

Oracle® Enterprise Manager Middleware Lifecycle Management Administrator's Guide



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The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

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Oracle Enterprise Manager Middleware Lifecycle Management Administrator's Guide, 13c Release 4

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Preface

The Database Lifecycle Management Guide introduces you to the suite of lifecycle management solutions offered by Enterprise Manager Cloud Control, and describes in detail how you can use the discovery, provisioning, patching, and configuration and compliance management features to manage your data center.

Audience

This guide is primarily meant for administrators who want to use the discovery, provisioning, patching, and configuration and compliance management features offered by Cloud Control to meet their lifecycle management challenges. As an administrator, you can be either a *Designer*, who performs the role of a system administrator and does critical data center operations, or an *Operator*, who runs the default as well custom deployment procedures, patch plans, and patch templates to manage the enterprise configuration.

Scope and Coverage

Oracle Enterprise Manager Middleware Lifecycle Management Administrator's Guide describes features pertaining to the following plug-ins and platforms:

- Oracle Fusion Middleware Plug-in
- Oracle Cloud Framework Plug-in
- Cloud Services Management Plug-in
- Enterprise Manager Cloud Control

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>.

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Related Documents

For more information, see the following books in the Cloud Control documentation library:

- *Oracle Enterprise Manager Cloud Control Basic Install Guide*
- *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*
- *Oracle Enterprise Manager Cloud Control Upgrade Guide*
- *Oracle Enterprise Manager Cloud Control Administrator's Guide*

For the latest releases of these and other Oracle documentation, check the Oracle Technology Network at the following URL:

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

Cloud Control also provides extensive online Help. Click **Help** at the top-right corner of any Cloud Control page to display the online help window.

Conventions

The following conventions are used in this document:

Convention	Meaning
boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
Other Graphics	Graphics have been used extensively in addition to the textual descriptions to ensure that certain concepts and processes are illustrated better.

1

Discover Middleware Hosts

In this chapter we will cover how to discover and add Middleware hosts that will be managed by Oracle Enterprise Manager.

To add and monitor different Middleware hosts like WebLogic, Exalytics and standalone Oracle HTTP servers please consult the full guide at [Discovering and Adding Middleware Targets](#) on *Cloud Control Administrator's Guide*.

2

Overview of Middleware Provisioning

Provisioning involves repeatable, reliable, automated, unattended, and scheduled mass-deployment of software, applications, or servers across different platforms, environments, and locations.

Middleware Provisioning involves remotely installing Oracle homes and configuring domains using automated deployment procedures. A deployment procedure is a pre-defined sequence of steps that is meant to perform a set of operations on one or more hosts monitored by Cloud Control.

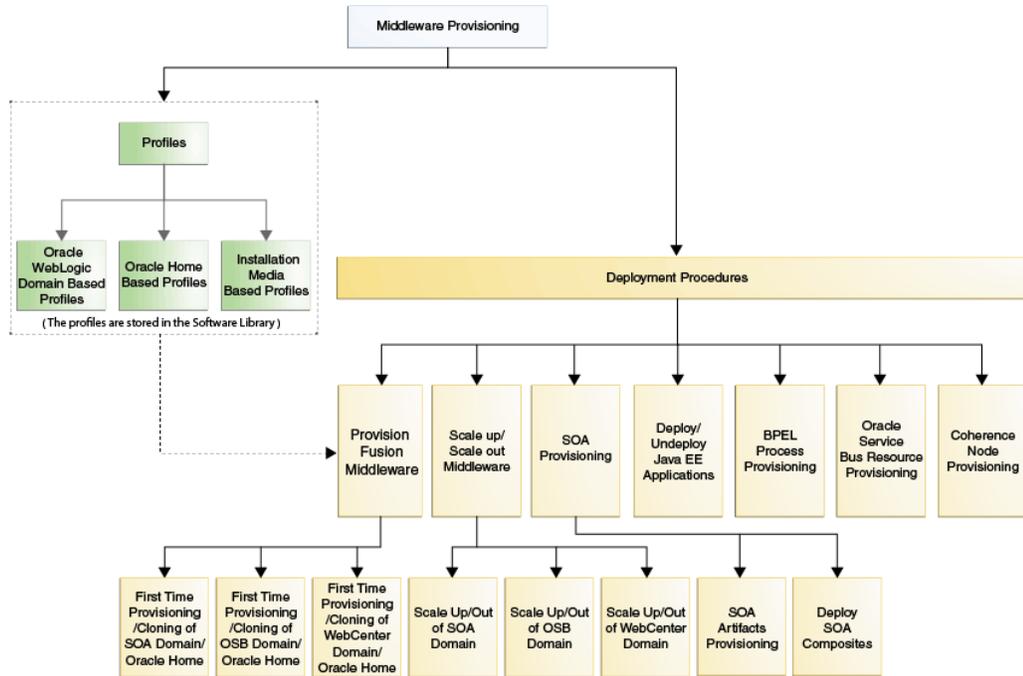
In particular, this chapter covers the following:

- [Introduction to Middleware Provisioning](#)
- [Oracle Fusion Middleware Provisioning Terminology](#)
- [Supported Use Cases for Middleware Provisioning Procedures](#)

Introduction to Middleware Provisioning

Provisioning is an important solution offered as a part of Lifecycle Management that enables you to provision middleware artifacts such as WebLogic Domain, Java EE Applications, Coherence Nodes and Clusters, SOA Artifacts and Composites, Service Bus Resources, and Oracle WebCenter.

The following figure shows the Middleware Provisioning solutions offered in Cloud Control:



To manage these Deployment Procedures and Profiles effectively in Cloud Control there is a centralised middleware provisioning page which exposes all the features relevant to Middleware Provisioning like creating, viewing, and provisioning profiles and deployment procedures. To access this page, from **Enterprise** menu, select **Provisioning and Patching**, then click **Middleware Provisioning**.

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▾ Targets ▾ Favorites ▾ History ▾ Setup ▾ Search ▾ SYSMAN ▾ ...

Page Refreshed Jan 23, 2017 2:22:57 AM PST ↻

Middleware Provisioning

Profiles

View ▾ Create... Edit... Delete... Provision Import Partition

Name	Products	Type	Platform	Version	Owner	Description
Domain Profile	Oracle WebLogic Server	WebLogic Domain	Linux x86-64	12.2.1.2.0	SYSMAN	WebLogic domain profile that includes Oracle home
SOA Domain Profile	Oracle SOA	WebLogic Domain	Linux x86-64	12.2.1.2.0	SYSMAN	SOA domain profile that includes Oracle home and metadata
Partition Export	Oracle WebLogic Server	WebLogic Domain Partition	Linux x86-64	12.2.1.2.0	SYSMAN	A profile created by exporting a WebLogic domain partition
Domain Export	Oracle WebLogic Server	WebLogic Domain Partition	Linux x86-64	12.2.1.2.0	SYSMAN	A profile created by exporting a WebLogic domain. It can be imported as a partition.
JRF Installer	Oracle WebLogic Server	Installation Media	Generic Platform	12.2.1.1.0	SYSMAN	Fusion Middleware Infrastructure Installation Media

Deployment Procedures

View ▾ Launch Create Like... Edit... Edit Permission Delete...

Name	Description	Version	Owner	Type
Provision Fusion Middleware	This procedure clones and configures a Fusion Middleware Home and/or a Fusion Middleware Domain from the Software Library.	10.0	ORACLE	Middleware Provisioning
Scale up/Scale out Fusion Middleware Domain	This procedure expands a Fusion Middleware Domain.	10.0	ORACLE	Middleware Provisioning
Create a Business Intelligence Profile	Create a Business Intelligence Provisioning Profile	2.0	ORACLE	Middleware Provisioning
Business Intelligence Cloning	Cloning Business Intelligence environment based on source Business Intelligence environment profile and user provided destination environment details	2.0	ORACLE	Middleware Provisioning
SOA Artifacts Provisioning	Deployment procedure to provision SOA artifacts	3.8	ORACLE	Middleware Provisioning
Deploy SOA composites	Procedure for provisioning SOA Composites on a selected soainfra domain.	2.6	ORACLE	Middleware Provisioning
Scale Out Business Intelligence	This procedure scales out the existing Business Intelligence domain.	2.0	ORACLE	Middleware Provisioning
Deploy/Undeploy Java EE Applications	One or more Java EE applications can be deployed to, redeployed to, or undeployed from one or more WebLogic Domains.	13.220	ORACLE	Java EE Application Provisioning
Service Bus Resource Provisioning	Procedure for deploying Service Bus resources to an Service Bus Domain	3.0	ORACLE	Service Bus Resource Provisioning
Coherence Node Provisioning	Procedure for adding and updating Coherence Nodes.	1.1	ORACLE	Coherence Node Provisioning

In addition to accessing all the relevant provisioning related features from **Middleware Provisioning** page, you can also launch some of them from the **target** menu. To do so, from **Targets** menu, select **Middleware**. Select a target of type domain, and select

Provisioning, and the options in this menu allow you to **create provisioning profile** based on WebLogic Domain or Oracle Home.

You can create the profile for multiple purposes. Based on the details configured in the selected target type domain, the appropriate profile types are displayed under the provisioning sub-menu.

The screenshot shows the Oracle Enterprise Manager Cloud Control 13c interface. On the left is a search and navigation pane. The main area displays a 'Target Type' pie chart and a 'Status' pie chart. Below these is a table of targets. A context menu is open over a target, showing various actions. The 'Provisioning' option is highlighted, and a sub-menu is displayed with the following options:

- Create Provisioning Profile
 - Clone WebLogic Domain
 - Import WebLogic Partition
 - Scale Up/Scale Out WebLogic Domain
 - Deploy/Undeploy Java EE Applications
 - SOA Artifacts Provisioning
 - Deploy SOA composites
 - Procedure Activity

The below figure shows the different profile types:

The screenshot shows the 'Create Provisioning Profile: Type' dialog box in Oracle Enterprise Manager. It contains three options for creating a provisioning profile:

- From a WebLogic Domain**: This option enables you to create a provisioning profile from an existing, reference Oracle WebLogic Domain target. Future domains - as well as its underlying Oracle Homes - can be cloned from this type of profile.
- From an Oracle Home**: This option enables you to create a provisioning profile from an existing, reference Oracle Home in which WebLogic Server software has already been installed and patched. Future WebLogic Server Oracle Homes can be cloned from this type of profile.
- By Exporting a WebLogic Domain**: This option enables you to create a provisioning profile from an existing domain in order to convert the entire domain into a single partition.

The Middleware Provisioning page is categorized into the following sections:

- [Profiles](#)
- [Deployment Procedures](#)

Profiles

The profiles section lists all the provisioning profiles that you have created and the profiles on which you have been granted access. No profiles are shipped out of the box. You have to create your own profiles based on the provisioning needs. You can:

- Click the profile to view the profile details.
- Filter the profile based on what you want to display in the Profiles table. To do so, from **View** menu, select **Show Profiles**, then click the option that you want to display. For example, if you click **All**, then all the profiles are displayed.
- To clone a WebLogic Domain or an Oracle Home, select a profile and click **Provision**.
- To create a new profile, select an option from the **Create** menu.
- To delete an existing profile, select the profile name, and click **Delete**.
- To create a new partition in an existing domain, select the appropriate profile (i.e. a profile that was created either by exporting an older domain or by exporting a partition) and click **Import Partition**.

Deployment Procedures

The deployment procedures section lists all the Oracle-provided deployment procedures, the Custom Deployment Procedures (CDP) that you have created, and the procedures on which you (the administrator you have logged in as) have been granted access. Select a deployment procedure from the list, and perform any of the following action on it:

- To run a deployment procedure, select the procedure, and click **Launch**.
- To create a copy of an Oracle-supplied deployment procedure, click **Create Like**.
- To delete a User-owned deployment procedure, select the procedure, and click **Delete**. Note that, you can not delete Oracle-provided procedures.
- To edit a deployment procedure, select the procedure and click **Edit**.

Note: You can not edit Oracle-supplied procedures. If you want to edit a procedure, you must first clone an Oracle-supplied procedure using the Create Like option. You can now edit the newly cloned procedure that you own. To do so, click **Edit**.

- To grant other administrators, for example: EM_PROVISIONING_OPERATOR role, access on a particular deployment procedure, click **Edit Permissions**.

Oracle Fusion Middleware Provisioning Terminology

The definitions of terms listed in this section are useful in helping to understand the Middleware concepts presented in this part:

- **WebLogic Domain:** A WebLogic Domain is a logically related group of Java components. A domain includes a special WebLogic Server instance called the Administration Server, which is the central point from which you configure and manage all resources in the domain. Usually, you configure a domain to include additional WebLogic Server instances called Managed Servers. You deploy Java components, such as Web applications, EJBs, and Web services, and other

resources, to the Managed Servers and use the Administration Server for configuration and management purposes only.

- **Administration Server:** The Administration Server operates as the central control entity for the configuration of the entire domain. It maintains the domain's configuration documents and distributes changes in the configuration documents to managed servers. The Administration Server is the central location from where you can monitor all the resources in a domain. Each WebLogic Server domain must have one server instance that acts as the Administration Server.
- **Managed Server:** Managed servers host business applications, application components, Web services, and their associated resources. To optimize performance, managed servers maintain a read-only copy of the domain's configuration and security document. When a managed server starts up, it connects to the domain's Administration Server to synchronize its configuration document with the document that the Administration Server maintains.
- **Node Manager:** Node Manager is a Java utility that runs as a separate process from Oracle WebLogic Server and allows you to perform common operations for a Managed Server, regardless of its location with respect to its Administration Server. While use of Node Manager is optional, it provides valuable benefits if your Oracle WebLogic Server environment hosts applications with high-availability requirements.

If you run Node Manager on a computer that hosts Managed Servers, you can start and stop the Managed Servers remotely using the Administration Console, Fusion Middleware Control, or the command line. Node Manager can also automatically restart a Managed Server after an unexpected failure.

- **WebLogic Server Home:** A WebLogic Server home contains installed files necessary to host a WebLogic Server. The WebLogic Server home directory is a peer of Oracle home directories and resides within the directory structure of the Middleware home.
- **Middleware Home:** A Middleware home is a container for the Oracle WebLogic Server home, and, optionally, one Oracle Common home and one or more Oracle homes. A Middleware home can reside on a local file system or on a remote shared disk that is accessible through NFS.
- **Oracle Home:** An Oracle home contains installed files necessary to host a specific product. For example, the SOA Oracle home contains a directory that contains binary and library files for Oracle SOA Suite. An Oracle home resides within the directory structure of the Middleware home.
- **Cloning:** The process of creating a copy of the WebLogic Domain and the Oracle home binaries present within the domain is referred to as cloning. Typically, cloning is performed at the WebLogic Domain-level. Fusion Middleware Domain cloning can be performed from an existing target or using provisioning profiles.
- **Provisioning Profiles:** A profile is a snapshot of a live WebLogic Domain or Oracle Home, or it can simply contain a set of installation media archives pertaining to the product suite. A profile can be created from the Cloud Control or using Enterprise Manager Command Line Interface or through REST APIs.
- **Gold Image:** The gold image is a single image that includes the binary and library files for an Oracle home.

For Oracle Fusion Middleware 11g, the Middleware Home was the top-level directory that comprised of multiple product-specific Oracle Homes. For example:

```
[user1@<agent host name> middhome]$ ls
Oracle_OSBI Oracle_SOA1 coherence_3.7 domain-registry.xml logs modules
oracle_common osb patch_ocp371 patch_wls1036 registry.dat registry.xml
utils wlsserver_10.3
```

For Oracle Fusion Middleware 12c, there is no concept of Middleware Home. Infact, the Middleware Home itself functions as the Oracle Home, and middleware products like SOA, Service Bus, WebCenter are installed within this folder directly. For example:

```
[user1@<agent host name> OH12JRF]$ ls
OPatch cfgtoollogs crs em install jdeveloper ldap mft nls oep
oraInst.loc oracore oui plsql rdbms root.sh.old root.sh.old.2
soa srvm wlsserver
bin coherence css has inventory jlib lib network odi ohs
oracle_common osb perl precomp root.sh root.sh.old.1 slax
sqlplus webgate xdk
```

- **Scaling Up:** When a managed server is added or cloned to a host that already exists in the domain or cluster.
- **Scaling Out:** When a managed server is added or cloned to a host that is not present in the domain or cluster.
- **Scaling Down:** The managed server cannot be removed from host that is not present in the domain or cluster.

Supported Use Cases for Middleware Provisioning Procedures

This section lists the supported use cases in the middleware space, provisioning capabilities like Exporting/Importing partitions and Exporting/Importing a weblogic domain, and the corresponding targets that get provisioned.

In particular, this section covers the following:

- [Provisioning Middleware Domains and Oracle Homes](#)
- [Scaling Up/Out/ WebLogic Server, SOA, Service Bus, and WebCenter Domains](#)
- [Deploying / Redeploying / Undeploying Java EE Applications](#)
- [Provisioning Coherence Nodes and Clusters](#)
- [Provisioning SOA Artifacts](#)
- [Provisioning Service Bus Resources](#)
- [Exporting WebLogic Domain Partition](#)
- [Importing WebLogic Domain Partition](#)
- [Exporting WebLogic Domain](#)

 **Note:**

To configure a domain with a TCPS enabled database, you must first disable TCPS in the database, provision the domain with TCP, enable TCPS, and re-configure the domain for TCPS mode manually.

For more information, see [Configuring SSL in Oracle Fusion Middleware](#) located in *Fusion Middleware Administrator's Guide*.

Provisioning Middleware Domains and Oracle Homes

This table covers the use cases for deploying SOA domain, Service Bus domain, WebLogic domain, WebCenter domain and Oracle homes.

Table 2-1 Provisioning Middleware Domains and Oracle Homes

Deployment Procedure	Use Case	Targets Provisioned	Link
Provision Fusion Middleware	<ul style="list-style-type: none"> Install media based profile Domain based profile Oracle home based Profile 	WLS	Provisioning Fusion Middleware Domain and Oracle Homes
		<ul style="list-style-type: none"> 12.2.1 to 12.2.1.4 12.1.x 10.3.x 	
		<p>To perform the use cases against release 12.2.1.3, you must first apply Patch ID 26849044 to the WebLogic Server or Fusion Middleware Platform home. Download the patch from My Oracle Support Web site at https://support.oracle.com. This patch is not necessary for earlier releases of WebLogic or Fusion Middleware.</p>	
		SOA Domain	Provisioning the SOA Domain and Oracle Homes
		<ul style="list-style-type: none"> 12.2.1 to 12.2.1.2 12.1.x 11.1.1.x 	
		Service Bus Domain	
		<ul style="list-style-type: none"> 12.2.1 to 12.2.1.2 12.1.x 11.1.1.x 	Provisioning the Service Bus Domain and Oracle Homes

Steps to access the Certification Matrix

Use the steps below to view the correct certified versions of various components.

1. Access <https://support.oracle.com>

2. Click **Certifications** tab.
3. In the **Certification Search** tab, enter the following details:

Field	Details
Product	Enterprise Manager Base Platform – OMS
Release	13.4.0.0.0

4. Click **Search**.
5. The search result displays the Enterprise Manager Base Platform - OMS 13.4.0.0.0 Certifications.
6. Expand **Middleware** in the search results.
7. The Certification Matrix of various components and provisioning targets along with certified versions is displayed.

