, When CM is restored from a backup and CM instance takes a non-persistent IP, then the orchestrations js on must be modified to add the reserved IP config and restarted. This also needs the domains to be restarted on the CM instance.

Example for Cloud Manager Restore

[opc@ef6b5a cm_backup]$ . ./sh cm_restore.sh

** Warning **: Restore operation overwrites existing data from selected backup. Do not stop or close session when restore is in progress. This will lead to an inconsistent restore and make Cloud Manager unusable.

Would you like to proceed? [y|N]: y

Cloud Manager Backup files will be downloaded from Oracle Cloud Storage. Please provide Oracle Cloud credentials below.

Enter Oracle Cloud User Name: xyz@xxx.com

Enter Oracle Cloud Password: xxx

Re-Enter Oracle Cloud Password: xxx

Enter Oracle Cloud Domain Name: xxxxxx

Validating Oracle Cloud credentials...

Login Success!!!

Listing available Cloud Manager backups

1. dec09_gpachaiy_backup

2. dec13_1

3. dec14_01

4. dec15_01

5. dec16_01

6. nov15bkup

7. nov15bkup2

8. nov15bkup3

9. nov15bkup4

10. nov15bkup5

11. nov15bkup6

12. nov1_backup1

13. nov1_backup2

14. nov1_backup4

15. nov8final

16. postupdate1nov

17. preupdate1nov

18. preupdate7nov

19. preupdate8nov

20. preupdate8nov_new

q. Quit

Please select backup to restore [1-9,q]: 5

Restoring selected backup 'dec16_01'

Creating temporary folder /tmp/dec16_01

Downloading /tmp/dec16_01/CLONEPDB.tgz

Downloading /tmp/dec16_01/PS_APP_HOME.tgz

Downloading /tmp/dec16_01/psft_configuration.yaml

Restoring database... This will take a few minutes. Please wait...

DB restore complete.

Restoring Midtier... This will take a few minutes. Please wait...

PS_APP_HOME

/opt/oracle/psft/pt/ps_app_home

Midtier restore complete.

Starting App server, Process Scheduler and PIA...

Deleting temp folder /tmp/dec16_01

Cloud Manager restore completed successfully. Detailed logs can be found under /tmp/cm_restore_20161216_064900.log

Backup and Restore Cloud Manager Instance for OCI-Classic: Alternate Method

Using Oracle Cloud snapshots feature, the Cloud Manager instance can be backed up and restored on demand. There are two kinds of snapshots – collocated and remote. It is recommended to use remote snapshots for backing up Cloud Manager instance. Remote snapshots are time consuming, hence it should be a planned activity performed under a maintenance window. Refer to Oracle Cloud documentation for more information about storage volume snapshots.

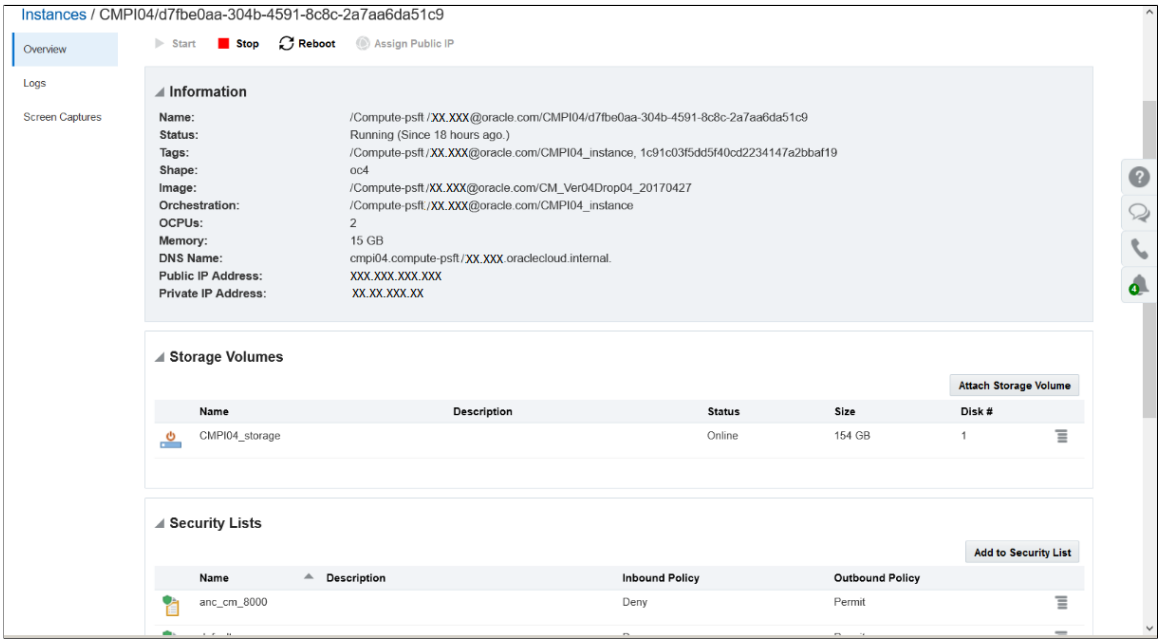
Creating a Snapshot

To create a snapshot, perform the following:

1. Launch Oracle Cloud web UI and navigate to Cloud Manager Instance page.

Image: Cloud Manager Instance page

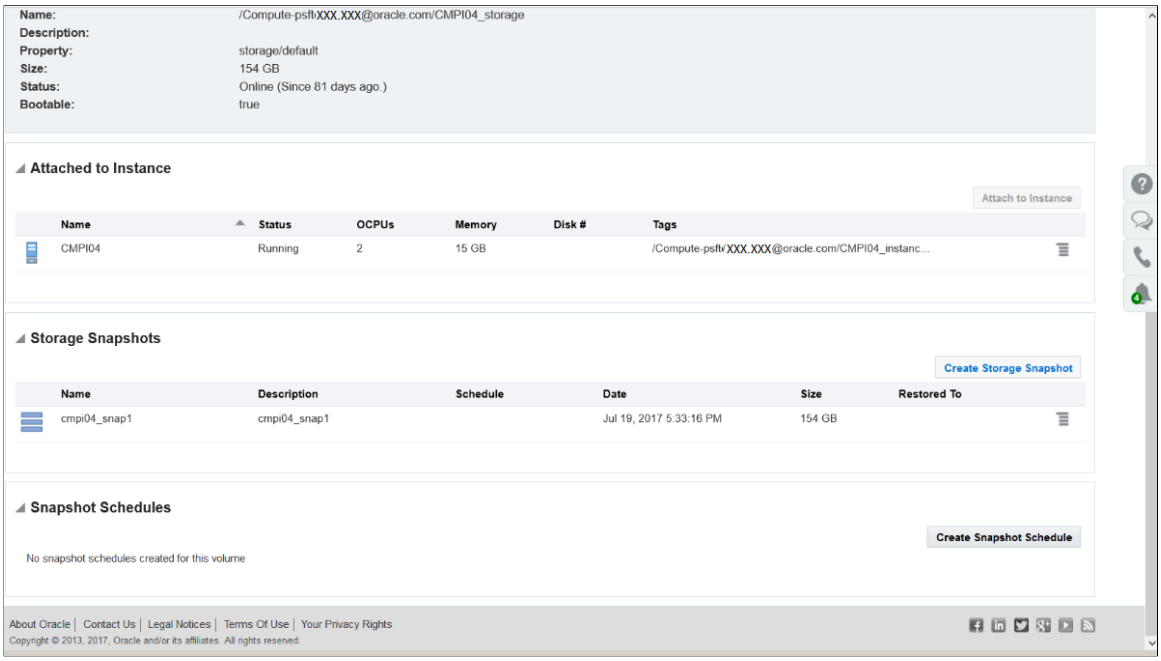
This example illustrates the fields and controls on the Cloud Manager Instance page.



2. Navigate to Cloud Manager instance's storage volume details
3. Click Create Storage Snapshot button for creating a snapshot.

Image: Create Storage Snapshot page

This example illustrates the fields and controls on the Create Storage Snapshot page.