Java Prerequisites

When using deployment procedures to provision Oracle Fusion Middleware software, Oracle Enterprise Manager does not automatically provision Java. You must ensure that Java gets installed prior to performing provisioning-related operations.

When provisioning install-media based profiles, consult the certification information available on My Oracle Support in order to determine the vendor and version of Java that the middleware software supports.

Figure 2-1 Install-media based profile provisioning use case

The screenshot shows the configuration interface for provisioning. It is divided into three main sections:

- General:** Contains a 'Hosts' section with a table for adding destination hosts. The table has columns for 'Host' and 'Credential'. Below the table, it states 'No hosts selected'. There are buttons for '+ Add', 'X Delete...', and a wrench icon for 'Test'.
- Middleware:** Contains fields for configuring the WebLogic Administrator.
 - Middleware Base:** /u01/oracle/mwBase
 - Java Home:** /usr/local/packages/jdk7
 - Administrator Username:** weblogic
 - Administrator Password:** (empty field)
 - Confirm Administrator Password:** (empty field)
 - Deploy JVMD agent:** (checkbox, unchecked)

Below the Java Home field, there is a note: "For details on supported Java versions, refer to the certifications identified on My Oracle Support."

In addition, when provisioning middleware-related profiles that include an Oracle Home, ensure that the destination has the proper vendor and version of Java. The Java version at the destination should preferably be identical or at least be of the same

major version as the Java version used at the original source. The deployment procedure user interface informs you of the Java version used at the original source so that you are aware of which version to use at the destination.

Figure 2-2 Provisioning use case with profile which includes Oracle Home

The screenshot displays a provisioning configuration window with two main sections: **General** and **Hosts**. The **Hosts** section is active and contains a table for adding destination hosts. Below the table, there is a **Middleware** section with several input fields: **Java Home** (set to `/ade_autofs/gd29_3rdparty/htfsdo_generic/JDK7/MAIN/LINL`), **Administrator Username** (set to `weblogic`), **Administrator Password**, **Confirm Administrator Password**, and a **Deploy JVM agent** checkbox.

Host	Credential
No hosts selected	

Scaling Up/Out/ WebLogic Server, SOA, Service Bus, and WebCenter Domains

This table covers the use cases for scaling an existing SOA Domain, Service Bus Domain, and WebLogic Domain:

Table 2-2 Scaling SOA, Service Bus, WLS, and WebCenter Domains

Deployment Procedure	Use Case	Targets Provisioned	Link
Scaling WLS Domain	Scaling WLS Domain	WLS 12.2.1.1 - 12.2.1.4 WLS 12.1.X WLS 10.3.X	Running the Scale Up / Scale Out Middleware Deployment Procedure

 **Note:** To perform the use case against instances released

Table 2-2 (Cont.) Scaling SOA, Service Bus, WLS, and WebCenter Domains

Deployment Procedure	Use Case	Targets Provisioned	Link
			1
			2
			.
			2
			.
			1
			.
			3
			,
			y
			o
			u
			m
			u
			s
			t
			f
			i
			r
			s
			t
			a
			p
			p
			l
			y
			p
			a
			t
			c
			h
			2
			6
			8
			4
			9
			0
			4
			4
			t
			o
			t
			h
			e
			W
			e
			b

Table 2-2 (Cont.) Scaling SOA, Service Bus, WLS, and WebCenter Domains

Deployment Procedure	Use Case	Targets Provisioned	Link
			 Logical Server for Fusion Middleware Platform Home. This spa

Table 2-2 (Cont.) Scaling SOA, Service Bus, WLS, and WebCenter Domains

Deployment Procedure	Use Case	Targets Provisioned	Link
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 This section discusses the scaling of SOA, Service Bus, WLS, and WebCenter domains. It provides detailed information on the targets provisioned and the link associated with each use case.

Table 2-2 (Cont.) Scaling SOA, Service Bus, WLS, and WebCenter Domains

Deployment Procedure	Use Case	Targets Provisioned	Link
			 c o r p o r a t i o n M i d d l e w a r e
Scaling up/Scale out Middleware	Scaling SOA Domain	SOA Domain 12.2.1 - 12.2.1.2 12.1.X 11.1.1.X	Running the Scale Up / Scale Out Middleware Deployment Procedure
Scaling Service Bus Domain	Scaling Service Bus Domain	Service Bus Domain 12.2.1 - 12.2.1.2 12.1.X 11.1.1.X	Running the Scale Up / Scale Out Middleware Deployment Procedure

Steps to access the Certification Matrix

Use the steps below to view the correct certified versions of various components.

1. Access <https://support.oracle.com>
2. Click **Certifications** tab.
3. In the **Certification Search** tab, enter the following details:

Field	Details
Product	Enterprise Manager Base Platform – OMS
Release	13.4.0.0.0

4. Click **Search**.
5. The search result displays the Enterprise Manager Base Platform - OMS 13.4.0.0.0 Certifications.
6. Expand **Middleware** in the search results.
7. The Certification Matrix of various components and provisioning targets along with certified versions is displayed.

Java Prerequisites

When using deployment procedures to scale out domains, Oracle Enterprise Manager does not automatically provision Java. You must ensure that Java gets installed prior to performing the scale out operation.

When scaling out a domain, ensure that the destination has the proper vendor and version of Java. The Java version at the destination should preferably be identical or at least be of the same major version as the Java version used at the source.

Deploying / Redeploying / Undeploying Java EE Applications

This table covers the use cases for deploying, undeploying, and redeploying Java EE Application.

Table 2-3 Deploying, Undeploying, or Redeploying Java EE Applications

Deployment Procedure	Use Case	Targets Provisioned	Link
Deploy/Undeploy Java EE Applications	Deploying a Java EE Application	Deploy Java EE Applications to and from WebLogic versions 10.3, 10.3.x and later, including 12.1, 12.1.x, 12.1.2, and 12.2.1.x.	Deploying a Java EE Application
Deploy/Undeploy Java EE Applications	Undeploying a Java EE Application	Undeploy Java EE Applications to and from WebLogic versions 10.3, 10.3.x and later, including 12.1, 12.1.x, 12.1.2, and 12.2.1.x.	Undeploying a Java EE Application
Redeploy Java EE Applications	Redeploying a Java EE Application	Redeploy Java EE Applications to and from WebLogic versions 10.3, 10.3.x and later, including 12.1, 12.1.x, 12.1.2, and 12.2.1.x.	Redeploying a Java EE Application

Provisioning Coherence Nodes and Clusters

This table covers the use case to successfully deploy a Coherence node.

Table 2-4 Provisioning Coherence Nodes and Clusters

Deployment Procedure	Use Case	Targets Provisioned	Link
Coherence Node Provisioning	Deploying Coherence Nodes and Clusters	Oracle Coherence 3.7 and Oracle Coherence 12.1.2 Standalone Version.	Deployment Procedure

Provisioning SOA Artifacts

This table covers the use case to successfully deploy the various SOA artifacts:

Table 2-5 Provisioning SOA Artifacts

Deployment Procedure	Use Case	Targets Provisioned	Link
SOA Artifacts Provisioning	Provisioning SOA Artifacts from a Reference Installation	Oracle SOA Suite 11gR1 (11.1.1.2.0 to 11.1.1.7.0): <ul style="list-style-type: none"> • SOA Composites • Oracle WebLogic Server Policies • Assertion Templates • JPS Policy and Credential Stores • Human Workflow • Oracle B2B 	Provisioning SOA Artifacts from a Reference Installation
SOA Artifacts Provisioning	Provisioning SOA Artifacts from a Gold Image	Oracle SOA Suite 11gR1 (11.1.1.2.0 to 11.1.1.7.0): <ul style="list-style-type: none"> • SOA Composites • Oracle WebLogic Server Policies • Assertion Templates • JPS Policy and Credential Stores • Human Workflow • Oracle B2B 	Provisioning SOA Artifacts from Gold Image
Deploy SOA Composites	Provisioning SOA Composites	Oracle SOA Suite 11gR1 (11.1.1.2.0 to 11.1.1.7.0) SOA Composites	Deploying SOA Composites

Provisioning Service Bus Resources

This table covers the use case to successfully deploy Service Bus resources:

Table 2-6 Provisioning Service Bus Resources

Deployment Procedure	Use Case	Targets Provisioned	Link
Service Bus Resource Provisioning	Provision Service Bus resources from Service Bus Domain	Service Bus 2.6.0 - 2.6.1, 3.0.0, 10.3.0.0 - 10.3.1.0, 11.1.1.3.0 - 11.1.1.7.0, 12.1.3.0.0	Provisioning Service Bus Resources from Service Bus Domain
Service Bus Resource Provisioning	Provision Service Bus resources from Software Library	Service Bus 2.6.0 - 2.6.1, 3.0.0, 10.3.0.0 - 10.3.1.0, 11.1.1.3.0 - 11.1.1.7.0, 12.1.3.0.0	Provisioning Service Bus Resources from Oracle Software Library

3

Provisioning Fusion Middleware Domain and Oracle Homes

Provisioning is a solution offered as a part of Lifecycle Management by Enterprise Manager Cloud Control. As a part of Middleware Provisioning solution, Cloud Control enables you to provision Oracle WebLogic Domain (WebLogic Domain), Service-Oriented Architecture (SOA), Service Bus, and Oracle WebCenter. In addition to provisioning a domain, you can extend an existing domain to include new Oracle Homes. For provisioning any of the middleware entities, you can create profile, save it, and then use the saved profile as the source for provisioning. Doing this, ensures that the future installations follow a standard, consistent configuration.

Note:

The term Middleware Home is applicable only for WebLogic Server versions 10.3.x and 12.1.x. For WebLogic Server version 12.1.2.0.0 and higher, Middleware Home is referred to as Oracle Home.

To provision a new Middleware Domain or an Oracle Home, you must have configured JDK version 1.6 or higher. Oracle recommends using the latest and the most updated JDK version of the product. To do so, log in to support.oracle.com, then click **Certifications** tab. In the Certification Search section, enter **Oracle WebLogic Server** in the Product field. From the **Release** menu, select a valid WebLogic Server version and from the **Platform** menu, select a valid operating system, and click **Search**.

To clone an existing domain, you must ensure that the JDK version configured on the cloned destination host is equal to or higher than the JDK version available on the source host. Oracle recommends using the latest and the most updated JDK version of the product. To do so, log in to support.oracle.com, then click **Certifications** tab. In the Certification Search section, enter **Oracle WebLogic Server** in the Product field. From the **Release** menu, select a valid WebLogic Server version and from the **Platform** menu, select a valid operating system, and click **Search**.

This chapter explains how you can automate common provisioning operations for Middleware Homes and WebLogic Domains using Oracle Enterprise Manager Cloud Control. In particular, this chapter covers the following:

- [Getting Started with Fusion Middleware Provisioning](#)
- [Different Approaches to Launch the Provision Fusion Middleware Deployment Procedure](#)
- [High-Level Steps for Middleware Provisioning](#)
- [Prerequisites for Provisioning from the Middleware Provisioning Profiles](#)
- [Creating Middleware Provisioning Profiles](#)

- [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#)
- [Provisioning a Fusion Middleware Domain from an Existing Oracle Home](#)
- [Cloning from an Existing WebLogic Domain Based-Profile](#)

Getting Started with Fusion Middleware Provisioning

This section helps you get started by providing an overview of the steps involved in provisioning WebLogic Domain and Middleware Home using the Fusion Middleware Deployment procedure.

Table 3-1 Getting Started with Fusion Middleware Provisioning

Step	Description	Reference Links
Step 1	<p>Different approaches to launch the Fusion Middleware Deployment Procedure.</p> <p>Understanding the various approaches to launch the Fusion Middleware Deployment Procedure, which is used to provision the Middleware entities</p>	<p>To learn about the approaches to launch the Deployment Procedure, see Different Approaches to Launch the Provision Fusion Middleware Deployment Procedure</p> <p>Export and Import of Domain Partitions</p>
Step 2	<p>Creating the Middleware Provisioning Profiles.</p> <p>This chapter covers three types of provisioning profiles. Select the profile that best matches your requirement</p>	<p>To learn about the various Provisioning Profiles, see Creating Middleware Provisioning Profiles</p>
Step 3	<p>Meeting Prerequisites to Provision a Middleware Profile</p> <p>Before you run the Fusion Middleware Deployment Procedure, there are a few prerequisites that you must meet.</p>	<p>To learn about the prerequisites for provisioning an Installation Media/Oracle Home profile, see Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile</p> <p>To learn about the Prerequisites for provisioning a WebLogic Domain profile, see Prerequisites for Provisioning the WebLogic Domain Profile</p>
Step 4	<p>Running the Fusion Middleware Deployment Procedure</p> <p>Run this deployment procedure to successfully provision a Weblogic Domain and/or an Oracle Home.</p>	<p>To learn about provisioning from an Installation Media Profile or an Oracle Home Profile, see Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile</p> <p>To learn about provisioning from a WebLogic Domain Profile, see Provisioning a Fusion Middleware Domain from an Existing Oracle Home</p> <p>To provision from an existing home, see Cloning from an Existing WebLogic Domain Based-Profile</p>

Different Approaches to Launch the Provision Fusion Middleware Deployment Procedure

You can use any of the following approaches to launch the Middleware Provisioning deployment procedure:

- (*Recommended Option*) For all the out of the box deployment procedures, launch the Provision Fusion Middleware procedure from the Profiles table. For this, from

Enterprise menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**. On the Middleware Provisioning page, from the Profiles table select a profile, and click **Provision**.

- If you are provisioning a new domain from an existing Middleware home, or if you are using a customized deployment procedure, then you can directly run the Provision Fusion Middleware deployment procedure. For this, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**. On the Middleware Provisioning page, from the Deployment Procedures table, click **Provision Fusion Middleware**.
- To automate the process of provisioning using the command line, submit your procedure using the Enterprise Manager Command Line Interface (EMCLI) utility. The EMCLI enables you to access Enterprise Manager Cloud Control functionality from text-based consoles (shells and command windows) for a variety of operating systems. You can call Enterprise Manager functionality using custom scripts, such as SQL*Plus, OS shell, Perl, or Tcl, thus easily integrating Enterprise Manager functionality with your company's business process.

 **Note:**

For more information about related EM CLI verbs, see EM CLI verbs in the *Oracle Enterprise Manager Command Line Interface*.

High-Level Steps for Middleware Provisioning

Typically, for provisioning, you will need to create a profile and use the profile as the source for creating new WebLogic Domains and Oracle Homes. Use of profiles ensures that the future installations follow a standard, consistent configuration. Oracle additionally supports fresh install, which means that you can create a profile from install media, and then provision this profile by running the **Provision Fusion Middleware** deployment procedures. For this, you do not need any Oracle home or WebLogic Domain to have already been manually installed/configured and discovered by Enterprise Manager Cloud Console.

Middleware Provisioning is a two-step process as follows:

- [Step1: Creating a Profile](#)
- [Step2: Running Provision Fusion Middleware Procedure to Provision the Profile](#)

Step1: Creating a Profile

Profiles are templates that you create and internally store in the Software Library. Once a profile is created, it can be launched numerous times to provision WebLogic Domain and/or Oracle Home with the same characteristics.

Before going ahead with the profile creation, you must identify the profile that suits your requirements:

- If you do not have an existing WebLogic Domain, or an Oracle Home, use the Installation Media profile. This profile allows you to create a domain and a home using the shiphome (installation media files) that you have downloaded from the

OTN or eDelivery, see [Creating a Provisioning Profile Based on an Installation Media](#).

- If you have an Oracle Home that needs to be patched to fix some bugs, use the Oracle Home profile. This profile allows you to apply the relevant patches to the Oracle home, and then create a profile out of the patched Oracle home which can be your source of truth. Use the patched profile to provision all the Oracle Homes in your data center. For further details, see [Creating a Provisioning Profile Based on an Oracle Home](#).
- If you have an existing Weblogic Domain that you want to clone, use the WebLogic Domain Profile. This profile allows you to create a copy of the source domain. For further details, see [Creating a Provisioning Profile Based on a WebLogic Domain](#).
- Oracle WebLogic Server supports WebLogic domain partition functionality. It consolidates applications into fewer domains with partition within domains and maintains secured isolation. For further details, see [Export and Import of Domain Partitions](#).
- Enterprise Manager Cloud Control provides an user friendly user interface that helps you to convert domains into partitions. For further details, see [Exporting WebLogic Domain](#).

Step2: Running Provision Fusion Middleware Procedure to Provision the Profile

A deployment procedure is a pre-defined sequence of steps that is meant to perform a set of operations on one or most hosts monitored by Cloud Control. You can provision a domain or an Oracle home using the profiles you have already created. This section describes the various methods to provision a profile. In particular, it covers the following:

Note:

Meet the Prerequisites before going ahead with the provisioning procedure. For a detailed list of prerequisites, see [Prerequisites for Provisioning from the Middleware Provisioning Profiles](#).

For information about the other approaches to launch the Provision Fusion Middleware procedure, see [Different Approaches to Launch the Provision Fusion Middleware Deployment Procedure](#).

In particular, it covers the following:

- [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
- [Provisioning a Fusion Middleware Domain from an Existing Oracle Home](#)
- [Cloning from an Existing WebLogic Domain Based-Profile](#).

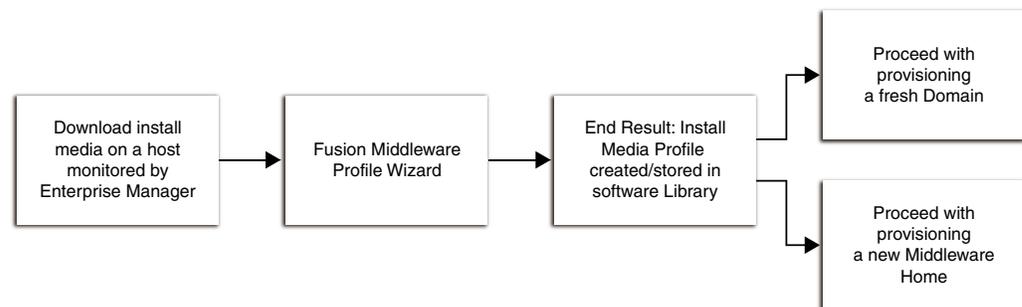
Creating Middleware Provisioning Profiles

Profiles are like templates that you can create and store in Software Library. Once a profile is created, it can be launched numerous times to provision WebLogic Domain and/or Oracle Home. The advantage of using a profile is that you can ensure that future WebLogic installations follow a standard, consistent configuration.

- [Creating a Provisioning Profile Based on an Installation Media](#)
- [Creating a Provisioning Profile Based on an Oracle Home](#)
- [Creating a Provisioning Profile Based on a WebLogic Domain](#)

Creating a Provisioning Profile Based on an Installation Media

You can upload Installation Media from a remote host, create a profile based on the Installation Media selected, and provision this profile from the Middleware Provisioning page.



Before you begin creating the middleware provisioning profile, ensure that you meet the following prerequisites:

- Access the Oracle Fusion Middleware Download, Installation and Configuration Read-me file:

http://docs.oracle.com/cd/E23104_01/download_readme.htm

Download the required installation media file. The Fusion Middleware documentation, supported system configurations, system requirements, and specifications are available on this page.

The installation media files available on Oracle Software Delivery Cloud (via edelivery.oracle.com) is certified.