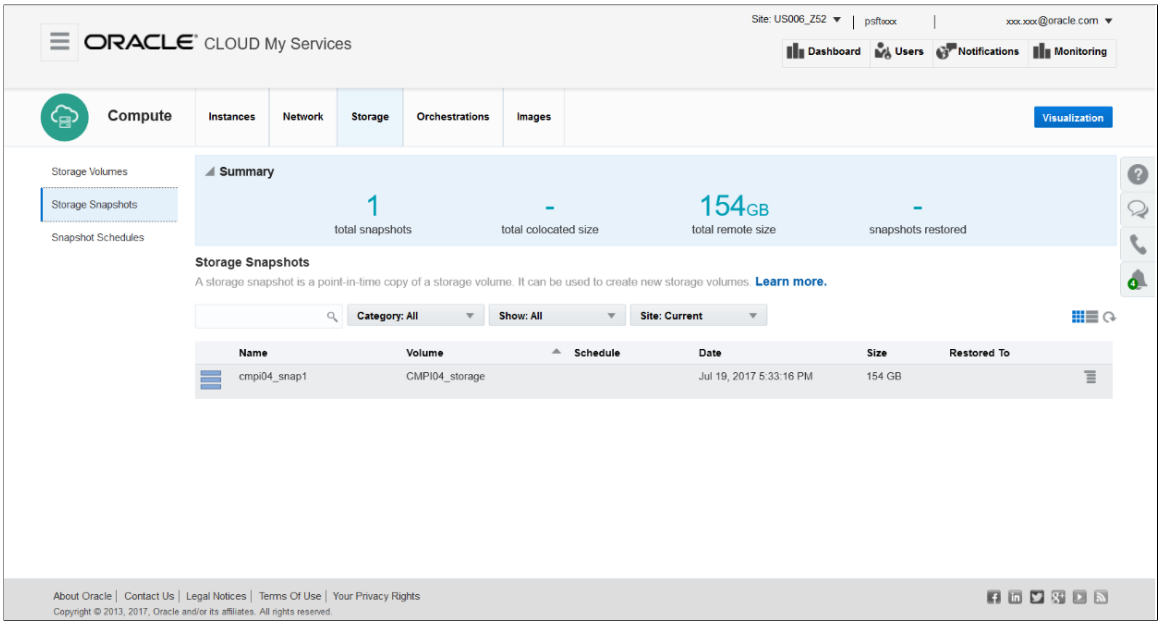


Note: Do not select Collocated option. Collocated snapshots are very quick but does not allow nested snapshots. Hence remote snapshot is required, though it takes more time than colocated snapshots.

4. You can verify the collocated snapshot by means of Storage Snapshots tab in Oracle Cloud My Services page.

Image: Storage Snapshots page

This example illustrates the fields and controls on the Storage Snapshots page.



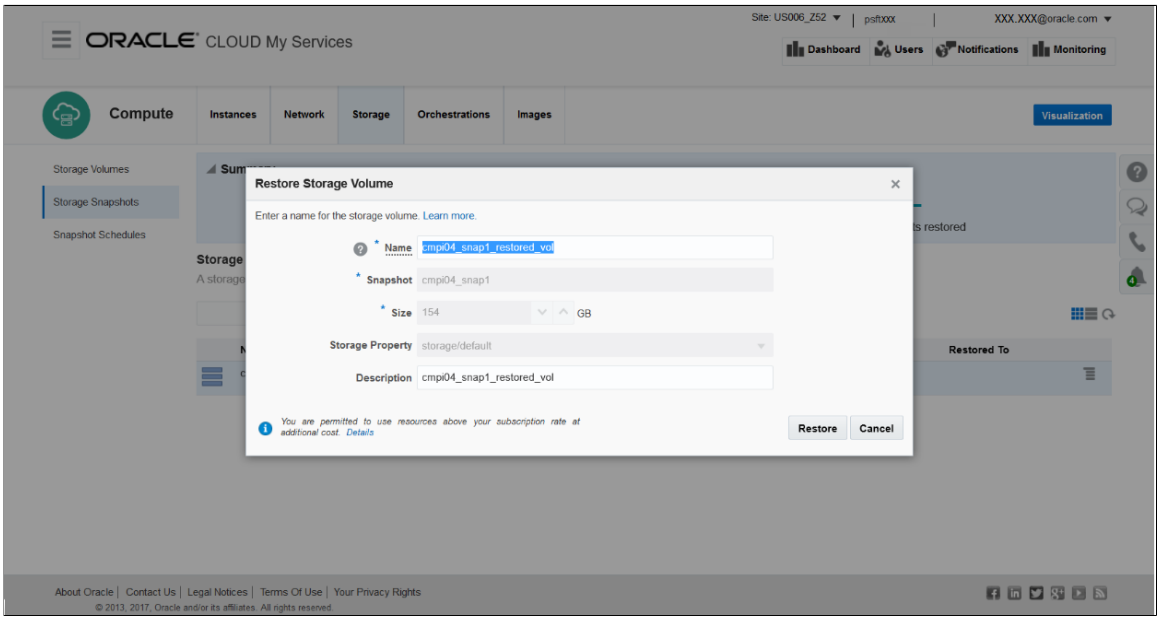
Restoring a Snapshot

To restore a snapshot, perform the following:

1. Navigate to Storages tab in Oracle Cloud My Services page.
2. Click Storage Snapshots tab to view all available snapshots. Select a snapshot to be restored and click Restore Volume option to create a new volume from the snapshot.