- Create one directory for each product like SOA, Service Bus, WebCenter, RCU and WLS, and ensure that you add the necessary files under the respective directory.
- Ensure that you have read permissions on all the files and sub-directories inside the domain home, applications home, and the Oracle home.

To create an Installation Media profile, follow these steps:

1. In Cloud Control, from the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.

2. On the Middleware Provisioning home page, in the Profiles section, click **Create** and select **From Installation Media**.
3. Click **Next**.
4. On the Create Fusion Middleware Provisioning Profile page, enter a unique name and description for your profile.

By default, all the profiles are centrally located in Software Library under Fusion Middleware Provisioning/Profiles directory.

5. In the Product Details section, from the **Product** menu, select the product for which the installation media is being uploaded. Depending on the option selected, the **Version** menu gets updated. The Enterprise Manager does not determine the version of the installation media. Select the right version of the installation media file that you have downloaded.

 **Note:**

When you select Oracle WebLogic Server as the option in the **Product** field, a checkbox **Oracle Fusion Middleware Infrastructure** appears. The user must ensure to check this box while uploading the Fusion Middleware Infrastructure installer. The user must not check this box for WebLogic server installer.

6. In the Files section, do the following:
 - a. Click the search icon to search for the host. In the Select Target dialog box, search and select the target where the Installation Media files reside, then click **Select**.
 - b. To access the files on a remote host, you need to provide the host credentials. To do so, click search, and in the Select Credential dialog box, enter the necessary credentials, and click **OK**. Click **Test** to validate these credentials against the selected target.
 - c. Based on the product selected, the Files table gets updated. One of the following options are possible:

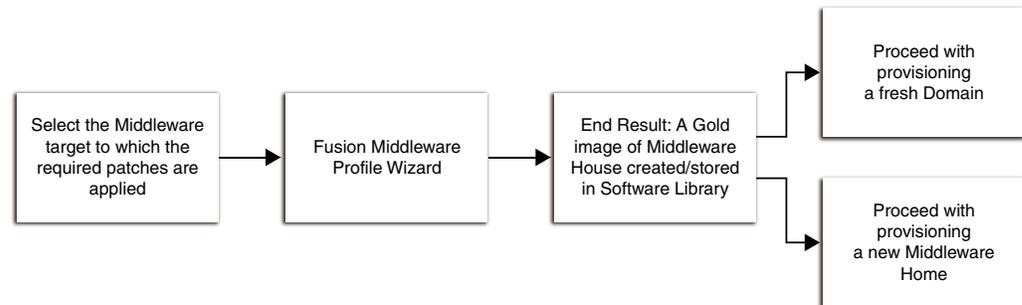
If you select a product from the Product menu, then you can upload Oracle WebLogic Server, Oracle SOA, Service Bus, and Oracle RCU.

Before actually uploading the files, as a prerequisite, download the software Installation Media files as stated above.

To add the files, select the product name from the files table, and click **Select Folder**. Navigate to the directory where the files are present, and click **OK**. To remove files, select the product type, and click **Remove**.
7. In the Storage section, select the Software Library storage details. Ensure that you provide a valid storage type, and upload location to upload the Installation Media profile.
8. Click **Create** to submit the profile creation job.
9. After the job has successfully run, a new entry is available in the Profiles table. You can click the profile name to view the details.

Creating a Provisioning Profile Based on an Oracle Home

Use this page to create a new Oracle home profile, save it in Software Library, then use the saved profile as the source for provisioning new Oracle homes.



Before you begin creating the middleware provisioning profile, ensure that you meet the following prerequisites:

- Oracle Home should be a managed target that has been discovered in Enterprise Manager Cloud Control.
- Ensure that you have read permissions on all the files and sub-directories inside the Oracle home.
- Ensure that you have write permissions on Management Agent's working directory. Working directory is a temporary directory used for staging and provisioning entities across Cloud Control.
- The disk space required to create a provisioning profile is calculated as follows:

$$\text{Disk Space} = \text{Middleware Home Size} + \text{Space for Temporary Scripts}$$

To create a Middleware Home profile, follow these steps:

1. In Cloud Control, from the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. On the Middleware Provisioning home page, in the Profiles section, click **Create** and select **From an Oracle Home**.
3. Click **Next**.
4. On the Create Fusion Middleware Provisioning Profile page, enter a unique name and description for your profile.

By default, all the profiles are centrally located in Software Library under `Fusion Middleware Provisioning/Profiles` directory.

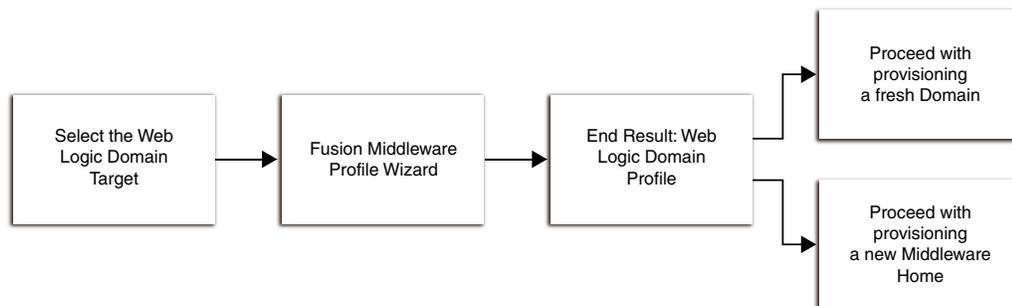
5. In the Reference Target section, click the search icon. In the Select Target dialog box, select an Oracle Home, and click **Select**. The corresponding host details are populated.

You can also launch the Create Middleware Home Profile from the Middleware targets page. If you do so, the context of the target is maintained, and the fields such as **Type**, **Name**, and **Host** appear pre-populated.

6. Click the search icon to provide the credentials. In the Select Credentials dialog box, provide the necessary credentials for your target that is already set, and click **OK**. Click **Test** to validate the credentials against the selected target.
7. In the Storage section, select the Software Library storage details. Ensure that you provide a valid storage type, and upload location details to update the Oracle Home profile.
8. Click **Create Profile** to submit the profile creation job.
9. After the job has successfully run, a new entry is available in the Profiles table. You can click the profile name to view the details.

Creating a Provisioning Profile Based on a WebLogic Domain

Use this page to create a profile, save it in Software Library, then use the saved profile as a source for creating new WebLogic domains. This way, you can ensure that future WebLogic installations follow a standard and consistent configuration.



Note:

- Profile creation and provisioning of domains with partitions is not supported.
- In case the domain is cloned the partition may not function as expected once provisioned.
- To clone, set up a new domain, and then import or export partitions. This is supported from release 13.2 only.

Before you begin creating the Middleware provisioning profile, ensure that you meet the following prerequisites:

- The Management Agent must be running on the Administration Server.
- Ensure that you have read permissions on all the files and sub-directories inside the domain home, applications home, and the Oracle home.
- Host credentials must be set for the source machine on which Administration Server is running.
- The WebLogic domain for which the profile is being created must be a monitored target in Cloud Control.

- Ensure to disable host name verification on all the hosts. This can be accomplished by following a simple procedure. In **SSL**, click **Advanced**, then set the **Host Name Verification** to *None*.
- The disk space required to create a profile is calculated as follows:

Disk Space = Middleware Home Size + WebLogic Domain Size + Space for Temporary Scripts (about one GB)

 **Note:**

While creating a provisioning profile for SOA or Oracle Service Bus domains, there is an option **Include metadata**. When you check this option it saves some information of the profile. It creates new schema and inserts the saved metadata. Hence database cloning is not required. This is supported from release 13.2 only.

To create a WebLogic Domain profile, follow these steps:

1. In Cloud Control, from the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. On the Middleware Provisioning home page, in the Profiles section, click **Create** and select **From a WebLogic Domain**.
3. Click **Next**.
4. On the Create Fusion Middleware Provisioning Profile page, in the Profile Details section, enter a unique name and description for your profile. By default, all the profiles are centrally located in Software Library under the `Fusion Middleware Provisioning/Profiles` directory.
5. In the Reference Target section, search and select the WebLogic Domain target. Once you select the target, the Domain Home, the Host, and the Oracle home details for the host get populated.

You must ensure that a database instance is associated with the WebLogic Domain except in the case of a plain WebLogic Domain where it may not be necessary. To associate a database with the domain, create a database profile using the Create Database Provisioning Profile wizard.

Enter the Oracle Home credentials required to log into the host target selected.

Enter an existing named credential of weblogic administrator for the domain or create a new named credential by entering the details.

 **Note:**

While creating Middleware Domain Provisioning profile, you must select a WebLogic named credential with admin privileges. You must explicitly select the option WebLogic Administrator Credentials as the Credential Type. If this option is not selected then a named credential of the same admin user without administrator privileges will be created and profile creation will be failed later.

 **Note:**

You can also launch the WebLogic Domain Profile from the Middleware target page. If this is done, then the context of the of the target is maintained, and the fields like **Type**, **Name**, **Host**, and **Oracle Home** details appear pre-populated.

6. Based on the target selection, you may create one of the following profiles:
 - a. **Domain-Based Profile with Oracle Home:** If you do not wish to upload the Oracle Home files, de-select the **Include Oracle Home** checkbox available in the Reference Target section. If you do so, then while provisioning from this domain profile, you will need to have a pre-deployed Oracle Home that already exists at the destination, and the content of the Oracle Home should match with the one expected by the domain profile.
 - b. **Domain-Based Profile without Oracle Home:** If you retain the default selection of **Include Oracle Home**, then a WebLogic Domain with the domain configurations, Middleware Home, and binaries is created.

Click the search icon to provide credentials. In the Select Credentials dialog box, select the credentials that you have already set, and click **OK**. Click **Test** to validate the credentials against the selected target.
7. In the Software Library Upload Location section, select the Software Library storage details. Ensure that you provide a valid storage type, and upload location to update the profile.
8. Click **Create** to submit the profile creation job. After the job has successfully run, a new entry is available in the Profiles table. You can click the profile name to view the details.

Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile

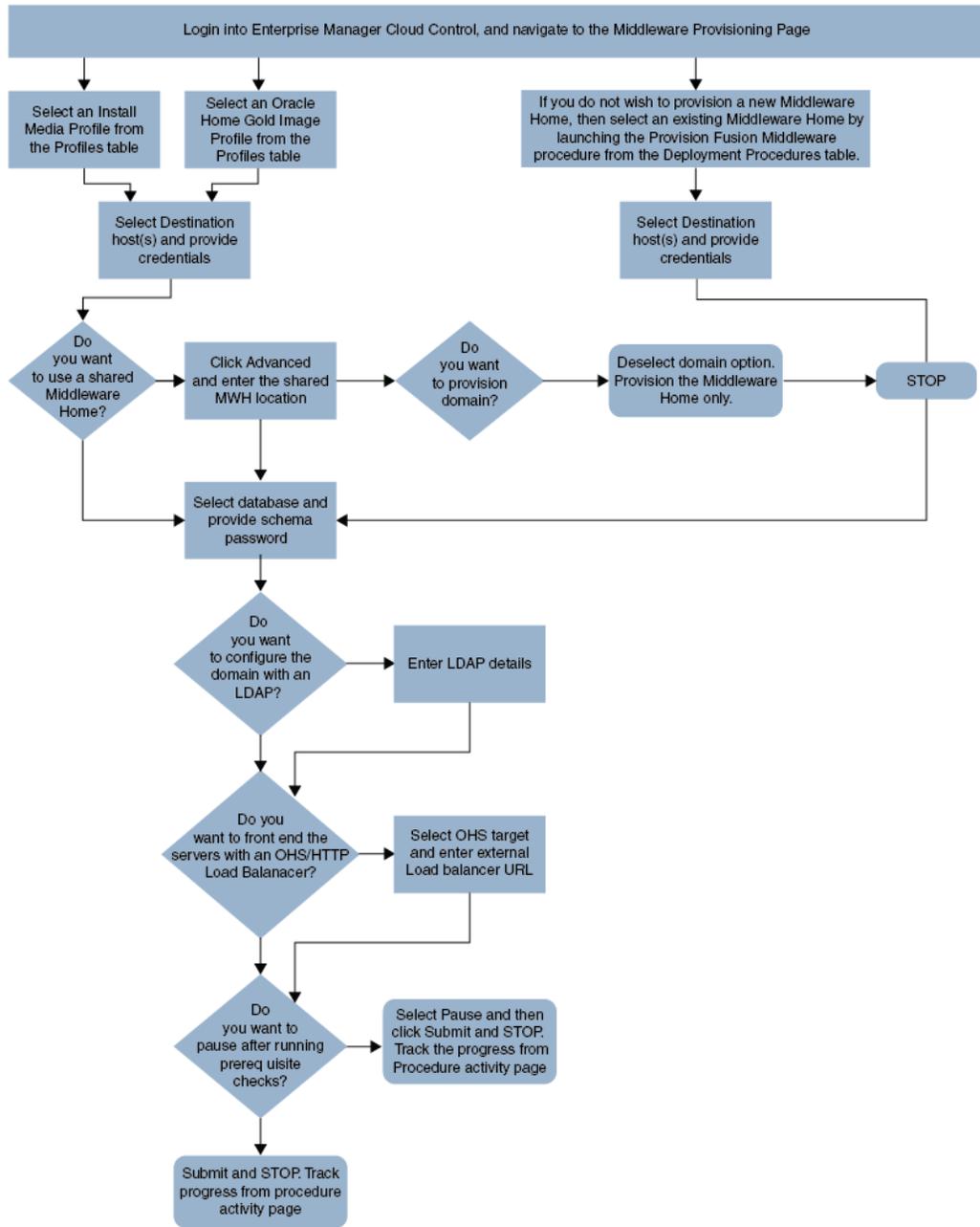
To provision an Oracle Fusion Middleware domain or Oracle Home using an Installation Media-based profile, follow the steps below. The steps are same whether it involves SOA, OSB, WebCenter, or WebLogic.

 **Note:**

Starting with Enterprise Manager for Oracle Fusion Middleware 12.1.0.7, you can provision SOA and Service Bus in a single operation. For this, you need to create an Installation Media profile with SOA and Service Bus installation files, and provision this profile. Until the previous release, you could only provision one domain (for example, SOA), and extend that domain to include the other product (for example, Service Bus). This release allows the flexibility of provisioning both SOA and Service Bus at the same time.

Middleware Provisioning supports RAC only with GridLink Data Sources.

Note: To provide inputs and further customize the destination environment, click **Advance**. To understand the settings and configuration parameters that can be customized, see [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).



1. In Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**.

2. On the Middleware Provisioning home page, from the Profiles table select an Installation Media profile, and click **Provision**.
3. On the Provision Fusion Middleware page, in the General section, the Installation Media profile appears pre-selected.

 **Note:**

If you are provisioning a WebCenter profile, you can choose to use Development Topology or Production Topology. If you do not specify, by default, the Production Topology is selected. For more information about the topologies, see [About WebCenter Topologies Supported in Enterprise Manager](#).

4. In the Hosts section, search and select the destination hosts on which the Middleware Home and WebLogic Domain needs to be cloned. Click **+Add** to add the target hosts, and provide the login credentials for them. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all**.
5. In the Middleware section, the Middleware Base and Java Home values appear pre-populated; you can customize these values if required. Provide credentials for the domain Administrator.
6. In the Database section, depending on the profile being provisioned the following options are possible:
 - **From an Installation media Profile:**

If you are provisioning from an Installation Media profile, you can create a new schema using a profile contains an RCU shiphome. To do so, select the **Create Schema** option. A default value for the Schema Prefix is populated; you may change this if required. Provide credentials for the database target and the new schema. If you deselect the default schema creation option, then an existing schema on the database target is used.
 - **From an Oracle Home Profile:**

If you are provisioning from an Oracle Home profile, you cannot create a new schema. You must, choose an existing schema and provide the schema password.
7. (*optional*) In the Identity and Security section, you must enter the OID target name and the OID credentials. These are mandatory fields for creating an LDAP Authenticator and/or for reassociating the Domain Credential Store.

 **Note:**

If you are provisioning a WebCenter profile, this section is displayed only for the Production Topology which is the default option.

In addition to this, you must provide the following sets of inputs in the OID section:

- **Configure LDAP Authenticator Inputs.** This section describes how to create the LDAP authenticator:

- Authenticator Name: Enter a name for the OIDAuthenticator provider. For example: MyOIDAuthenticator.
- User Base DN: Specify the DN under which your Users start. For example, `cn=users,dc=us,dc=mycompany,dc=com`
- Group Base DN: Specify the DN that points to your Groups node. For example: `cn=groups,dc=us,dc=mycompany,dc=com`

 **Note:**

As a prerequisite, you must have already provisioned the users and groups in the LDAP.

- **Configure Security Store Inputs:** In this section, provide the JPS Root Node information. The JPS root node is the target LDAP repository under which all data is migrated. The format is `cn=nodeName`.

 **Note:**

As a prerequisite, you must have already created the root node in the LDAP.

8. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: `(http|https://hostname:port)`

For example: `http://host.example.com:80`

 **Note:**

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: `(http|https|tcp://hostname:port)`

For example: `http://host.example.com:80`

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

9. (For a WebCenter Production Domain only) To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, `mycrawladmin`.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is `SEARCHSYS`.
- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, `wesearch`.
- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: `http://search_server_listenAddress:search_server_listenPort`. For example, `http://host.example.com:80`.

 **Note:**

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p
welcome1 -http://host.example.com:80/search/api/admin/
AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c
http://http://host.example.com:80/search/api/admin/
AdminService -p welcome1 updateAll searchAttr -a overwrite -i
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

10. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, you can login with designer role and create a template with lockdowns, and assign the desired privileges to other administrator/operators to run this template. Click **Cancel** to exit the procedure configuration.
11. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page, see About Deployment Procedures.
12. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile

To customize the destination environment, click **Advance** option available on the Fusion Middleware Provisioning wizard.

 **Note:**

The **Advance** option is enabled only after you select the destination hosts.

Follow these steps:

 **Note:**

Oracle recommends that you allow the default option **Typical** to remain selected, and provide all the details. Following which, you can click **Advance** to customize your destination environment. This way, the default values for most of the parameters appear pre-populated, and you will need to enter only the remaining (delta) details. Also, note that if you switch from Advance mode to typical mode, you will lose all the changes that you have made so far.

1. In Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**.
2. On the Middleware Provisioning home page, from the Profiles table select an Installation Media profile, and click **Provision**.
3. On the Provision Fusion Middleware Configuration page, in the General section, the Installation Media profile appears pre-selected.

 **Note:**

If you are provisioning a WebCenter profile, you can choose to use Development Topology or Production Topology. If you do not specify, by default, the Production Topology is selected, see [About WebCenter Topologies Supported in Enterprise Manager](#).

By default, the middleware home is selected, you cannot deselect this option. However, you are allowed to choose whether or not you want to create a new domain for your middleware home. If you select **Provision Domain**, a middleware home is created on the destination host, and a new domain is set up for this middleware home on the destination host.

The Enterprise Manager template is added when the **Oracle Enterprise Manager - JRF (database required)** option is selected. If the **Basic WebLogic Server Domain** option is selected, no additional template is added. If the profile is of version 12.2.1.0.0 or above, then you can select the **Oracle Enterprise Manager - Restricted JRF** option to add the 'Enterprise Manager - Restricted' template to the domain. The database details are not asked as they are not required. If you select the **Oracle Enterprise Manager - JRF (database required)** option to configure the domain, then you must enter the database details for the data source connections.