Image: Restore Storage Volume modal window

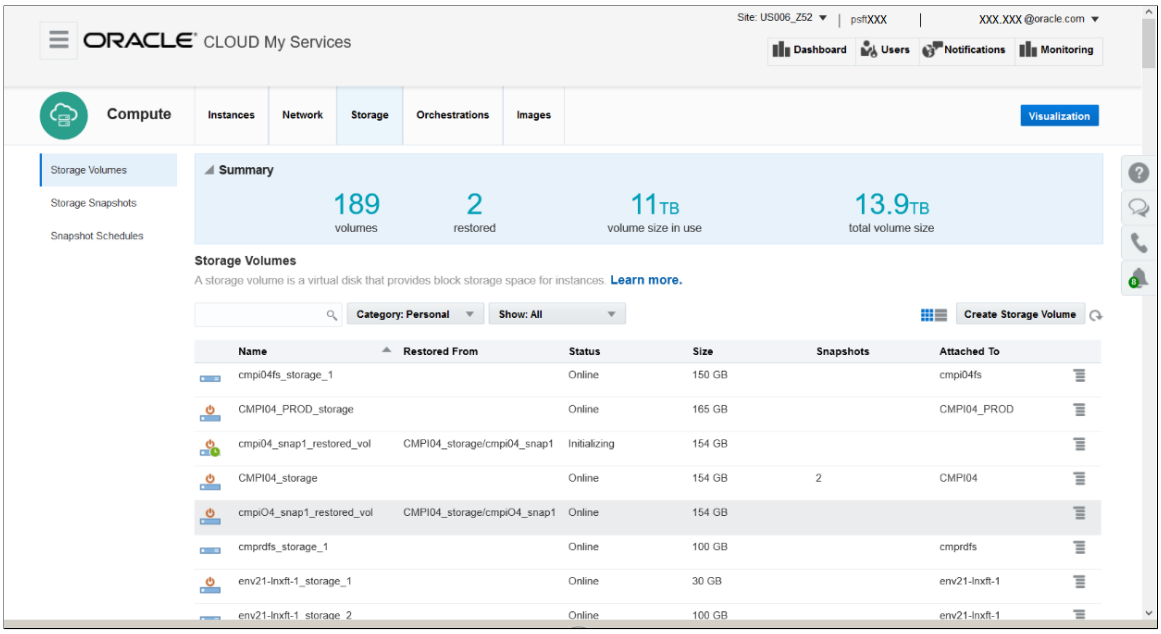
This example illustrates the fields and controls on the Restore Storage Volume modal window.



3. Enter a name for the restore storage volume and click Restore.
4. Verify the restore volume under Storage Volumes tab in Oracle Cloud My Services page.

Image: Restored Volume Image page

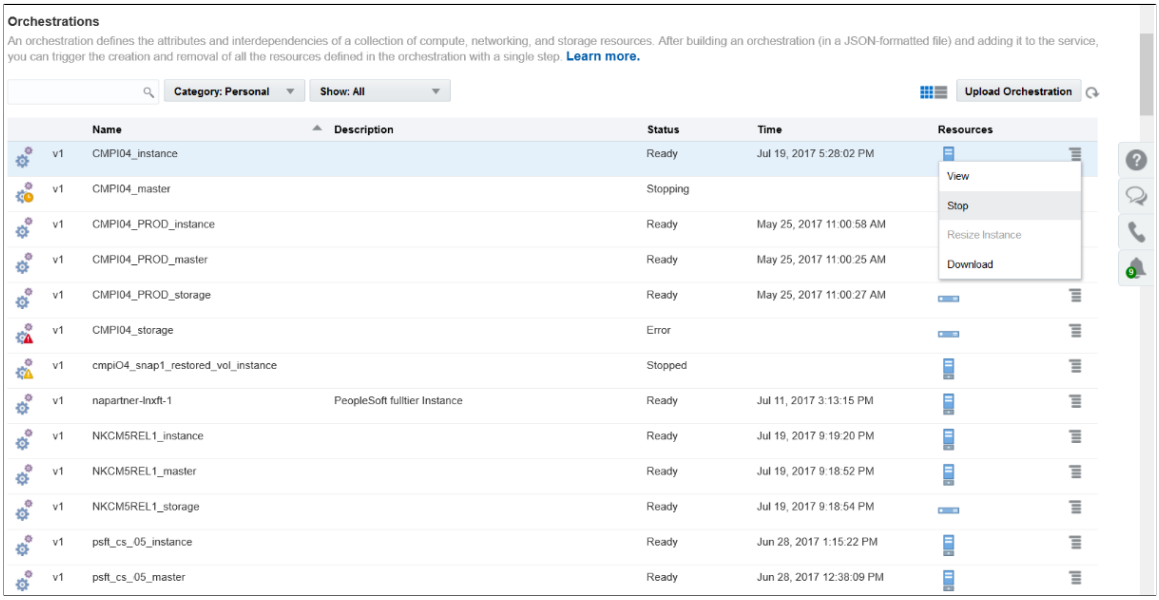
This example illustrates the fields and controls on the Restored Volume Image page.