 **Note:**

If you are provisioning a SOA or a Service Bus profile, you can extend the domain to include the other product. For example, if you are provisioning a SOA domain, and you select the **Extend an existing Domain** option, then you will be allowed to extend your SOA domain to include Service Bus. To extend a domain, you will need to select the domain and provide the administrator credentials. The extend domain feature is different from Scaling a domain where you add additional managed servers to an existing domain. In extend domain, you are able to create a hybrid domain that includes two products. As of now, only a SOA or an Service Bus domain can be extended. Support for other products like WebCenter is not available.

If you have added more than one destination host, select **Use Shared Storage** option to use a shared location for these hosts. The central inventory attached to that is executed locally in all hosts sharing the Oracle Home.

To clone only the Middleware Home, deselect the **Provision Domain**.

4. In the Hosts section, search and select the destination hosts on which the Middleware Home and WebLogic Domain needs to be cloned. Click **+Add** to add the target hosts, and provide the login credentials for them. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all**.
5. In the Middleware section, the values for Middleware Base and Java Home fields appear pre-populated. You can change the location details, if required.
 - For **Middleware Home**, enter the full path to the directory in which the Middleware Home is to be created.
 - For **Java Home**, enter the absolute path to the JDK directory to be used on the destination Host.

 **Note:**

You must have already installed JDK at the same path on all the hosts.

6. In the Domain section, the configuration for the source domain is displayed by default. You can change the following attributes to customize the domain properties:
 - **Domain Name:** The name of the domain. The generated components for the domain are stored under the specified Domain directory. For example, if you enter *mydomain*, your domain files are stored (by default) in *MW_HOME\user_projects\domains\mydomain*.
 - **Administrator Username:** The default Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server. The username must not contain commas, tabs, or any of these characters: < > # | & ? () { }.
 - **Administrator Password:** The password for the Administrator account. The password must be at least eight characters, and must contain at least one

numeric character or at least one of the following characters: ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~

- **Unique Domain Identifier:** The unique domain identifier is a prefix to the domain name.
- **Deploy JVMD Agent:** Deploys the JVMD agent on the servers or clusters of a Weblogic Domain. Java Virtual Machine Diagnostics (JVMD) enables administrators to diagnose performance problems in Java applications. After the JVMD Agent is deployed on the targeted JVM (the one running a production WebLogic Server), it collects real-time data and transmits it to the JVM Diagnostics Engine.
- **Available JVMD Endpoints:** This is the list of available JVMD endpoints. For a successful JVMD deployment, the JVMD engine must be active, if the JVMD engine is not active the agent is not deployed.
- **Targets:** This is the list of targets on clusters or managed servers. If no targets are provided, the JVMD agent will be deployed by default to all the clusters and non-clustered servers of the domain. If a cluster is selected as target, then all the servers that are part of that cluster automatically get the agent deployed.
- **Domain Directory:** The location in which your domain directory will be stored. By default, the same path as the source is used to create this directory, but it can be changed. For example: If the Middleware Home is located at `/user/mwh`, the domain directory is created as `/user/domains`. The domain location can be anywhere on your local drive or network. On Windows, you must include the drive letter in this path.
- **Applications Directory:** The directory in which the applications will be deployed on the destination host. By default, the same path as the source is used to create this directory, but it can be changed. For example: If the Middleware Home is located at `/user/mwh`, the application directory is created as `/user/mwh/applications`.
- **Domain Mode:** The domain can operate in one of the following modes:
 - Production:** The domain is used for production. In this mode, the security configuration is relatively stringent, requiring a username and password to deploy applications.
 - Development:** The domain is used for development. In this mode, the security configuration is relatively relaxed, allowing you to auto-deploy applications.
- **Server Startup Mode:** you can start the server in one of the following modes depending on your requirement:
 - Start all Servers and Node Managers:** This is the default option. Typically, you will select this option if you have no changes to make, and if the procedure has run as expected.
 - Start only Administration Server:** This option starts only Administrator Server and Node Manger. Typically, you will select this option if you want to add a custom step to invoke the WLST online script, and then start the servers.
 - Do not start any Server or Node Manager:** This option does not start any server or Node Manager. Typically, you will select this option if you have to customize the domain before starting any server.

7. In the Clusters section, you can modify the name of the cluster, enter the cluster address that identifies the Managed Servers in the cluster. You can select either Unicast or Multicast as the messaging mode. If you select **Multicast** mode, enter the address and port number that will be dedicated for multicast communications on the cluster. Click **+Add** to add one or more clusters to the configuration.

A SOA or OSB domain can be configured with a owsml cluster. Click **+Add OWSM Cluster** to configure SOA or OSB domain with an OWSM cluster,

8. In the Machines section, enter configuration information for machines in the domain. A Machine is a logical representation of the system that hosts one or more WebLogic Server instances. The Administration Server and Node Manager use the Machine definition to start remote servers. Click **+Add** to add one or more machine configurations. Enter the following details:

- **Node Manager Home:** The directory in which the Node Manager is installed. By default, the Node Manager is installed under the parent directory of the Middleware Home directory, but this can be modified.

\

 **Note:**

The Node Manager home must always be installed inside the Administration Server domain home.

- **Node Manager Credentials:** You can use the same credentials as Administrative Server credentials or deselect the option to provide separate Node Manager Credentials.
- **Machine Name:** Enter a unique name for your machine.
- **Host:** Select the host name from the menu.
- **Node Manager Listen Address:** Enter the listen address used by Node Manager to listen for connection requests. By default, the IP addresses defined for the local system and localhost are shown in the drop-down list. The default value is the same as specified in the source domain.

 **Note:**

If multiple machines are running on the same host, the Node Manager Home location must be different for each host.

- **Node Manager Listen Port:** Enter a valid value for the listen port used by Node Manager to listen for connection requests. The valid Node Manager listen port range is 1 to 65535. The default value is 5556. The port number must be available on the destination machine.
9. In the Server section, enter the configuration information for the Administration Server and one or managed servers.
 - Select the **Configure Coherence** check box
 - **Coherence Port:** This field is enabled only when you select the Configure Coherence option. You can retain the port number that is populated by default or change it.

- **Listen Port:** By default, this option is selected. The values for the listen ports are pre-populated. You may enter any value from 1 to 65535. The port number you enter here must be available on the destination machine.

 **Note:**

If a domain was registered on the host with a port number whose status is down, you need to select a different port or manually de-register the domain before launching the deployment procedure.

- **SSL Listen Port:** If you enable SSL Listen Port, enter the port number of the SSL Listen Port for secure requests. You must ensure that the port numbers you specify for the Listen Port and SSL Listen Port are available. If you are using the SSL configuration, you must ensure that the security/identity stores are present in the file system under the same path as on the source and are configured with certificates generated for the destination hosts.
 - **Administration Port:** This port enables the domain to run in Administration Mode. For this, all the servers needs to be SSL enabled.
 - **Host:** Select the host on which the Administration Server or Managed Server is to be installed.
 - **Listen Address:** Enter the listen address to be used to connect to the Administration Server or the Managed Server instance.
 - **Machine:** Select the machine configuration that is to be associated with the Administration Server or the Managed Server
 - **Cluster:** Select the cluster to be associated with the Managed Server.
 - **Server Start:** Click to enter the Server Startup Parameters. Usually, the Node Manager can start a server without requiring you to specify startup options, however, since you have customized your environment you must specify the startup options in the Server Startup Parameter dialog box.
 - **Transaction Log Directory:** Transaction log stores information about committed transactions that are coordinated by the server and that may not have been completed. Oracle WebLogic Server uses this transaction log for recovery from system crashes or network failures. To leverage the migration capability of the Transaction Recovery Service for the Managed Servers within a cluster, store the transaction log in a location accessible to the Managed Server and its backup servers.
 - **Domain Directory for Managed Server:** The directory in which the Managed Servers are installed. By default, they are installed under the parent directory of the Middleware Home directory, but this can be modified.
10. In the JMS Servers section, click **+Add** to add new JMS persistent stores and JMS servers. The storage type can be one of the following:
- A JMS file store is a disk-based file in which persistent messages can be saved. You can modify the JMS file stores configured in your domain.
 - A JDBC Store:
 - Data Source
 - Targets

11. In the Database section, depending on the profile being provisioned the following options are possible:
- **From an Installation Media Profile:**
Search and select the database target. A default value for the Schema Prefix is populated; you may change this if required.
 - The **Create Schema** option allows you to create a new schema for the RCU profile selected by default. Provide credentials for the database target and the new schema.
 - Select **Same password for all** option if you would like to use the same username and password for all the data sources on the selected database target

If you deselect the default schema creation option, then an existing schema on the database target is used.
 - **From an Oracle Home Profile:**
If you deselect the default schema creation option, then an existing schema on the database target is used.
12. (*optional*) In the Identity and Security section, you must enter the OID target name and the OID credentials. These are mandatory fields for creating an LDAP Authenticator and/or for reassociating the Domain Credential Store.

 **Note:**

If you are provisioning a WebCenter profile, this section is displayed only for the Production Topology which is the default option.

In addition to this, you must provide the following sets of inputs in the OID section:

- **Configure LDAP Authenticator Inputs.** This section describes how to create the LDAP authenticator:
 - Authenticator Name: Enter a name for the OIDAAuthenticator provider. For example: MyOIDAuthenticator.
 - User Base DN: Specify the DN under which your Users start. For example, `cn=users,dc=us,dc=mycompany,dc=com`
 - Group Base DN: Specify the DN that points to your Groups node. For example: `cn=groups,dc=us,dc=mycompany,dc=com`

 **Note:**

As a prerequisite, you must have already provisioned the users and groups in the LDAP.

- **Configure Security Store Inputs:** In this section, provide the JPS Root Node information. The JPS root node is the target LDAP repository under which all data is migrated. The format is `cn=nodeName`.

 **Note:**

As a prerequisite, you must have already created the root node in the LDAP.

13. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: (http|https://hostname:port)

For example: http://host.example.com:80

 **Note:**

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: (http|https|tcp://hostname:port)

For example: tcp://wcp-prov-ucm.example.com:4444

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

14. (For a WebCenter Production Domain only) To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, mycrawladmin.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is SEARCHSYS.

- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, wesearch.
- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: `http://search_server_listenAddress:search_server_listenPort`. For example, `http://host.example.com:80`.

 **Note:**

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p
welcome1 -c http://host.example.com:80/search/api/admin/
AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c
http://host.example.com:80/search/api/admin/AdminService -p
welcome1 updateAll searchAttr -a overwrite -i
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

- 15. In the Custom Scripts section, you can select the scripts stored as directives in Software Library to customize the deployment procedure. Following options are possible, you may or may not choose to pass the scripts with parameters:
 - a. You can pass a script with input parameters. For more information, see [Using Custom Scripts Stored in the Software Library](#).

 **Note:**

If you pass the input parameter, ensure that you allow the default option of **Input File** to be selected. For example, in the Pre Script field, you can choose **My Custom Script With Parameters** script that you earlier created. For more information see [Using Custom Scripts with Input Parameters](#).

Following are the contents of a sample input properties (`input.properties`) file:

```
ADMIN_SERVER_LISTEN_ADDRESS=host.example.com
ADMIN_SERVER_LISTEN_PORT=7001
ADMIN_PROTOCOL=t3
MIDDLEWARE_HOME=/scratch/usr1/soa/middleware
```

- b. You can alternatively choose to pass a script without any input parameters. For more information, see [Using Custom Scripts Stored in the Software Library](#).

 **Note:**

If you do not want to pass an input parameter, you should deselect the **Input File** option. For example, in the Pre Script field, you can choose **My Custom Script Without Parameters** script that you earlier created. For more information, see [Using Custom Scripts Without Input Parameters](#).

You can pass the following scripts to customize your procedure:

16. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, you can login with designer role and create a template with lockdowns, and assign the desired privileges to other administrator/operators to run this template. Click **Cancel** to exit the procedure configuration.
17. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page. For more information about this, see About Deployment Procedures.
18. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Provisioning a Fusion Middleware Domain from an Existing Oracle Home

To provision a fresh domain from an existing Oracle home, follow these steps:

 **Note:**

To provide inputs and further customize the destination environment, click **Advance**. To understand the settings and configuration parameters that can be customized, see [Customizing the Destination Environment from an Existing Oracle Home](#).

1. On Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**
2. On the Middleware Provisioning home page, from Deployment Procedure section select **Provision Fusion Middleware**, then click **Launch**.

3. On the Middleware Provisioning page, in the General section, select **Oracle Home**. Click the search icon, the Select target dialog box is displayed. Search and select the WebLogic Server home that you want to reuse.
4. In the Hosts section, click **+Add** to search and select the destination hosts where the cloned Middleware Home will reside. For the cloning operation, you will need to provide the login credentials for the destination hosts. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all** option.
5. In the Middleware section, provide the domain Administrator credentials.
6. In the Database section, select a Database Target, choose an existing schema and provide the schema password.
7. (*optional*) In the Identity and Security section, you must enter the OID target name and the OID credentials. These are mandatory fields for creating an LDAP Authenticator and/or for reassociating the Domain Credential Store.

 **Note:**

If you are provisioning a WebCenter profile, this section is displayed only for the Production Topology which is the default option.

In addition to this, you must provide the following sets of inputs in the OID section:

- **Configure LDAP Authenticator Inputs.** This section describes how to create the LDAP authenticator:
 - Authenticator Name: Enter a name for the OIDAAuthenticator provider. For example: MyOIDAuthenticator.
 - User Base DN: Specify the DN under which your Users start. For example, `cn=users,dc=us,dc=mycompany,dc=com`
 - Group Base DN: Specify the DN that points to your Groups node. For example: `cn=groups,dc=us,dc=mycompany,dc=com`

 **Note:**

As a prerequisite, you must have already provisioned the users and groups in the LDAP.

- **Configure Security Store Inputs:** In this section, provide the JPS Root Node information. The JPS root node is the target LDAP repository under which all data is migrated. The format is `cn=nodeName`.

 **Note:**

As a prerequisite, you must have already created the root node in the LDAP.

8. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: (http|https://
hostname:port)

For example: http://wcp-prov.example.com:80

 **Note:**

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: (http|https|tcp://
hostname:port)

For example: tcp://wcp-prov-ucm.example.com:4444

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

9. *(For a WebCenter Production Domain only)* To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, mycrawladmin.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is SEARCHSYS.
- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This

trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, wesearch.

- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: `http://search_server_listenAddress:search_server_listenPort`. For example, `http://slc01rsk.us.example.com:5720`.

Note:

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p
welcome1 -c http://slc01rsk.us.example.com:5720/search/api/
admin/AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c
http://slc01rsk.us.example.com:5720/search/api/admin/
AdminService -p welcome1 updateAll searchAttr -a overwrite -i
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

10. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, if you want to create a template with lockdowns, and allow other users with operator privilege to run the template multiple times with minor modifications.
Click **Cancel** to exit the procedure configuration.
11. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page. For more information about this, see About Deployment Procedures.
12. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Customizing the Destination Environment from an Existing Oracle Home

To customize the destination environment, click **Advance** available on the Fusion Middleware Provisioning wizard. Note that the **Advance** option is enabled only after you select the destination hosts.

Follow these steps:

 **Note:**

Oracle recommends that you allow the default option **Typical** to remain selected, and provide all the details. Following which, you can click **Advance** to customize your destination environment. This way, the default values for most of the parameters appear pre-populated, and you will need to enter only the remaining (delta) details. Also, note that if you switch from Advance mode to typical mode, you will lose all the changes that you have made so far.

1. On Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**
2. On the Middleware Provisioning home page, from Deployment Procedure section, select **Provision Fusion Middleware**, then click **Launch**.
3. On the Provision Fusion Middleware Configuration page, in the General section, the Oracle Home appears pre-selected.

By default, the **Provision Domain** option is selected. Basically, a fresh domain is provisioned with an existing Oracle home.

To clone only the Middleware Home, deselect the **Provision Domain**.

4. In the Hosts section, search and select the destination hosts on which the Middleware Home and WebLogic Domain need to be cloned. Click **+Add** to add the target hosts, and provide the login credentials for them. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all**.
5. In the Domain section, the configuration for the domain is displayed by default. You can change the following attributes to customize the domain properties:
 - **Domain Name:** The name of the domain. The generated components for the domain are stored under the specified Domain directory. For example, if you enter *mydomain*, your domain files are stored (by default) in *MW_HOME\user_projects\domains\mydomain*. Ensure that you provide a unique domain name.
 - **Administrator Username:** The default Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server. The username must not contain commas, tabs, or any of these characters: `< > # | & ? () { }`.
 - **Administrator Password:** The password for the Administrator account. The password must be at least eight characters, and must contain at least one numeric character or at least one of the following characters: `! " # $ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~`
 - **Unique Domain Identifier:** The unique domain identifier is a prefix to the domain name.
 - **Domain Directory:** The location in which your domain directory will be stored. By default, the same path as the source is used to create this directory, but it can be changed. For example: If the Middleware Home is located at */user/mwh*, the domain directory is created as */user/domains*. The domain location can be anywhere on your local drive or network. On Windows, you must include the drive letter in this path.

- **Applications Directory:** The directory in which the applications will be deployed on the destination host. By default, this directory is created under the parent directory of the Middleware Home. For example: If the Middleware Home is located at `/user/mwh`, the application directory is created as `/user/mwh/applications`.
- **Domain Mode:** The domain can operate in one of the following modes:
 - Production:** The domain is used for production. In this mode, the security configuration is relatively stringent, requiring a username and password to deploy applications.
 - Development:** The domain is used for development. In this mode, the security configuration is relatively relaxed, allowing you to auto-deploy applications.
- **Server Startup Mode:** you can start the server in one of the following modes depending on your requirement:
 - Start all Servers and Node Managers:** This is the default option. Typically, you will select this option if you have no changes to make, and if the procedure has run as expected.
 - Start only Administration Server:** This option starts only Administrator Server and Node Manager. Typically, you will select this option if you want to add a custom step to invoke the WLST online script, and then start the servers.
 - Do not start any Server or Node Manager:** This option does not start any server or Node Manager. Typically, you will select this option if you have to customize the domain before starting any server.
- 6. In the Clusters section, you can modify the name of the cluster, enter the cluster address that identifies the Managed Servers in the cluster. You can select either Unicast or Multicast as the messaging mode. If you select **Multicast** mode, enter the address and port number that will be dedicated for multicast communications on the cluster. Click **+Add** to add one or more clusters to the configuration.
- 7. In the Machines section, enter configuration information for machines in the domain. A Machine is a logical representation of the system that hosts one or more WebLogic Server instances. The Administration Server and Node Manager use the Machine definition to start remote servers. Click **+Add** to add one or more machine configurations. Enter the following details:
 - **Node Manager Home:** The directory in which the Node Manager is installed. By default, the Node Manager is installed under the parent directory of the Middleware Home directory, but this can be modified.
Note that the Node Manager home must always be installed inside the Administration Server domain home.
 - **Node Manager Credentials:** You can use the same credentials as Administrative Server credentials or deselect the option to provide separate Node Manager Credentials.
 - **Machine Name:** Enter a unique name for your machine.
 - **Host:** Select the host name from the menu.
 - **Node Manager Listen Address:** Enter the listen address used by Node Manager to listen for connection requests. By default, the IP addresses defined for the local system and localhost are shown in the drop-down list. The default value is the same as specified in the source domain. Note that if

multiple machines are running on the same host, the Node Manager Home location must be different for each host.

- **Node Manager Listen Port:** Enter a valid value for the listen port used by Node Manager to listen for connection requests. The valid Node Manager listen port range is 1 to 65535. The default value is 5556. The port number must be available on the destination machine.
8. In the Server section, enter the configuration information for the Administration Server and one or managed servers.
- Select the **Configure Coherence** check box
 - **Coherence Port:** This field is enabled only when you select the Configure Coherence option. You can retain the port number that is populated by default or change it.
 - **Listen Port:** By default, this option is selected. The values for the listen ports are pre-populated. You may enter any value from 1 to 65535. The port number you enter here must be available on the destination machine.

Note If a domain was registered on the host with a port number whose status is down, you need to select a different port or manually de-register the domain before launching the deployment procedure.

- **SSL Listen Port:** If you enable SSL Listen Port, enter the port number of the SSL Listen Port for secure requests. You must ensure that the port numbers you specify for the Listen Port and SSL Listen Port are available. If you are using the SSL configuration, you must ensure that the security/identity stores are present in the file system under the same path as on the source and are configured with certificates generated for the destination hosts.
- **Administration Port:** This port enables the domain to run in Administration Mode. For this, all the servers needs to be SSL enabled.
- **Host:** Select the host on which the Administration Server or Managed Server is to be installed.
- **Listen Address:** Enter the listen address to be used to connect to the Administration Server or the Managed Server instance.
- **Machine:** Select the machine configuration that is to be associated with the Administration Server or the Managed Server
- **Cluster:** Select the cluster to be associated with the Managed Server.
- **Server Start:** Click to enter the Server Startup Parameters. Usually, the Node Manager can start a server without requiring you to specify startup options, however, since you have customized your environment you must specify the startup options in the Server Startup Parameter dialog box.
- **Transaction Log Directory:** Transaction log stores information about committed transactions that are coordinated by the server and that may not have been completed. Oracle WebLogic Server uses this transaction log for recovery from system crashes or network failures. To leverage the migration capability of the Transaction Recovery Service for the Managed Servers within a cluster, store the transaction log in a location accessible to the Managed Server and its backup servers.
- **Domain Directory for Managed Server:** The directory in which the Managed Servers are installed. By default, they are installed under the parent directory of the Middleware Home directory, but this can be modified.

9. In the JMS Servers section, click **+Add** to add new JMS persistent stores and JMS servers. The storage type can be one of the following:
 - A JMS file store is a disk-based file in which persistent messages can be saved. You can modify the JMS file stores configured in your domain.
 - A JDBC Store:
 - Data Source
 - Targets
10. In the Database section, choose an existing schema and provide the schema password. Select **Same password for all** option if you would like to use the same username and password for all the data sources on the selected database target.
11. (*optional*) In the Identity and Security section, you must enter the OID target name and the OID credentials. These are mandatory fields for creating an LDAP Authenticator and/or for re-associating the Domain Credential Store.

 **Note:**

If you are provisioning a WebCenter profile, this section is displayed only for the Production Topology which is the default option.

In addition to this, you must provide the following sets of inputs in the OID section:

- **Configure LDAP Authenticator Inputs.** This section describes how to create the LDAP authenticator:
 - Authenticator Name: Enter a name for the OIDAAuthenticator provider. For example: MyOIDAuthenticator.
 - User Base DN: Specify the DN under which your Users start. For example, `cn=users,dc=us,dc=mycompany,dc=com`
 - Group Base DN: Specify the DN that points to your Groups node. For example: `cn=groups,dc=us,dc=mycompany,dc=com`

 **Note:**

As a prerequisite, you must have already provisioned the users and groups in the LDAP.

- **Configure Security Store Inputs:** In this section, provide the JPS Root Node information. The JPS root node is the target LDAP repository under which all data is migrated. The format is `cn=nodeName`.

 **Note:**

As a prerequisite, you must have already created the root node in the LDAP.

12. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: (http|https://
hostname:port)

For example: http://host.example.com:80

 **Note:**

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: (http|https|tcp://
hostname:port)

For example: http://host.example.com:80

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

13. (For a WebCenter Production Domain only) To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, mycrawladmin.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is SEARCHSYS.
- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This

trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, wesearch.

- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: `http://search_server_listenAddress:search_server_listenPort`.

For example, `http://host.example.com:80`.

Note:

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p
welcome1 -c http://host.example.com:80/search/api/admin/
AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c
http://host.example.com:80/search/api/admin/AdminService -p
welcome1 updateAll searchAttr -a overwrite -i
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

14. In the Custom Scripts section, you can select the scripts stored as directives in Software Library to customize the deployment procedure. Following options are possible, you may or may not choose to pass the scripts with parameters:
 - a. You can pass a script with input parameters. For more information, see [Using Custom Scripts Stored in the Software Library](#).

Note:

If you pass the input parameter, ensure that you allow the default option of **Input File** to be selected. For example, in the Pre Script field, you can choose **My Custom Script With Parameters** script that you earlier created. For more information see [Using Custom Scripts With Input Parameters](#).

Following are the contents of a sample input properties (`input.properties`) file:

```
ADMIN_SERVER_LISTEN_ADDRESS=host.example.com
ADMIN_SERVER_LISTEN_PORT=7001
```

```
ADMIN_PROTOCOL=t3
MIDDLEWARE_HOME=/scratch/usr1/soa/middleware
```

- b. You can alternatively choose to pass a script without any input parameters.

Note: If you do not want to pass an input parameter, you should deselect the **Input File** option. For example, in the Pre Script field, you can choose **My Custom Script Without Parameters** script that you earlier created. For more information, see [Using Custom Scripts Stored in the Software Library](#).

You can pass the following scripts to customize your procedure:

- **Pre Script:** This script runs soon after the prerequisite checks and before the Oracle Home or WebLogic Domain is deployed.
 - **Post Administration Server Start Script:** This script runs after the Administration Server has been started.
 - **Post Script:** This script runs after all the Managed Servers have started.
15. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, you can login with designer role and create a template with lockdowns, and assign the desired privileges to other administrator/operators to run this template. Click **Cancel** to exit the procedure configuration.
16. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page. For more information about this, see [About Deployment Procedures](#).
17. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Cloning from an Existing WebLogic Domain Based-Profile

To clone an existing domain, follow these steps:



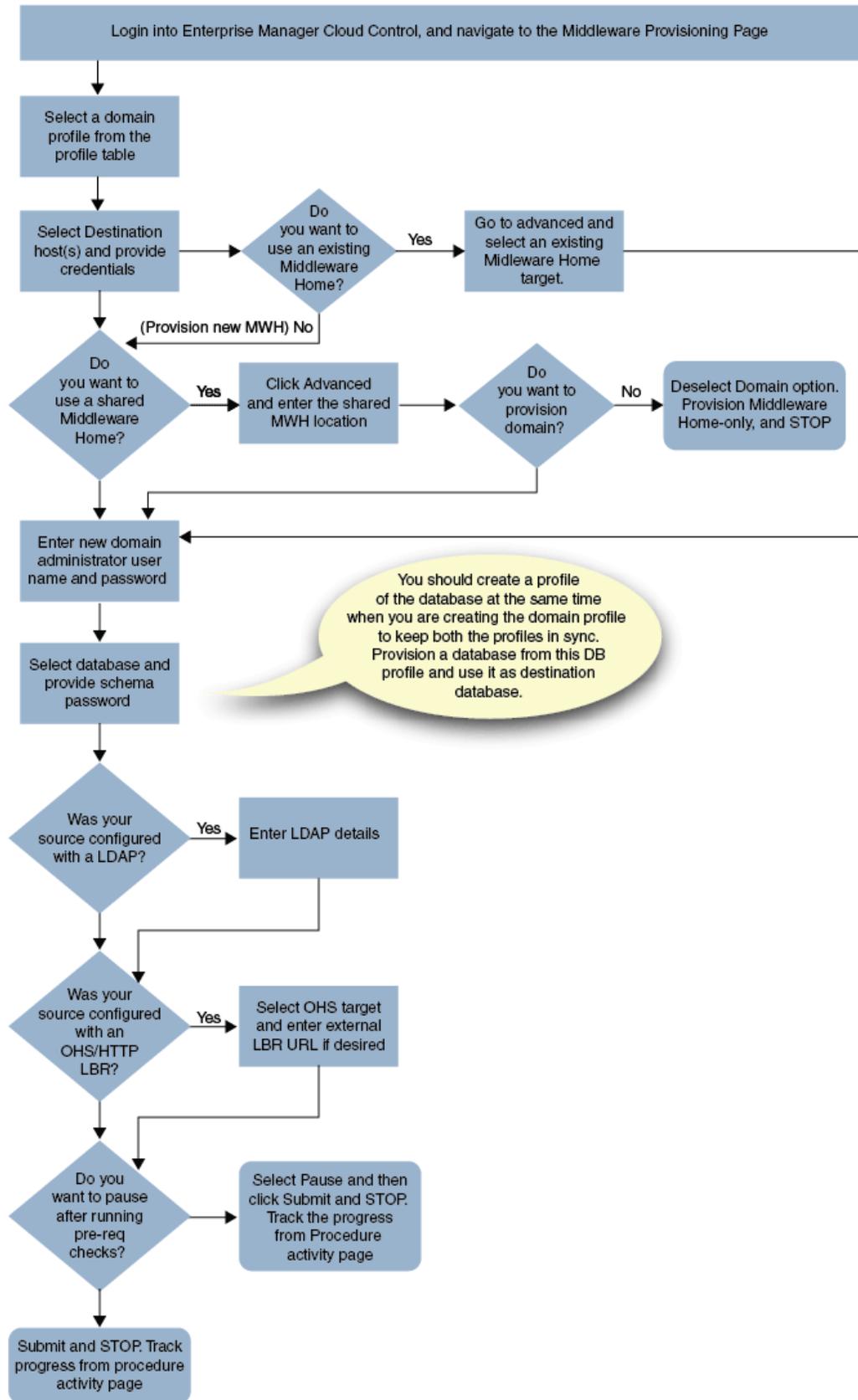
Note:

To provide inputs and further customize the destination environment, click **Advance**. To understand the settings and configuration parameters that can be customized, see [Customizing the Destination Environment from an Existing WebLogic Domain Based-Profile](#).



Note:

For more information on cloning a database in WebLogic domain, see [Use Case 6 - Cloning a database in WebLogic Domain](#).



 **Note:**

Middleware Provisioning supports RAC only with GridLink Data Sources.

1. In Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**.
2. On the Middleware Provisioning home page, from the Profiles table select a WebLogic Domain profile, then click **Provision**.
3. On the Provision Fusion Middleware page, in the General section, the WebLogic Domain profile appears pre-selected.
4. In the Hosts section, search and select the destination hosts where the cloned WebLogic Domain will reside. Click **+Add** to add the target hosts, and provide the login credentials for them. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all**.

Note: The domain configuration for the destination host and the source host must be exactly the same for cloning operation to be successful. For example, if the source domain has servers on two different hosts, then you will need to select two different destinations hosts. You will be prompted to do so before you proceed.

5. In the Middleware section the value for Java Home appears pre-populated. Provide the domain Administrator credentials.

 **Note:**

The vendor and version of the JAVA in use at source and destination should preferably be identical or at least be of the same major version.

6. In the Database section, select the cloned database target, and provide the schema password.

 **Note:**

This section appears only if the source database had data sources.

7. *(optional)* The Identity and Security section, enter the OID target name, and the credential. As a prerequisite, you must have cloned the source OID to a destination environment.
8. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: (http|https://
hostname:port)

For example: http://wcp-prov.example.com:80

 **Note:**

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: (http|https|tcp://hostname:port)

For example: http://host.example.com:80

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

9. (For a WebCenter Production Domain only) To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, mycrawladmin.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is SEARCHSYS.
- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, wesearch.
- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: http://search_server_listenAddress:search_server_listenPort. For example, http://slc01rsk.us.example.com:5720.

 **Note:**

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p  
welcome1 -c http://slc01rsk.us.example.com:5720/search/api/  
admin/AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c  
http://slc01rsk.us.example.com:5720/search/api/admin/  
AdminService -p welcome1 updateAll searchAttr -a overwrite -i  
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

10. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, if you want to create a template with lockdowns, and allow other users with operator privilege to run the template multiple times with minor modifications.
Click **Cancel** to exit the procedure configuration.
11. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page. For more information about this, see About Deployment Procedures.
12. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Customizing the Destination Environment from an Existing WebLogic Domain Based-Profile

To customize the destination environment, click **Advance** available on the Fusion Middleware Provisioning wizard. Note that the **Advance** option is enabled only after you select the destination hosts.

Follow these steps:

 **Note:**

Oracle recommends that you allow the default option **Typical** to remain selected, and provide all the details. Following which, you can click **Advance** to customize your destination environment. This way, the default values for most of the parameters appear pre-populated, and you will need to enter only the remaining (delta) details. Also, note that if you switch from Advance mode to typical mode, you will lose all the changes that you have made so far.

1. In Cloud Control, from **Enterprise** menu, select **Provisioning and Patching**, and then click **Middleware Provisioning**.
2. On the Middleware Provisioning home page, from Deployment Procedure section, select **Provision Fusion Middleware**, then click **Launch**.
3. On the Middleware Provisioning page, in the General section, select the WebLogic domain profile that contains the source domain details that is to be cloned.

By default, you will provision the WebLogic domain along with Oracle home. To provision only the domain (*Bitless profile*), you must deselect **Provision Middleware Home** and select **Provision Domain**. Alternatively, to provision only the middleware home retain Provision Middleware Home option, and deselect Provision Domain.

Use Shared Storage is particularly useful when you have multiple destination hosts. This option allows you to use a mounted location that is accessible by all the hosts.

4. In the Hosts section, search and select the destination hosts where the cloned WebLogic Domain will reside. Click **+Add** to add the target hosts, and provide the login credentials for them. If you have selected multiple hosts, and the login credentials for all of them are the same, then you can select **Same Credentials for all**.

Note: The domain configuration for the destination host and the source host must be exactly the same for cloning operation to be successful. For example, if the source domain has servers on 2 different hosts, then you will need to select two different destinations hosts. You will be prompted to do so before you proceed.

5. In the Middleware section, by default, the values for Middleware Home and Java Home are pre-populated. You can change the location details if required.
 - For **Middleware Home**, enter the full path to the directory in which the Middleware Home is to be created.
 - For **Java Home**, enter the absolute path to the JDK directory to be used on the destination Host. You need to specify this path if a similar configuration is detected on the source machine.

 **Note:**

The vendor and version of the JAVA in use at source and destination should preferably be identical or at least be of the same major version.

6. In the Domain section, the configuration for the source domain is displayed by default. You can change the following attributes to customize the domain properties:
- a. **Domain Name:** The name of the domain. The generated components for the domain are stored under the specified Domain directory. For example, if you enter *mydomain*, your domain files are stored (by default) in *MW_HOME\user_projects\domains\mydomain*.
 - b. **Administrator Username:** The default Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server. The username must not contain commas, tabs, or any of these characters: `< > # | & ? () { }`.
 - c. **Administrator Password:** The password for the Administrator account. The password must be at least eight characters, and must contain at least one numeric character or at least one of the following characters: `! " # $ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~`
 - d. **Unique Domain Identifier:** The unique domain identifier is a prefix to the domain name.
 - e. **Deploy JVMD Agent:** Deploys the JVMD agent on the servers or clusters of a Weblogic Domain. Java Virtual Machine Diagnostics (JVMD) enables administrators to diagnose performance problems in Java applications. After the JVMD Agent is deployed on the targeted JVM (the one running a production WebLogic Server), it collects real-time data and transmits it to the JVM Diagnostics Engine.
 - f. **Available JVMD Endpoints:** This is the list of available JVMD endpoints. For a successful JVMD deployment, the JVMD engine must be active, if the JVMD engine is not active the agent is not deployed.
 - g. **Targets:** This is the list of targets on clusters or managed servers. If no targets are provided, the JVMD agent will be deployed by default to all the clusters and non-clustered servers of the domain. If a cluster is selected as target, then all the servers that are part of that cluster automatically get the agent deployed.
 - h. **Domain Directory:** The location in which your domain directory will be stored. By default, the same path as the source is used to create this directory, but it can be changed. For example: If the Middleware Home is located at `/user/mwh`, the domain directory is created as `/user/mwh/domains`. The domain location can be anywhere on your local drive or network. On Windows, you must include the drive letter in this path.
 - i. **Applications Directory:** The directory in which the applications will be deployed on the destination host. By default, the same path as the source is used to create this directory, but it can be changed. For example: If the Middleware Home is located at `/user/mwh`, the application directory is created as `/user/mwh/applications`.
 - j. **Server Startup Mode:** you can start the server in one of the following modes depending on your requirement:

Start all Servers and Node Managers: This is the default option. Typically, you will select this option if you have no changes to make, and if the procedure has run as expected.

Start only Administration Server: This option starts only Administrator Server and Node Manger. Typically, you will select this option if you want to

add a custom step to invoke the WLST online script, and then start the servers.

Do not start any Server or Node Manager: This option does not start any server or Node Manager. Typically, you will select this option if you have to customize the domain before starting any server.

7. In the Clusters section, all the clusters available in the source domain are provisioned on the destination host.
8. In the Machines section, the configuration information in the source domain are pre-populated. A Machine is a logical representation of the system that hosts one or more WebLogic Server instances. The Administration Server and Node Manager use the Machine definition to start remote servers. You can not customize any of the values here.
9. In the Servers section, all the configuration information for the Administration Server and managed servers are picked up from the source domain. You can customize the following:
 - a. Select the Configure Coherence check box
 - b. Coherence Port: the port value is pre-populated that can not be customized.
 - c. **Custom Identity and Custom Trust:** Use this option to specify custom certificates when configuring a domain in SSL mode.
10. In the JMS Servers section, all JMS servers configured for the source domain are cloned on the destination hosts. You can not customize any value here.
11. In the Database section, you can change the schema username and password for your data sources.



Note:

This section appears only if the source database had data sources.

12. (*optional*) The Identity and Security section, enter the OID target name, and the credential. As a prerequisite, you must have cloned the source OID to a destination environment.
13. In the WebTier section, click **+Add** to search and select an Oracle HTTP Server (OHS) target. In the **Credential** field provide the credentials to access the target. If you have more than one Oracle HTTP Server, then you need to provide an **External Load Balancer URL**.

The format of the URL for an External Load Balancer: (http|https://
hostname:port)

For example: http://wcp-prov.example.com:80



Note:

If you are provisioning a WebCenter target, you will additionally need to provide an **Internal Load Balancer URL**.

The format of the URL for an Internal Load Balancer: (http|https|tcp://hostname:port)

For example: tcp://wcp-prov-ucm.example.com:4444

 **Note:**

If you are provisioning a plain WebLogic Domain, this section will not be displayed.

14. (For a WebCenter Production Domain only) To configure an SES Domain with a WebCenter Production Domain, follow these steps:

Prerequisites:

- The SES Domain must be up and running.
- The SES Domain must be configured with the same OID as the WebCenter Domain.
- You must have created a Crawl Administrator Username in the OID.