5. Navigate to Orchestrations tab, select the Cloud Manager's instance orchestration and click Stop for stopping the Cloud Manager instance that needs to be restored.

Image: Stop CM Instance page

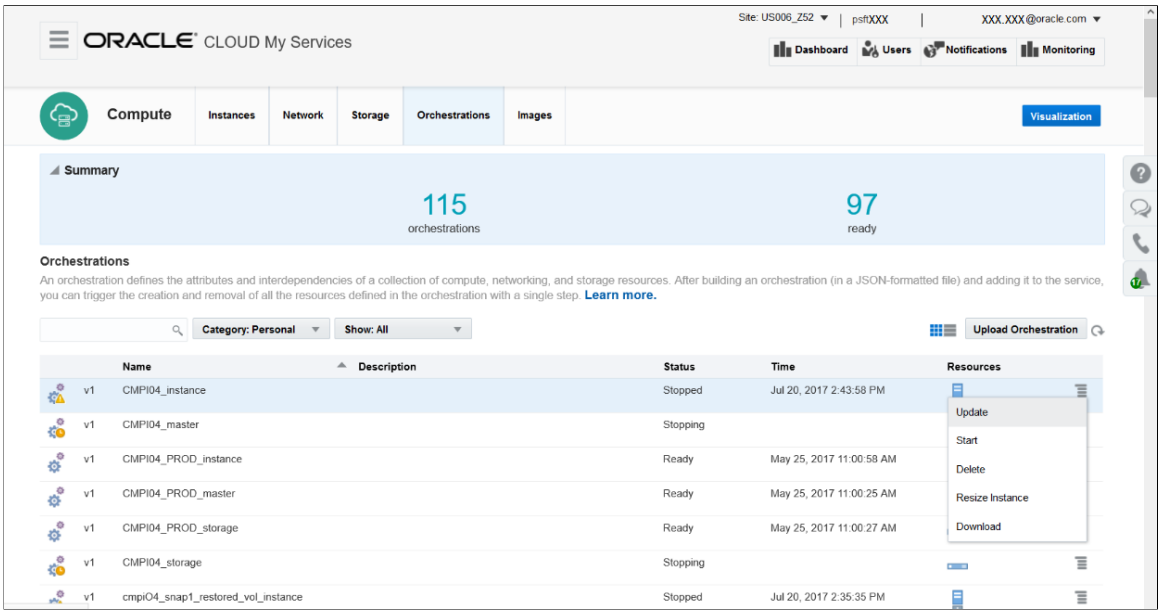
This example illustrates the fields and controls on the Stop CM Instance page.



6. Verify that the instance has stopped.
7. Once the instance is stopped, click Update from the menu to update the orchestration.

Image: Update Orchestration

This example illustrates the fields and controls on the Update Orchestration page.



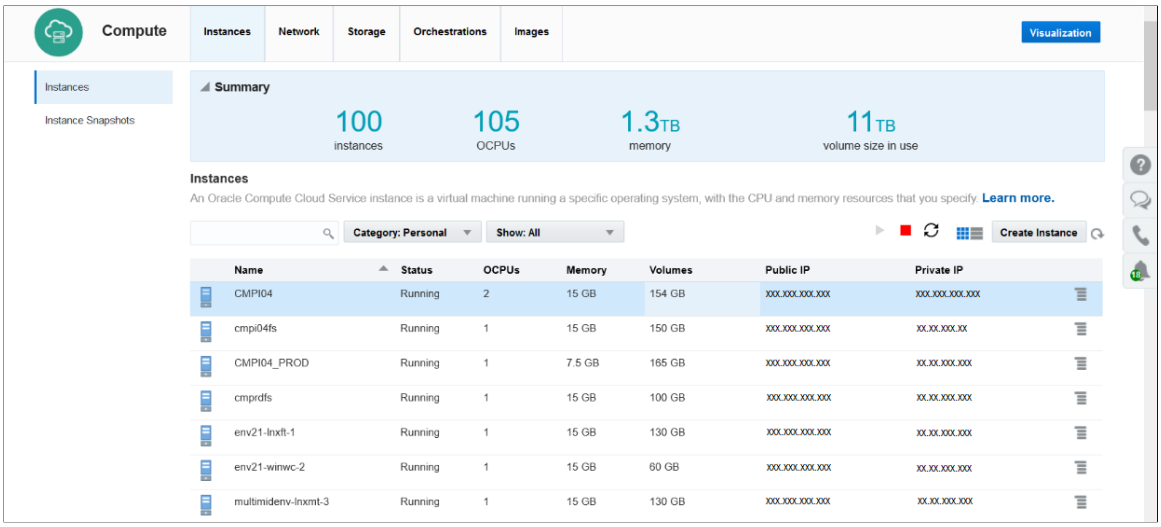
8. Replace the existing volume name with the restored volume name under the Storage Attachments section of the JSON and click Update.
9. Click Start option in the to start the orchestration.

10. Verify that the Cloud Manager instance is getting created.

    Cloud Manager instance is now recreated with restored volume.

    Image: Recreated CM Instance page

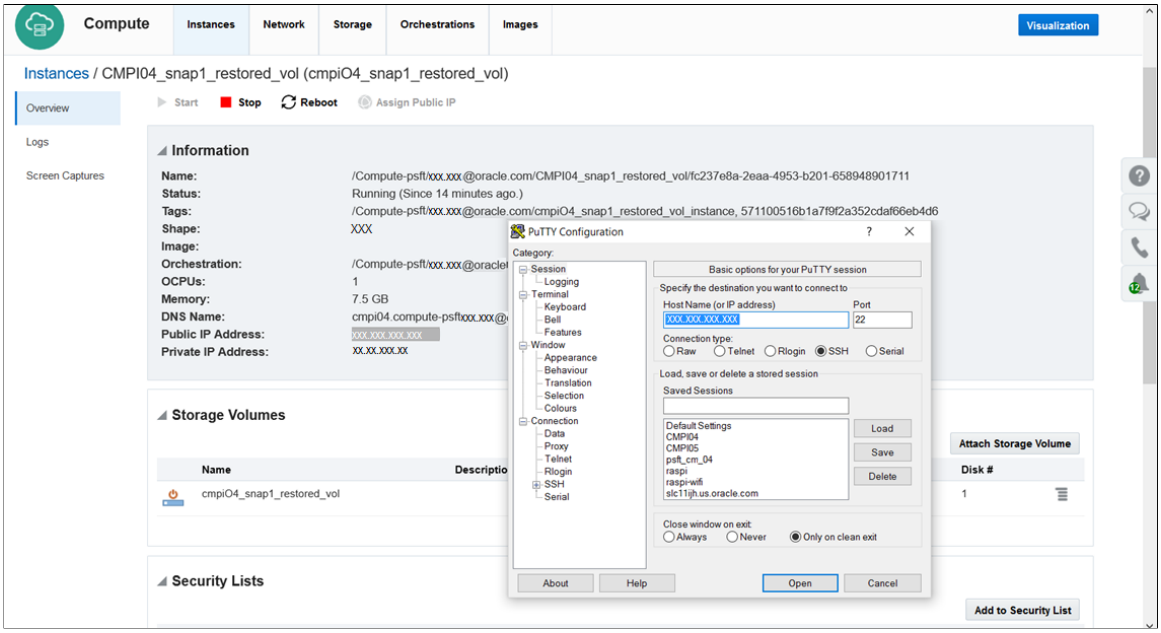
    This example illustrates the fields and controls on the Recreated CM Instance page.



11. SSH to the restored instance using the same ssh key that was configured for source Cloud Manager instance. There will be a prompt to change password, please follow prompts and change password for the restored instance.

    Image: Source Cloud Manager Instance page

    This example illustrates the fields and controls on the Source Cloud Manager Instance page.