To configure SES for your WebCenter Domain, enter the following details:

- a. Provide the credentials for Crawl admin user in OID. You must enter the same Crawl Administrator Username and Crawl Administrator Password that was created as a part of the prerequisite step. The Crawl Administration users in Spaces, and in the Identity Management System, are required to crawl certain Space objects, such as lists, pages, spaces, and people connections profiles. For example, mycrawladmin.
- b. The Search Administrator Username and Search Administrator Password are the credentials that were used for creating the SES Domain. For example, for the Oracle SES 11.2.2.2 release, the Search Administrator user is SEARCHSYS.
- c. The Search User Username and Search User Password are the credentials of the Oracle SES federation trusted entity. These get created while installing the SES. Each Oracle SES instance must have a trusted entity for allowing WebCenter Portal end users to be securely propagated at search time. A trusted entity allows the WebCenter Portal application to authenticate itself to Oracle SES and assert its users when making queries on Oracle SES. This trusted entity can be any user that either exists on the Identity Management Server behind Oracle SES or is created internally in Oracle SES. For example, wesearch.
- d. In the SES Search URL field, enter the URL of Search Administration Tool. The format of this URL should be: http://search_server_listenAddress:search_server_listenPort. For example, http://slc01rsk.us.example.com:5720.

 **Note:**

After configuring the WebCenter Domain with SES, if you encounter an issue with searching the portal, you must perform in the following steps manually:

From the WebCenter Portal Oracle Home, copy `webcenter_portal_ses_admin.zip` to the host where SES Domain is present.

Unzip the `webcenter_portal_ses_admin.zip` to find the files: `facet.xml` and `searchAttrSortable.xml`.

Run these XML files as follows, for example:

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -p
welcome1 -c http://slc01rsk.us.example.com:5720/search/api/
admin/AdminService createAll facetTree -i facet.xml
```

```
/scratch/SES/oracle/middleware/Oracle_SES1/bin/searchadmin -c
http://slc01rsk.us.example.com:5720/search/api/admin/
AdminService -p welcome1 updateAll searchAttr -a overwrite -i
searchAttrSortable.xml
```

Take a snapshot of the WebCenter Content server manually.

15. In the Custom Scripts section, you can select the scripts stored as directives in Software Library to customize the deployment procedure. Following options are possible, you may or may not choose to pass the scripts with parameters:
 - a. You can pass a script with input parameters. For more information, see [Using Custom Scripts Stored in the Software Library](#).

 **Note:**

If you pass the input parameter, ensure that you allow the default option of **Input File** to be selected. For example, in the Pre Script field, you can choose **My Custom Script With Parameters** script that you earlier created. For more information see [Using Custom Scripts With Input Parameters](#).

Following are the contents of a sample input properties (`input.properties`) file:

```
ADMIN_SERVER_LISTEN_ADDRESS=slc01.example.com
ADMIN_SERVER_LISTEN_PORT=7001
ADMIN_PROTOCOL=t3
MIDDLEWARE_HOME=/scratch/usr1/soa/middleware
```

- b. You can alternatively choose to pass a script without any input parameters. For more information, see [Using Custom Scripts Stored in the Software Library](#).

Note: If you do not want to pass an input parameter, you should deselect the **Input File** option. For example, in the Pre Script field, you can choose **My Custom Script Without Parameters** script that you earlier created.

You can pass the following scripts to customize your procedure:

- **Pre Script:** This script runs soon after the prerequisite checks and before the Oracle Home or WebLogic Domain is deployed.
 - **Post Administration Server Start Script:** This script runs after the Administration Server has been started.
 - **Post Script:** This script runs after all the Managed Servers have started.
16. Click **Next** to schedule the procedure. If you click **Submit**, the procedure is submitted for execution right away. Click **Save** to save this as a template; this feature is particularly useful with lockdowns. For example, if you want to create a template with lockdowns, and allow other users with operator privilege to run the template multiple times with minor modifications.
- Click **Cancel** to exit the procedure configuration.
17. After submitting, you can track the progress of the provisioning operation from the Procedure Activity page. For more information about this, see About Deployment Procedures.
18. To view the newly provisioned target, from the **Targets** menu, select **Middleware**.

Prerequisites for Provisioning from the Middleware Provisioning Profiles

This section describes all the prerequisites to be met before actually launching the Provision Fusion Middleware deployment procedure. In particular, it covers the following:

Note:

Before provisioning using a domain profile or an Oracle Home profile, you must download the following patches by signing in to My Oracle Support Web site at <https://support.oracle.com>:

- For SOA: 22912570
- For Service Bus: 23003815

If you are provisioning from a domain profile using an existing Middleware Home, then ensure that the Middleware Home is patched appropriately.

Note:

In Enterprise Manager Cloud Control 13.4, there is no way to Create a Provisioning Profile for OBIEE 12.2.1.x

- [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#)
- [Prerequisites for Provisioning the WebLogic Domain Profile](#)

 **Note:**

If you are performing a provisioning operation on a domain that was created in Development Mode, ensure that you disable the active configuration locks. To do so, perform the following steps:

- Log in to the Middleware Administrator Console.
- Click **Preferences**.
- Deselect **Automatically Acquire Lock and Activate Changes** option.
- Click **Save**.
- Ensure that the **Lock and Edit** button is enabled in the Change Center.

Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile

Meet the following prerequisites:

- Write permission on the Working Directory, which is a temporary directory used for staging and provisioning entities across Cloud Control.
If the working directory is not specified, then the Management Agent's working directory is used, and write permission on that is required.
- Following permissions on the Oracle Home directory:
 1. Write, if a new Oracle Home has to be created. For an Installation Media profile, creating a new Oracle Home is mandatory.
 2. Read, if you are using an existing Oracle Home. Note that this is applicable only for an Oracle Home profile, and not for an Installation Media profile.
- If you are using a shared storage, then mount the domain home and inventory directories on all the hosts beforehand. Typically, for a two-node setup, with two SOA Managed Servers running on two different hosts, for example host 1 and host 2; you can choose to create the shared storage on host 1. Effectively, this means that the Middleware Home location, the domain details, Inventory details, and all other information are mounted on host 1 for easy access from host 2.

 **Note:**

Support for provisioning using a Shared Storage is not available on a Window machine.

- All the hosts involved in the provisioning operation should be monitored as targets in Enterprise Manager.
- Server and Node Manager Ports should be free.
- If the domain uses a database or LDAP or Oracle HTTP Server, then ensure that the respective servers are monitored as targets in Enterprise Manager.
- Write permission on Domain /Application/Node Manager Directories.

Prerequisites for Provisioning the WebLogic Domain Profile

In addition to the requirements mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#), you need to meet the following for cloning using a WebLogic Domain profile:

- Before cloning an existing Fusion Middleware domain, you must have cloned the source database, so that the data in the schema is in sync with the source database. If you haven't already cloned your source database, you can do so using the Cloning Database feature available in Enterprise Manager Cloud Control, see Cloning Oracle Databases and Pluggable Databases.

 **Note:**

Before cloning the domain, run the following data scrubbing SQL scripts on the database.

For SOA

Create a Generic Component and upload `truncate_soa_oracle.sql` script to Software Library. For more information on creating generic components, see *Oracle Enterprise Manager Cloud Control Administrator's Guide*. Note that the truncate script (`truncate_soa_oracle.sql`) is located in the following directory under SOA Installation: `/MW_HOME/SOA_ORACLE_HOME/rcu/integration/soainfra/sql/truncate`

For Service Bus

Create a Generic Component and upload `llr_table.sql` script to Software Library. To create this script, for each server present in the Service Bus domain, you need to add the following statement in the SQL script:

```
TRUNCATE table WL_LLRLR_<SERVER_NAME>
```

For example, if the Service Bus domain has administrator server and two managed servers with name `OSB_SERVER1` and `OSB_SERVER2`, then the content of the sql script would look like:

```
TRUNCAETE table WL_LLRLR_ADMINSERVER
```

```
TRUNCATE table WL_LLRLR_OSB_SERVER1
```

```
TRUNCATE table WL_LLRLR_OSB_SERVER2
```

- If the source domain was wired with LDAP, then before cloning an existing Fusion Middleware domain, ensure that the data (users, roles and policies) has been migrated from the source LDAP to a new LDAP and the new LDAP has been discovered in Enterprise Manager as a target.

 **Note:**

Middleware provisioning fails for JRF 12.1.2.0.0 enabled WebLogic domain, in case the source database is either down or not reachable. While unpacking the installable file, an attempt is made for connecting to the source database. In case the source database is down or unresponsive the provisioning task fails. The database must be up and running. This is not applicable for WebLogic 12.1.3.0.0 and onwards.

Using Custom Scripts Stored in the Software Library

This section describes how to use the custom scripts available in the Software Library to customize your deployment procedure. In particular, this section covers the following:

- [Using Custom Scripts Stored in the Software Library](#)
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- [Using Custom Scripts Stored in the Software Library](#)

4

Provisioning the SOA Domain and Oracle Homes

This chapter describes how you can use the Middleware Provisioning solution offered in Enterprise Manager Cloud Control to provision a SOA Domain or/and an Oracle Home.

Note:

Before provisioning a SOA Domain/ Oracle Home, sign in to My Oracle Support Web site at <https://support.oracle.com> and download Patch ID 20046898.

In particular, this chapter contains the following topics:

- [Getting Started with Provisioning SOA Domain and Oracle Home](#)
- [Source Environment and Destination Environment after SOA Provisioning](#)
- [Supported Versions of SOA for Provisioning](#)
- [Before you Begin Provisioning SOA Domain and Oracle Home](#)
- [Use Case 1: First Time Provisioning of a SOA Domain](#)
- [Use Case 2: Provisioning from a SOA Oracle Home Based Provisioning Profile](#)
- [Use Case 3: Cloning from a Provisioning Profile based on an Existing SOA Domain](#)
- [Use Case 4: Provisioning from an Existing SOA Home](#)
- [Use Case 5: Scaling Up an Existing SOA Domain](#)
- [Use Case 6 - Cloning a database in WebLogic Domain](#)

Note:

Enterprise Manager does not support creating domain profiles for SOA, OSB domain targets of version 12.2.1.3.0 and above only. If you attempt to create such a profile by clicking **Create Button**, you would run into errors.

Getting Started with Provisioning SOA Domain and Oracle Home

This section helps you get started by providing an overview of the steps involved in provisioning WebLogic Domain and Middleware Home using the Fusion Middleware Deployment procedure.

Table 4-1 Getting Started with SOA Provisioning

Step	Description	Reference Links
Step 1	<p>Selecting the Use Case.</p> <p>This chapter covers the use cases for provisioning Oracle SOA Domain and Oracle SOA Home. Select the use case that best matches your requirements.</p>	<ul style="list-style-type: none"> To learn about first time provisioning of a SOA Domain, see Use Case 1: First Time Provisioning of a SOA Domain. To learn about provisioning from an SOA home based provisioning profile, see Use Case 2: Provisioning from a SOA Oracle Home Based Provisioning Profile. To learn about cloning from an existing SOA domain, see Use Case 3: Cloning from a Provisioning Profile based on an Existing SOA Domain. To learn about provisioning from an existing SOA home, see Use Case 4: Provisioning from an Existing SOA Home. To learn about scaling out a SOA domain, see Use Case 5: Scaling Up an Existing SOA Domain. To learn about cloning a database in WebLogic domain, see Use Case 6 - Cloning a database in WebLogic Domain
Step 2	<p>Meeting Prerequisites to Provision a Middleware Profile</p> <p>Before you run the Fusion Middleware Deployment Procedure, there are a few prerequisites that you must meet.</p>	<p>To learn about the prerequisites for provisioning a SOA domain or home, see Before you Begin Provisioning SOA Domain and Oracle Home.</p>
Step 3	<p>Running the Fusion Middleware Deployment Procedure</p> <p>Run this deployment procedure to successfully provision a Weblogic Domain and/or an Oracle Home.</p>	<p>To learn about provisioning from an Installation Media Profile or an Oracle Home Profile, see Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile.</p> <p>To learn about provisioning from a WebLogic Domain Profile, see Provisioning a Fusion Middleware Domain from an Existing Oracle Home.</p> <p>To provision from an existing home, see Cloning from an Existing WebLogic Domain Based-Profile.</p> <p>To scale out from a SOA domain, see Scaling Up / Scaling Out Fusion Middleware Domains .</p>

Source Environment and Destination Environment after SOA Provisioning

This section describes the middleware components the source environment contains before provisioning, and the components that get provisioned after you run the Provision Fusion Middleware Deployment Procedure. Primarily, two use cases are being described here using a typical SOA topology. First use case is of a fresh provisioning, where you start with an Installation Media based profile or an Oracle Home based profile, and provision the fresh domain and/or Oracle Home. The second use case describes how you can clone an existing SOA domain.

This section contains the following topics:

- [Source and Destination Environments for a Fresh SOA Provisioning Use Case](#)
- [Source and Destination Environments for SOA Cloning Use Case](#)

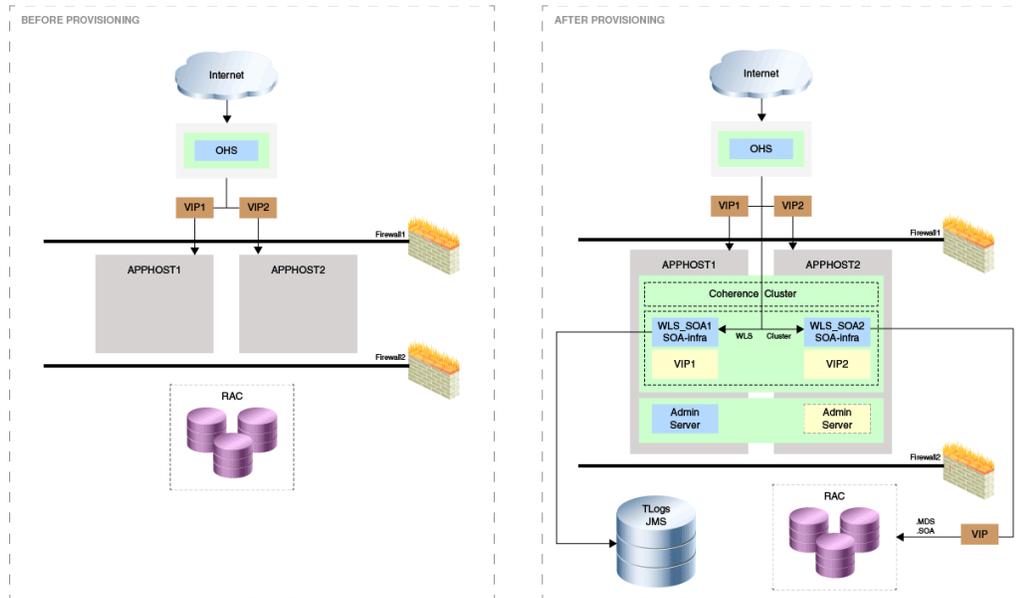
Source and Destination Environments for a Fresh SOA Provisioning Use Case

For a fresh SOA provisioning use case, before you begin, you must ensure that you have met the following topology requirements:

- Oracle HTTP Server has been installed and discovered.
- Virtual IP Address 1 and Virtual IP Address 2 have already been reserved.
- APPHOST1 and APPHOST2 must be discovered in Cloud Control.
- Database should have been discovered.

 **Note:**

Ensure that Oracle HTTP Server, APPHOST1, APPHOST2, and the RAC database are being monitored as managed targets in Cloud Control.



After running the Fusion Middleware Deployment Procedure, all the products that are displayed inside the green box in the destination environment get provisioned.

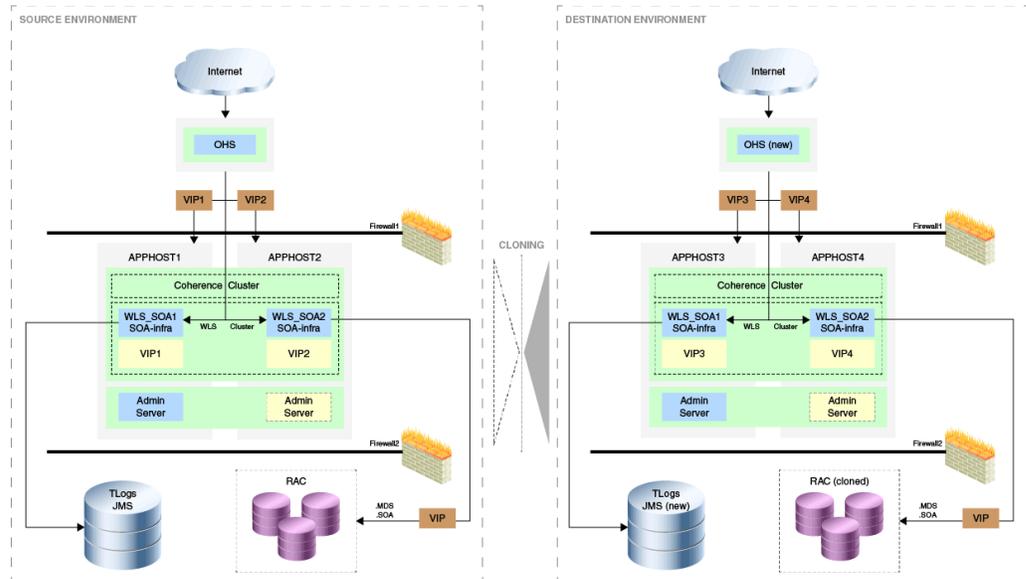
Source and Destination Environments for SOA Cloning Use Case

For a SOA cloning use case, before you begin, ensure that you have met the following topology requirements:

- Oracle HTTP Server has been installed and discovered.
- Virtual IP Address 3 and Virtual IP Address 4 have already been reserved.
- APPHOST3 and APPHOST4 must be discovered in Cloud Control.
- Database must be cloned and discovered.
- If source environment is configured with Oracle ID, then OID must be cloned and discovered.

 **Note:**

Ensure that Oracle HTTP Server, APPHOST3, APPHOST4, and the RAC database are being monitored as managed targets in Cloud Control.



For the cloning case WLS_SOA1 and WLS_SOA2 are part of APPHOST1 and APPHOST2 respectively are cloned into APPHOST3 and APPHOST4. The RAC DB is cloned separately.

Supported Versions of SOA for Provisioning

The versions listed in the following table support SOA provisioning.

Product	Version
Oracle Repository Creation Utility (RCU)	11g
Oracle SOA	12c, 11g

Before you Begin Provisioning SOA Domain and Oracle Home

You must keep the things to keep in mind before you actually start creating middleware profiles and provisioning from these profiles.

In particular, this section contains the following topics:

- [Create Middleware Roles and Assign Privileges to them](#)
- [Setting Named Credentials and Privileged Credentials for the Middleware Targets](#)
- [\(Applicable only for a Cloning WebLogic Domain Use Case\) Cloning a Database](#)

Create Middleware Roles and Assign Privileges to them

In a typical data center, the main users of Deployment Procedures are Designers (Lead Administrators) and Operators. Deployment Procedure privileges enable users to perform some design-time activities such as, creating the profiles, granting

accesses on the profile, creating profile lock-downs, and run-time activities like running the Deployment Procedure to provision software applications.

For Middleware Provisioning, you will need to create Administrators with the following roles:

Role: EM Super Administrator

Table 4-2 lists the roles based on which you can create administrators for Middleware Provisioning.

Table 4-2 Creating Administrators with the Required Roles

Enterprise Manager Role	Description
EM_PROVISIONING_DESIGNER	Role has privileges for provisioning designer
EM_PROVISIONING_OPERATOR	Role has privileges for provisioning operator

For instructions to create administrators with these roles, see Creating Enterprise Manager User Accounts.

Setting Named Credentials and Privileged Credentials for the Middleware Targets

Oracle recommends that you set the Named Credentials for normal operating system user account (*Oracle*) and Named Credentials for privileged user accounts (*root*) to perform any of the provisioning tasks in Enterprise Manager Cloud Control.

For instructions to set the Named Credentials, see Setting Up Credentials.

(Applicable only for a Cloning WebLogic Domain Use Case) Cloning a Database

You must have cloned a database from the source domain at the same time that the domain was being cloned. To clone a database, you must have discovered the source database as a managed target in Enterprise Manager, following which you can create a profile out of the source database, and then provision the profile to complete the cloning process.

Use Case 1: First Time Provisioning of a SOA Domain

This use case describes how you can perform a first time install of Oracle Fusion Middleware software, and first time provisioning of a WebLogic Domain. This is particularly useful when you do not have an existing domain in your data center, or if you do not wish to clone from a provisioning profile based upon an existing domain. To do so, follow these steps:

 **Note:**

If you use a Windows machine to provision the SOA Domain, after you have discovered the source SOA domain, you must bring the Node Manager down, and only then proceed with the SOA Domain Profile creation.

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create a Installation Media Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on an Installation Media](#).
2. *(optional)* You may choose to create some lock-downs and save the profile as a template after it passes the prerequisite checks. Doing so can be useful when you have to run the same profile multiple times for provisioning middleware products. The added benefit of saving the profile as a template is that you can grant accesses to Operators so they can run the profiles and carry out the Middleware Provisioning.
3. Before you provision a middleware profile based on an Installation Media profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
4. Log in with Operator Privileges (`EM_PROVISIONING_OPERATOR`). Select the template from the Deployment Procedure table, and click **Launch**.

If you have not created a template out of the profile, you can select your profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
5. For provisioning a SOA Domain and Oracle Home from an Installation Media, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
6. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 2: Provisioning from a SOA Oracle Home Based Provisioning Profile

This use case describes how you can create a Gold Image from an existing Oracle Home (SOA) that has perhaps been patched, and provision this using the Oracle Home profile. This is particularly useful when you need to install Oracle Fusion Middleware software with or without a new WebLogic Domain.

1. Log in with `EM_PROVISIONING_DESIGNER` role to create an Oracle Home (SOA) Profile. To do so, follow the steps mentioned in [Creating Middleware Provisioning Profiles](#).
2. Before you provision from a middleware profile based on an Oracle Home, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
3. Select the profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.

4. For creating a clone of an existing domain's Oracle Home (with binaries and patches) but no domain configuration, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 3: Cloning from a Provisioning Profile based on an Existing SOA Domain

This use case describes how you can clone a WebLogic Domain from a provisioning profile based upon an existing WebLogic Domain. This is particularly useful when you need to install Oracle Fusion Middleware software and configure a new WebLogic Domain.

1. Log in with `EM_PROVISIONING_DESIGNER` role to create a WebLogic Domain Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on a WebLogic Domain](#).
2. Before you provision a middleware profile based on an WebLogic Domain profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the WebLogic Domain Profile](#).
3. Select the profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
4. For provisioning a SOA Domain and Oracle Home from a profile, follow the steps mentioned in [Cloning from an Existing WebLogic Domain Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Existing WebLogic Domain Based-Profile](#).

Use Case 4: Provisioning from an Existing SOA Home

If you have an Oracle Home that you want to provision as it is (without having to create a profile), then you can do so by selecting the Oracle Home source target in the Provision Fusion Middleware procedure. For more information, see [Provisioning a Fusion Middleware Domain from an Existing Oracle Home](#).

Use Case 5: Scaling Up an Existing SOA Domain

To scale up a SOA Domain to include one or more managed servers, run the Scaleup/Scale Out Middleware procedure from the Deployment Procedures table on the Middleware Provisioning page. For more information, see [Scaling Up / Scaling Out Fusion Middleware Domains](#) .

Use Case 6 - Cloning a database in WebLogic Domain

A database can be cloned from the source domain at the same time the domain is being cloned. To clone a database, the source database must be discovered as a

managed target in Enterprise Manager. This constitutes of creating a profile of the source database and provisioning the profile.

For an overview of database cloning methods, see Overview of Classic Cloning Methods.

The database cloning for WebLogic Server domain, SOA, Oracle Service Bus, WebCenter can be accomplished in the following ways:

1. The user can manually clone the database from the source domain to the destination domain before provisioning. The destination database inherits the schema from the original database.
2. The user can choose to export the database metadata as part of provisioning. This exports the product metadata necessary to clone the domain. The user can clone the application related schema later. Exporting the metadata is supported from SOA release 11g onwards and the schema creation is supported from SOA release 12c onwards.

 **Note:**

While cloning the WebLogic domain, the entire database along with schema must be cloned in the destination domain before provisioning. Else, the cloning fails.

The following tables list the mapping of database cloning process supported with schema for the respective domains and releases.

Table 4-3 Database cloning process with schema supported for SOA domain

Case	SOA 12c	SOA 11g
User exports metadata during profile creation and provides a blank database with no schema during provisioning. The schema is created through Provisioning user interface in release 12c onwards.	Yes	No
User exports metadata during profile creation and provides a blank database with empty schema pre-created during provisioning.	Yes	Yes
User exports metadata during profile creation and provides a cloned database during provisioning.	No	No
Metadata not exported during profile creation, blank database with no schema provided during provisioning.	No	No

Table 4-3 (Cont.) Database cloning process with schema supported for SOA domain

Case	SOA 12c	SOA 11g
Metadata not exported during profile creation, blank database with schema provided during provisioning.	No	No
Metadata not exported during profile creation, cloned database provided during provisioning.	Yes	Yes

Table 4-4 Database cloning process with schema supported for Service Bus domain

Case	Service Bus 12c	Service Bus 11g
User exports metadata during profile creation and provides a blank database with no schema during provisioning. The schema is created through Provisioning user interface in release 12c onwards.	Yes	No
User exports metadata during profile creation and provides a blank database with empty schema pre-created during provisioning.	Yes	Yes
User exports metadata during profile creation and provides a cloned database during provisioning.	No	No
Metadata not exported during profile creation, blank database with no schema provided during provisioning.	No	No
Metadata not exported during profile creation, blank database with schema provided during provisioning.	No	No
Metadata not exported during profile creation, cloned database provided during provisioning.	Yes	Yes

Table 4-5 Database cloning process with schema supported for WebCenter domain

Case	WebCenter 12c	WebCenter 11g
User exports metadata during profile creation and provides a blank database with no schema during provisioning. The schema is created through Provisioning user interface in release 12c onwards.	Yes	No
User exports metadata during profile creation and provides a blank database with empty schema pre-created during provisioning.	Yes	Yes
User exports metadata during profile creation and provides a cloned database during provisioning.	No	No
Metadata not exported during profile creation, blank database with no schema provided during provisioning.	No	No
Metadata not exported during profile creation, blank database with schema provided during provisioning.	No	No
Metadata not exported during profile creation, cloned database provided during provisioning.	Yes	Yes

 **Note:**

In case of WebCenter, it is recommended to clone the database instead of exporting the metadata.

Table 4-6 Database cloning process with schema supported for JRF domain

Case	JRF
User exports metadata during profile creation and provides a blank database with no schema during provisioning. The schema is created through Provisioning user interface in release 12c onwards.	No
User exports metadata during profile creation and provides a blank database with empty schema pre-created during provisioning.	No

Table 4-6 (Cont.) Database cloning process with schema supported for JRF domain

Case	JRF
User exports metadata during profile creation and provides a cloned database during provisioning.	No
Metadata not exported during profile creation, blank database with no schema provided during provisioning.	No
Metadata not exported during profile creation, blank database with schema provided during provisioning.	No
Metadata not exported during profile creation, cloned database provided during provisioning.	Yes



Note:

Metadata includes MDS (Metadata Services) and OPSS (Oracle Platform Security Services) data.

5

Provisioning the Service Bus Domain and Oracle Homes

This chapter describes how you can use the Middleware Provisioning solution offered in Enterprise Manager Cloud Control to provision an Service Bus Domain or/and an Oracle Home.

 **Note:**

Before provisioning an Service Bus Domain/Oracle Home, you must download and apply the patch 20046866.

In particular, this chapter contains the following topics:

- [Getting Started with Provisioning Service Bus Domain and Oracle Home](#)
- [Supported Versions of Service Bus for Provisioning](#)
- [Before you Begin Provisioning Service Bus Domain and Oracle Home](#)
- [Use Case 1: First Time Provisioning of a Service Bus Domain](#)
- [Use Case 2: Provisioning from a Service Bus Home Based Provisioning Profile](#)
- [Use Case 3: Cloning from a Provisioning Profile based on an Existing Service Bus Domain](#)
- [Use Case 4: Provisioning from an Existing Service Bus Home](#)
- [Use Case 5: Scaling Up an Existing Service Bus Domain](#)

Getting Started with Provisioning Service Bus Domain and Oracle Home

This section helps you get started by providing an overview of the steps involved in provisioning WebLogic Domain and Middleware Home using the Fusion Middleware Deployment procedure.

Table 5-1 Getting Started with Service Bus Provisioning

Step	Description	Reference Links
Step 1	<p>Selecting the Use Case.</p> <p>This chapter covers the use cases for provisioning an Service Bus Domain and Service Bus Home. Select the use case that best matches your requirements.</p>	<ul style="list-style-type: none"> To learn about first time provisioning of an Service Bus Domain, see Use Case 1: First Time Provisioning of a Service Bus Domain. To learn about provisioning from an Service Bus home based provisioning profile, see Use Case 2: Provisioning from a Service Bus Home Based Provisioning Profile. To learn about cloning from an existing Service Bus domain, see Use Case 3: Cloning from a Provisioning Profile based on an Existing Service Bus Domain. To learn about provisioning from an existing Service Bus home, see Use Case 4: Provisioning from an Existing Service Bus Home. To learn about scaling out an Service Bus domain, see Use Case 5: Scaling Up an Existing Service Bus Domain.
Step 2	<p>Meeting Prerequisites to Provision a Middleware Profile</p> <p>Before you run the Fusion Middleware Deployment Procedure, there are a few prerequisites that you must meet.</p>	<p>To learn about the prerequisites for provisioning an Service Bus domain or home, see Before you Begin Provisioning Service Bus Domain and Oracle Home.</p>
Step 3	<p>Running the Fusion Middleware Deployment Procedure</p> <p>Run this deployment procedure to successfully provision a Weblogic Domain and/or an Oracle Home.</p>	<p>To learn about provisioning from an Installation Media Profile or an Oracle Home Profile, see Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile.</p> <p>To learn about provisioning from a WebLogic Domain Profile, see Provisioning a Fusion Middleware Domain from an Existing Oracle Home.</p> <p>To provision from an existing home, see Cloning from an Existing WebLogic Domain Based-Profile.</p> <p>To scale out from an Service Bus domain, see Scaling Up / Scaling Out Fusion Middleware Domains .</p>

Supported Versions of Service Bus for Provisioning

The versions listed in the following table support Service Bus provisioning.

Product	Version
Oracle Repository Creation Utility (RCU)	11g
Oracle Service Bus	11g

Before you Begin Provisioning Service Bus Domain and Oracle Home