12. Verify the hostname is same as the source instance.

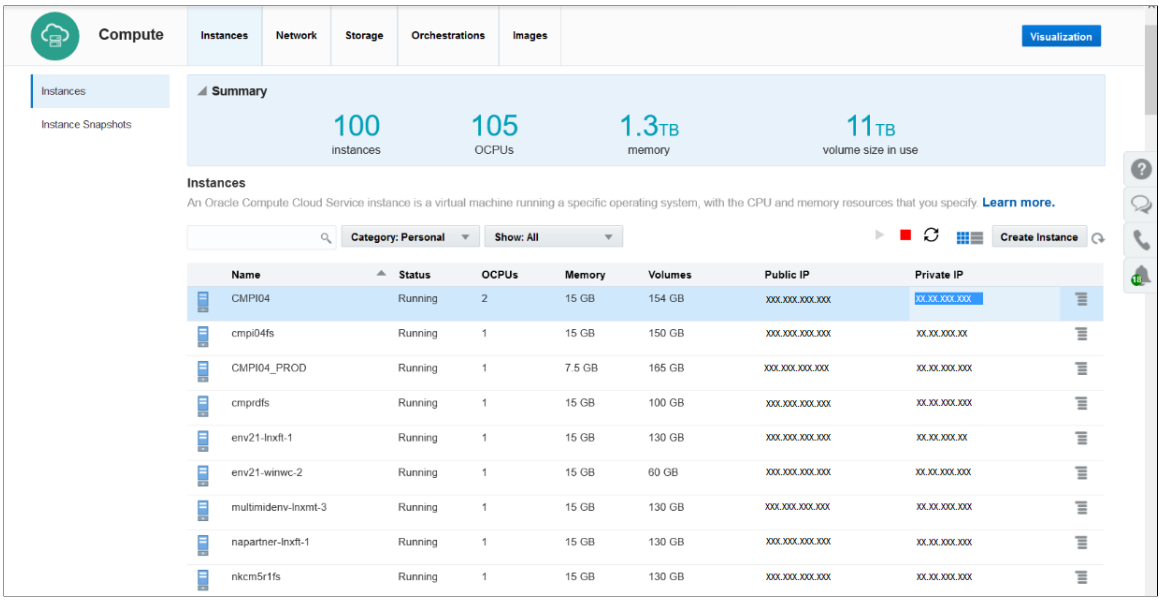
13. Verify the tnsnames.ora files (path:/opt/oracle/psft/db/tnsnames.ora /opt/oracle/psft/pt/tools_client/tnsnames.ora) to ensure the hostname is rightly configured.

Note: The HOST = <value> must be set to fully qualified hostname or the right private IP. The fully qualified hostname would look like "HOST = myhost.compute-mydomain.oraclecloud.internal"

14. Modify the tnsnames.ora file which has the old private IP. Cloud Manager's new private IP can be retrieved from Oracle Cloud UI.

Image: Cloud manager New Private IP

This example illustrates the fields and controls on the Cloud manager New Private IP page.



15. Update private IP to reflect the new IP or fully qualified Cloud Manager's hostname.

16. On the Oracle Cloud web console, navigate to Cloud Manager Instance and add the security list to allow PIA port. Access PIA and verify operations.

Cloud Manager's private IP can change when restored and reboot. In such situations, the mount point /cm_psft_dpks on the Cloud Manager instance becomes read-only. To resolve this issue,

1. SSH to file server VM using Cloud Manager's SSH key

2. Restart NFS service on file server

Note: If you are restoring Cloud Manager to a lower version, say from Cloud Manager 05 to Cloud Manager 04, then do a manual copy of cloud directory from /opt/oracle/psft/pt/ps_app_home/cloud/ to file server location mounted on /cm_psft_dpks/cloud/*.

Note: The public IP may change for the newly restored Cloud Manager instance in case IP reservation was not used. This can be made consistent by using a reserved IP. Ensure the reserved IP attribute is available in the orchestration while creating the restored Cloud Manager instance.
If Cloud Manager's public IP has changed, then a workaround is to modify /etc/hosts on Cloud Manager instance and add an entry for earlier hostname with new IP.

Backup and Restore Cloud Manager using Block Volume Backups for OCI

Using OCI block volume backup feature, Cloud Manager facilitates to backup and restore PeopleSoft environments.

To backup cloud manager instance for OCI using block volumes, perform the following:

1. To create a consistent backup, shutdown the database, app, pia and prcs domains. 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
```

2. On the OCI console, navigate to Compute | Instances | Cloud Manager instance.
3. Navigate to Cloud Manager Instance Details page.
4. 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.
5. This will bring up the volume details. On this page, click on 'Create Backup'.
6. Provide a name for the backup and click 'Create Backup'.
7. After few minutes a backup is created.
8. 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
```

To restore a backup using block volumes, perform the following:

1. On the OCI console, navigate to Storage | Backups.
2. Select the backup to restore and click 'Create Block Volume' using menu on the right .
3. 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.
4. A new volume is created in few seconds.
5. 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
```

6. 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
```

7. Unmount /dev/sdb which is mounted on /u01/app/oracle/product.

```
$ sudo umount /u01/app/oracle/product
```

8. Navigate to OCI | Compute | Instances | Cloud Manager instance. Scroll down to the Attached Block Volumes. Select the volume to be restored and click Detach.

9. On the Detach Block Volume page, copy all DETACH COMMANDS.

10. Run the detach commands on the Cloud Manager instance.

11. Click 'Continue Detachment' (from step 9) and confirm detachment.

12. Verify in OCI UI for the instance that the volume is now removed.

13. 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.

14. Click Attach to attach the restored volume to Cloud Manager instance.

15. 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.

16. SSH to the Cloud Manager instance and run the copied attach commands.

17. 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
```

18. 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 -

1. Restore the original volume. Follow steps 5 to 18 described under 'How to restore a backup' section.
2. Troubleshoot the reason for failures and bring up the database or domains manually.

Chapter 9

REST API for PeopleSoft Cloud Manager

REST APIs for Oracle PeopleSoft Cloud Manager

REST API in Cloud Manager allows you to automate the interaction with Cloud Manager, bypassing the web user interface. To perform REST operations, you must have the administrator role.

REST APIs for Template Management

Using REST API, an administrator can perform the following operations:

- Listing all created templates
- Retrieve template information

Listing All Templates

Retrieves all the templates created in cloud manager.

Method: GET

Path: /template.v1/

Retrieve Template Information

Retrieves details of the selected template.

Method: GET

Path: /template.v1/<templateId>

REST APIs for Environment Management

The list of environment management operations that can be performed using REST APIs are:

- Create new environments
- Create environment with Lifted DPK in Compute
- Create environment with Lifted DPK in DBaaS
- Delete created environments
- Start environment
- Stop environment
- Snapshot environment

- List all the environments created and their status.
- List environment information

Creating New Environments

Provisions new environments in Cloud Manager.

Note: Be sure to create the required template prior to environment provisioning.

Method: POST

Path: /environment.v1/

Create Environment with Lifted DPK in Compute

Creates environment with lifted DPK in Compute.

Method: GET

Path: /environment.v1/

Create Environment with Lifted DPK in DBaaS

Creates environment with lifted DPK in DBaaS.

Method: GET

Path: /environment.v1/

Delete Environments

Deletes created environments.

Method: DELETE

Path: /environment.v1/<environmentID>

Response: Deleting Environment with EnvID:<envid>

Start Environment

Starts an environment.

Method: PUT

Path: /environment.v1/<env id>?action=start

Response: Staring Environment with environmentID:<envID>

Stop Environment

Stops an environment.

Method: PUT

Path: /environment.v1/<env id>?action=stop

Response: Stopping Environment with environmentID:<envid>

List Provisioned Environments

Lists all environments provisioned through the Cloud Manager accessible for the current user.

Method: GET

Path: /environment.v1/

List Environment Information

Retrieves the details of environment provisioned through the Cloud Manager accessible for the current user.

Method: GET

Path: /environment.v1/<envid>

REST APIs for Repository Management

The list of repository management operations that can be performed using REST APIs are:

- Create new channels
- Subscribe to release channels
- Unsubscribe from release channels
- List all the available channels
- List of subscribed channels
- List of unsubscribed channels
- Retrieve download status for channel

Create New Channels

Used to create new channels in repository.

Method: POST

Path: /channel.v1/

Response: Channel <channelName> created

Subscribe to Release Channels

Subscribes an already present unsubscribed channel.

Method: POST

Path: /subscribe.v1/

Response: <ChannelName> has been Subscribed

Unsubscribe from Release Channels

Unsubscribes an already present subscribed channel.

Method: DELETE

Path:/subscribe.v1/<channel Name>

Response: Channel HCM_92_Linux has been Unsubscribed

List Channels in Repository

Retrieves list of the channels created.

Method: GET

Path:/channel.v1/

List of Subscribed Channels

Retrieves list of the channels created.

Method: GET

Path:/Channel.v1/?subscribed=true

List of Unsubscribed Channels

Retrieves list of unsubscribed channels.

Method: GET

Path:/channel.v1/?subscribed=false

Retrieve Status of Subscribed Channel

Retrieves the status of downloads for a subscribed channel. User can verify the downloads happening for this particular channel and also view all the completed downloads.

Method: GET

Path:/subscription.v1/<channelName>/downloads

REST APIs for Lift and Shift Management

The list of Lift and Shift management operations that can be performed using REST APIs are:

- List DPKs uploaded in the object store
- Retrieve DPK details
- Retrieve Metadata from Object Store

- Delete DPKs present in object Store

List DPKs

Retrieves the list DPKs that is stored in Object Store. This data is retrieved from metadata that is stored in Cloud Manager.

Method: POST

Path: /channel.v1/

Response: Channel <channelName> created

Retrieve DPK Details

Retrieves DPK details.

Method: GET

Path:/liftedobject.v1/<ObjectName>

Retrieve Metadata

Retrieves the metadata from object store and update the Cloud Manager data.

Method: GET

Path:subscribe.v1/?action=retrivemetadata

Response: Please wait while Cloud Manager retrieves the information from OPC.

Delete DPKs

Deletes lifted DPKs from object store.

Method: DELETE

Path:subscribe.v1/

Response: Please wait while Cloud Manager Deletes from OPC.