You must keep the things to keep in mind before you actually start creating middleware profiles and provisioning from these profiles.

In particular, this section contains the following topics:

- [Create Middleware Roles and Assign Privileges](#)
- [Setting Named Credentials and Privileged Credentials for the Middleware Targets](#)
- [\(Applicable only for a Cloning WebLogic Domain Use Case\) Cloning a Database](#)

Create Middleware Roles and Assign Privileges

In a typical data center, the main users of Deployment Procedures are Designers (Lead Administrators) and Operators. Deployment Procedure privileges enable users to perform some design-time activities such as creating the profiles, granting accesses on the profile, creating profile lock-downs, and run-time activities like running the Deployment Procedure to provision software applications.

For Middleware Provisioning, you will need to create Administrators with the following roles:

Role: EM Super Administrator

[Table 5-2](#) lists the roles based on which you can create administrators for Middleware Provisioning.

Table 5-2 Creating Administrators with the Required Roles

Enterprise Manager Role	Description
EM_PROVISIONING_DESIGNER	Role has privileges for provisioning designer
NER	
EM_PROVISIONING_OPERATOR	Role has privileges for provisioning operator
TOR	

For instructions to create administrators with these roles, see [Creating Enterprise Manager User Accounts](#).

Setting Named Credentials and Privileged Credentials for the Middleware Targets

Oracle recommends that you set the Named Credentials for normal operating system user account (*Oracle*) and Named Credentials for privileged user accounts (*root*) to perform any of the provisioning tasks in Enterprise Manager Cloud Control.

For instructions to set the Named Credentials, see [Setting Up Credentials](#).

(Applicable only for a Cloning WebLogic Domain Use Case) Cloning a Database

You must have cloned a database from the source domain at the same time that the domain was being cloned. To clone a database, you must have discovered the source database as a managed target in Enterprise Manager, following which you can create a profile out of the source database, and then provision the profile to complete the cloning process.

Use Case 1: First Time Provisioning of a Service Bus Domain

This use case describes how you can perform a first time install of Oracle Fusion Middleware software, and first time provisioning of a WebLogic Domain. This is particularly useful when you do not have an existing domain in your data center, or if you do not wish to clone from a provisioning profile based upon an existing domain. To do so, follow these steps:

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create a Installation Media Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on an Installation Media](#).
2. *(optional)* You may choose to create some lock-downs and save the profile as a template after it passes the prerequisite checks. Doing so can be useful when you have to run the same profile multiple times for provisioning middleware products. The added benefit of saving the profile as a template is that you can grant accesses to Operators so they can run the profiles and carry out the Middleware Provisioning.
3. Before you provision a middleware profile based on an Installation Media profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
4. Log in with Operator Privileges (`EM_PROVISIONING_OPERATOR`). Select the template from the Deployment Procedure table, and click **Launch**.

If you have not created a template out of the profile, you can select your profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.

5. For provisioning a Service Bus Domain and Oracle Home from an Installation Media, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
6. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 2: Provisioning from a Service Bus Home Based Provisioning Profile

This use case describes how you can create a Gold Image from an existing Oracle Home (Service Bus) that has perhaps been patched, and provision this using the Oracle Home profile. This is particularly useful when you need to install Oracle Fusion Middleware software with or without a new WebLogic Domain.

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create an Oracle Home (Service Bus) Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on an Oracle Home](#).
2. Before you provision a middleware profile based on an Oracle Home, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
3. Select the profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
4. For creating a clone of an existing domain's Oracle Home (with binaries and patches) but no domain configuration, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 3: Cloning from a Provisioning Profile based on an Existing Service Bus Domain

This use case describes how you can clone a WebLogic Domain from a provisioning profile based upon an existing WebLogic Domain. This is particularly useful when you need to install Oracle Fusion Middleware software and configure a new WebLogic Domain.

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create a WebLogic Domain Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on a WebLogic Domain](#).
2. Before you provision a middleware profile based on an WebLogic Domain profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the WebLogic Domain Profile](#).
3. Select the profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
4. For provisioning a Service Bus Domain and Oracle Home from a profile, follow the steps mentioned in [Cloning from an Existing WebLogic Domain Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Existing WebLogic Domain Based-Profile](#).

Use Case 4: Provisioning from an Existing Service Bus Home

If you have an Oracle Home that you want to provision as it is (without having to create a profile), then you can do so by select the Oracle Home source target in the Provision Fusion Middleware procedure. For more information, see [Provisioning a Fusion Middleware Domain from an Existing Oracle Home](#).

Use Case 5: Scaling Up an Existing Service Bus Domain

To scale up a Service Bus Domain to include one or more managed servers, run the Scaleup/Scale Out Middleware procedure from the Deployment Procedures table on the Middleware Provisioning page. For more information, see [Scaling Up / Scaling Out Fusion Middleware Domains](#) .

6

Provisioning the Oracle WebCenter Domain and Oracle Homes

This chapter describes how you can use the Middleware Provisioning solution offered in Enterprise Manager Cloud Control to provision a WebCenter Domain or/and an Oracle Home.

In particular, this chapter contains the following topics:

- [Getting Started with Provisioning WebCenter Domain and Oracle Home](#)
- [About WebCenter Topologies Supported in Enterprise Manager](#)
- [Supported Versions of WebCenter for Provisioning](#)
- [Source Environment and Destination Environment after WebCenter Provisioning](#)
- [Before you Begin Provisioning WebCenter Domain and Oracle Home](#)
- [Use Case 1: First Time Provisioning of a WebCenter Portal with Lock-downs](#)
- [Use Case 2: Provisioning a WebCenter Home](#)
- [Use Case 3: Cloning an Existing WebCenter Portal Environment](#)
- [Use Case 4: Provisioning from an Existing WebCenter Home](#)
- [Use Case 5: Scaling Up an Existing WebCenter Domain](#)

Getting Started with Provisioning WebCenter Domain and Oracle Home

This section helps you get started by providing an overview of the steps involved in provisioning WebLogic Domain and Middleware Home using the Fusion Middleware Deployment procedure.

Table 6-1 Getting Started with WebCenter Provisioning

Step	Description	Reference Links
Step 1	<p>Selecting the Use Case.</p> <p>This chapter covers the use cases for provisioning WebCenter Domain and WebCenter Home. Select the use case that best matches your requirements.</p>	<ul style="list-style-type: none"> To learn about first time provisioning of a WebCenter Domain, see Use Case 1: First Time Provisioning of a WebCenter Portal with Lock-downs. To learn about provisioning from a WebCenter home based provisioning profile, see Use Case 2: Provisioning a WebCenter Home. To learn about cloning from an existing WebCenter domain, see Use Case 3: Cloning an Existing WebCenter Portal Environment. To learn about provisioning from an existing WebCenter home, see Use Case 4: Provisioning from an Existing WebCenter Home. To learn about scaling out a WebCenter domain, see Use Case 5: Scaling Up an Existing WebCenter Domain.
Step 2	<p>Meeting Prerequisites to Provision a Middleware Profile</p> <p>Before you run the Fusion Middleware Deployment Procedure, there are a few prerequisites that you must meet.</p>	To learn about the prerequisites for provisioning a WebCenter domain or home, see Before you Begin Provisioning WebCenter Domain and Oracle Home .
Step 3	<p>Running the Fusion Middleware Deployment Procedure</p> <p>Run this deployment procedure to successfully provision a Weblogic Domain and/or an Oracle Home.</p>	<p>To learn about provisioning from an Installation Media Profile or an Oracle Home Profile, see Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile.</p> <p>To learn about provisioning from a WebLogic Domain Profile, see Provisioning a Fusion Middleware Domain from an Existing Oracle Home.</p> <p>To provision from an existing home, see Cloning from an Existing WebLogic Domain Based-Profile.</p> <p>To scale out from a WebCenter domain, see Scaling Up / Scaling Out Fusion Middleware Domains.</p>

About WebCenter Topologies Supported in Enterprise Manager

Oracle WebCenter Portal provisioning is now supported from Enterprise Manager Cloud Control.

Primarily, the following use cases are supported:

Table 6-2 WebCenter Provisioning Use cases

Task	Description
1. WebCenter Provisioning - Fresh Install	This use case is useful if you want to provision a fresh vanilla WebCenter (Oracle WebCenter Portal + Oracle WebCenter Content) environment.

Table 6-2 (Cont.) WebCenter Provisioning Use cases

Task	Description
2. WebCenter Provisioning - Cloning (like-to-like)	This use case is useful if you already have installed WebCenter environment (Oracle WebCenter Portal + Oracle WebCenter Content), and a later point want to copy/clone from that environment.

The following topologies are supported for provisioning WebCenter:

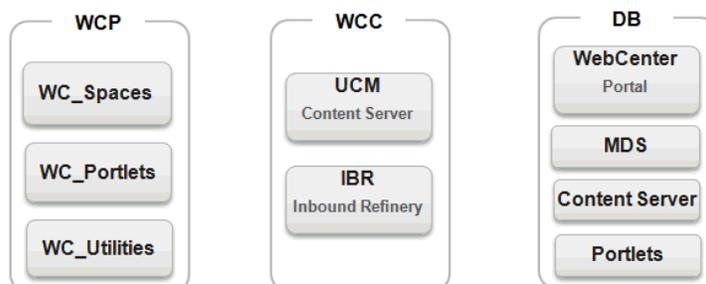
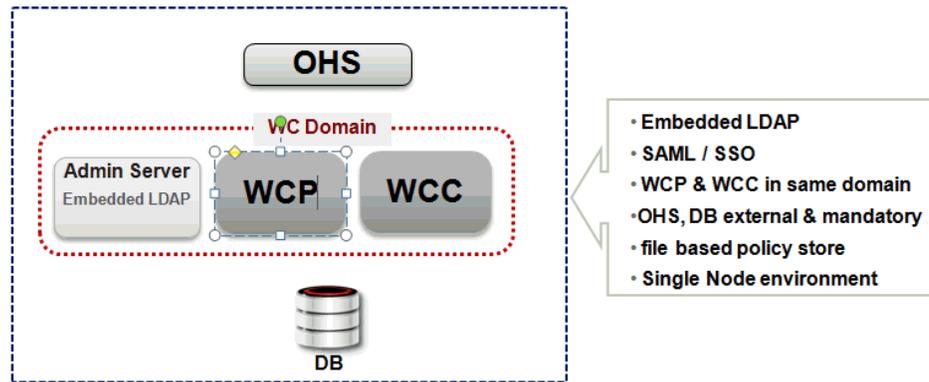
Table 6-3 Supported Topologies for WebCenter

Topologies	Components	External Components
Development Topology	WCP, WCC, OHS, DB, embedded LDAP, SAML/SSO	DB, OHS
Production Topology (HA)	WCP, WCC, DB, OHS, LBR, SES, LDAP w/SSO	DB, OHS, OTD, SES, LDAP

Development Topology Details

Development topology supports only a single node environment which is consistent with the following topology definition.

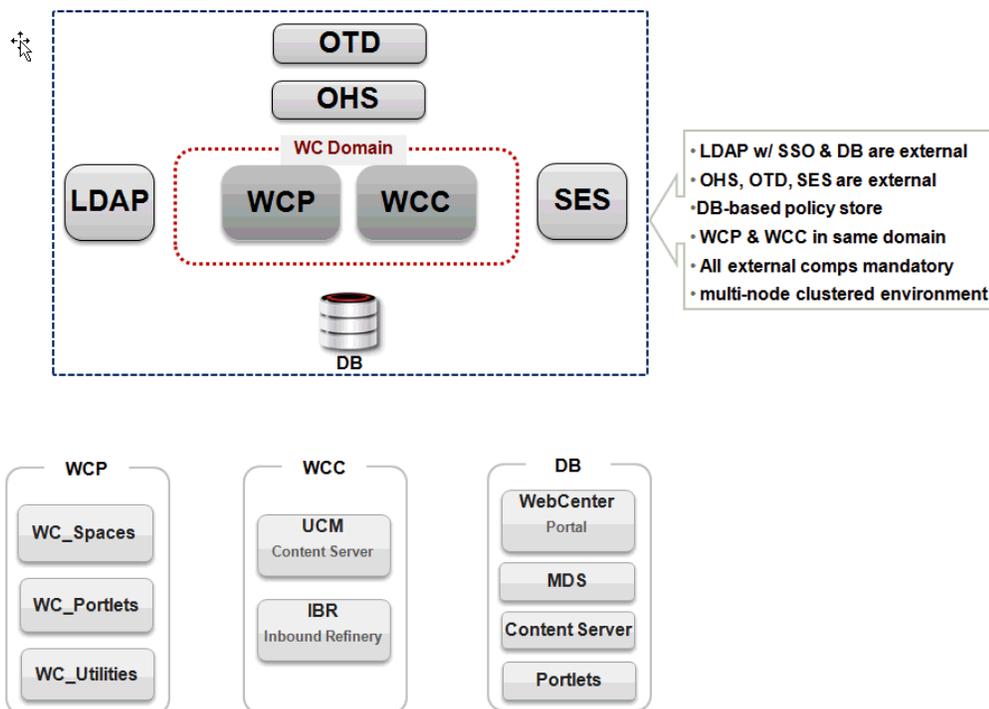
WebCenter Provisioning - Dev Topology



Production Topology Details

Production topology supports multi-node cluster environment, which means that you can select however many nodes per cluster. After provisioning, you can even reconfigure the node count for clusters.

WebCenter Provisioning – Prod Topology



Source Environment and Destination Environment after WebCenter Provisioning

This section describes what the source environment might contain, and what gets provisioned after you run the Fusion Middleware Deployment Procedure. You can see two topologies being displayed. First topology is a fresh provisioning use case where you start with an Installation Media based profile or an Oracle Home based profile, and provision that. Second is a cloning topology, where you are creating a copy of an existing domain.

This section contains the following topics:

- [Source and Destination Environments for a Fresh WebCenter Provisioning Use Case](#)
- [Source and Destination Environments for WebCenter Cloning Use Case](#)

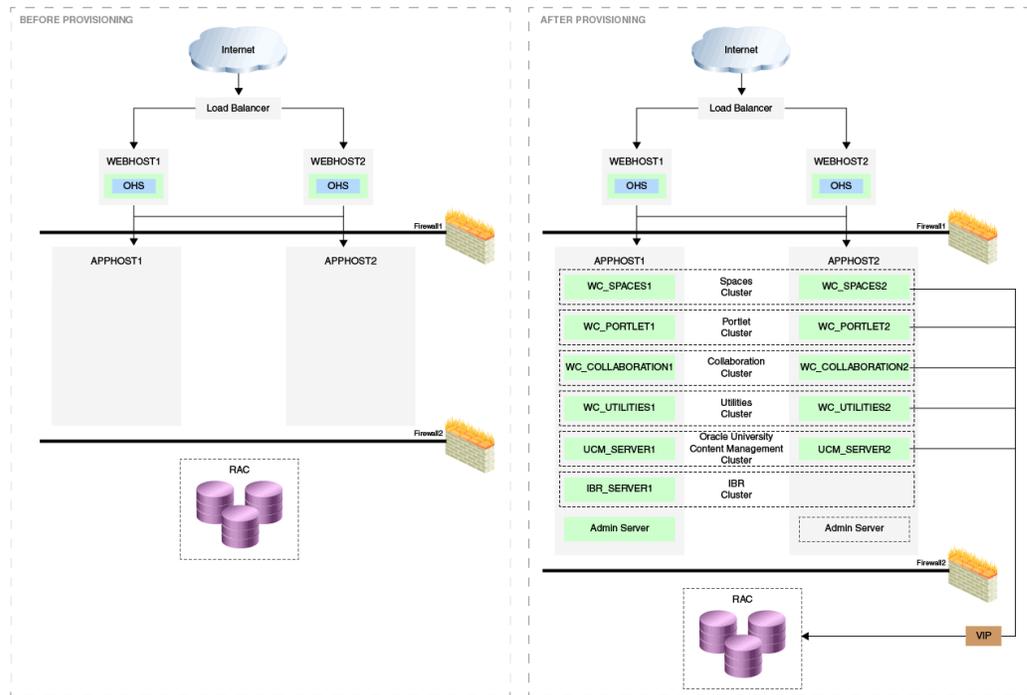
Source and Destination Environments for a Fresh WebCenter Provisioning Use Case

Before you begin, ensure that you have met the following topology requirements:

- Oracle HTTP Servers must have been installed and discovered.
- APPHOST1 and APPHOST2 must be discovered in Cloud Control.
- Database should have been discovered.

 **Note:**

Ensure that Oracle HTTP Server, APPHOST1, APPHOST2, and the RAC database are being monitored as managed targets in Cloud Control.



Source and Destination Environments for WebCenter Cloning Use Case

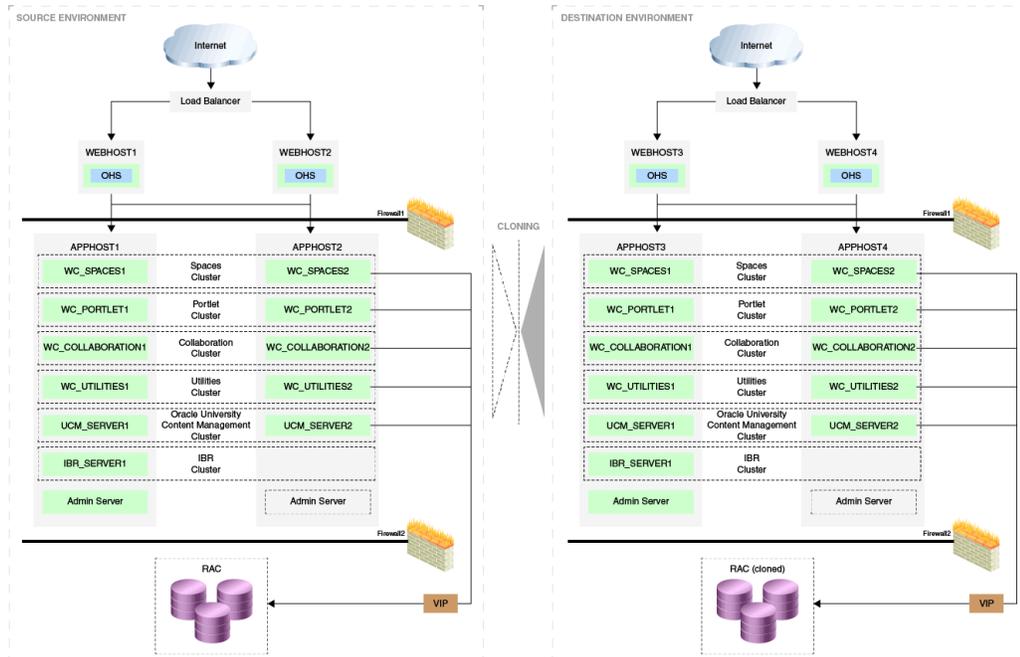
Before you begin, ensure that you have met the following topology requirements:

- Oracle HTTP Servers have been installed and discovered.
- APPHOST3 and APPHOST4 must be discovered in Cloud Control.
- Database must be cloned and discovered.

- If source environment is configured with Oracle ID, then OID must be cloned and discovered.

 **Note:**

Ensure that Oracle HTTP Server, APPHOST3, APPHOST4, and the RAC database are being monitored as managed targets in Cloud Control.



Supported Versions of WebCenter for Provisioning

The versions listed in the following table support WebCenter provisioning.

Product	Version
Oracle Repository Creation Utility (RCU)	11g
Oracle WebCenter Portal	11g
Oracle WebCenter Content	11g

Before you Begin Provisioning WebCenter Domain and Oracle Home

You must keep the things to keep in mind before you actually start creating middleware profiles and provisioning from these profiles.

 **Note:**

To provision a WebCenter Domain using LDAP in the Production mode, ensure that a Weblogic user is present with Administrator group privileges in the LDAP.

Ensure that you have identical topology of servers on all nodes in a single cluster. For example, in case of a two node cluster, the same set of servers must be available on node 1 and node 2 of the cluster.

In particular, this section contains the following topics:

- [Create Middleware Roles and Assign Privileges to them](#)
- [Setting Named Credentials and Privileged Credentials for the Middleware Targets](#)
- [\(Applicable only for a Cloning WebLogic Domain Use Case\) Cloning a Database](#)

Create Middleware Roles and Assign Privileges to them

In a typical data center, the main users of Deployment Procedures are Designers (Lead Administrators) and Operators. Deployment Procedure privileges enable users to perform some design-time activities like creating the profiles, granting accesses on the profile, creating profile lock-downs, and run-time activities like running the Deployment Procedure to provision software applications.

For Middleware Provisioning, you will need to create Administrators with the following roles:

Role: EM Super Administrator

[Table 6-4](#) lists the roles based on which you can create administrators for Middleware Provisioning.

Table 6-4 Creating Administrators with the Required Roles

Enterprise Manager Role	Description
EM_PROVISIONING_DESIG NER	Role has privileges for provisioning designer
EM_PROVISIONING_OPERA TOR	Role has privileges for provisioning operator

For instructions to create administrators with these roles, see [Creating Enterprise Manager User Accounts](#).

Setting Named Credentials and Privileged Credentials for the Middleware Targets

Oracle recommends that you set the Named Credentials for normal operating system user account (*Oracle*) and Named Credentials for privileged user accounts (*root*) to perform any of the provisioning tasks in Enterprise Manager Cloud Control.

For instructions to set the Named Credentials, see [Setting Up Credentials](#).

(Applicable only for a Cloning WebLogic Domain Use Case) Cloning a Database

You must have cloned a database from the source domain at the same time that the domain was being cloned. To clone a database, you must have discovered the source database as a managed target in Enterprise Manager, following which you can create a profile out of the source database, and then provision the profile to complete the cloning process.

Use Case 1: First Time Provisioning of a WebCenter Portal with Lock-downs

This use case describes how you can perform a first time install of Oracle Fusion Middleware software, and first time provisioning of a WebLogic Domain. This is particularly useful when you do not have an existing domain in your data center, or if you do not wish to clone from a provisioning profile based upon an existing domain. To do so, follow these steps:

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create a Installation Media Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on an Installation Media](#).
2. Before you provision a middleware profile based on an Installation Media profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
3. *(optional)* While provisioning the profile, you can create a template from the inputs that has already been entered in this deployment procedure. For this, you need to use the lockdown feature offered in Enterprise Manager, which enables you to lock select inputs thereby restricting other users to the change these values in future. For example, you can lock the values entered in the Middleware, Database, Identity and Security, and WebTier sections. By saving the Deployment Procedure with these lockdowns, other administrators can leverage the defaulted inputted values and submit the procedure with very few inputs required from them.
4. Log in with Operator Privileges (`EM_PROVISIONING_OPERATOR`). Select the template from the Deployment Procedure table, and click **Launch**.

If you have not created a template out of the profile, you can select your profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
5. For provisioning a WebCenter Domain and Oracle Home from an Installation Media, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
6. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 2: Provisioning a WebCenter Home

This use case describes how you can create a Gold Image from an existing Oracle Home (WebCenter) that has perhaps been patched, and provision this using the Oracle Home profile. This is particularly useful when you need to install Oracle Fusion Middleware software with or without a new WebLogic Domain.

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create an Oracle Home (WebCenter) Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on an Oracle Home](#).
2. Before you provision a middleware profile based on an Oracle Home, meet the prerequisites mentioned in [Prerequisites for Provisioning the Installation Media Profile or the Oracle Home Profile](#).
3. Log in with Designer/Operator privileges, select your profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
4. For creating a clone of an existing domain's Oracle Home (with binaries and patches) but no domain configuration, follow the steps mentioned in [Provisioning of a new Fusion Middleware Domain from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Installation Media Based-Profile or an Oracle Home Based-Profile](#).

Use Case 3: Cloning an Existing WebCenter Portal Environment

This use case describes how you can clone a WebLogic Domain from a provisioning profile based upon an existing WebLogic Domain. This is particularly useful when you need to install Oracle Fusion Middleware software and configure a new WebLogic Domain.

1. Log in with Designer privileges (`EM_PROVISIONING_DESIGNER` role) to create a WebLogic Domain Profile. To do so, follow the steps mentioned in [Creating a Provisioning Profile Based on a WebLogic Domain](#).
2. Before you provision a middleware profile based on an WebLogic Domain profile, meet the prerequisites mentioned in [Prerequisites for Provisioning the WebLogic Domain Profile](#).
3. Log in with Designer/Operator Privileges, select your profile from the Profiles table on the Middleware Provisioning page, then click **Provision**.
4. For provisioning a WebCenter Domain and Oracle Home from a profile, follow the steps mentioned in [Cloning from an Existing WebLogic Domain Based-Profile](#).
5. If you want to customize the settings in the destination environment, follow the steps mentioned in [Customizing the Destination Environment from an Existing WebLogic Domain Based-Profile](#).

Use Case 4: Provisioning from an Existing WebCenter Home

If you have an Oracle Home that you want to provision as it is (without having to create a profile), then you can do so by select the Oracle Home source target in the Provision Fusion Middleware procedure. For more information, see [Provisioning a Fusion Middleware Domain from an Existing Oracle Home](#).

Use Case 5: Scaling Up an Existing WebCenter Domain

To scale up a WebCenter Domain to include one or more managed servers, run the Scaleup/Scale Out Middleware procedure from the Deployment Procedures table on the Middleware Provisioning page. For more information, see [Scaling Up / Scaling Out Fusion Middleware Domains](#) .

7

Middleware Provisioning using the EM CLI

This chapter describes how you can use the command line option Enterprise Manager Command Line Interface offered by Oracle to create, describe, list, delete, and customize the Middleware Profiles.

In particular, this chapter covers the following:

- [Creating Middleware Provisioning Profiles](#)
- [Submitting the Procedure using EM CLI](#)
- [Listing Middleware Provisioning Profiles](#)
- [Describing Provisioning Profiles](#)
- [Deleting Provisioning Profiles](#)

Creating Middleware Provisioning Profiles

Profiles are like templates that you can create and store in Software Library. Once a profile is created, it can be launched numerous times to provision WebLogic Domain and/or Oracle Home. The advantage of using a profile is that you can ensure that future WebLogic installations follow a standard, consistent configuration.

This chapter covers following sections:

- [Creating a WebLogic Domain Profile](#)
- [Creating an Oracle Home Profile](#)
- [Creating an Installation Media Profile](#)

Creating a WebLogic Domain Profile

To create a Fusion Middleware Provisioning Profile from a WebLogic Domain, use the EM CLI verb `create_fmws_domain_profile`.

```
emcli create_fmws_domain_profile
-name="Profile Name"
-ref_target="Reference Target Name"
[-description="Profile Description"]
[-oh_cred="Oracle Home Owner Credentials"]
[-includeOh]
[-schedule=
start_time:yyyy/MM/dd HH:mm;
[tz:{java timezone ID}];
[grace_period:xxx];
]
```

[] indicates that the parameter is optional.

Description for the options:

-name

Name of the WebLogic Domain profile.

`-ref_target`

Name of the reference target used to create the WebLogic Domain profile.

`-description`

A short description for the WebLogic Domain profile you create.

`-oh_cred`

Named credential that will be used to access the reference host.

Format: CREDENTIAL_NAME:CREDENTIAL_OWNER.

All operations will be performed on the Administration Server host.

Credentials of the Oracle Home owner on the Administration Server host are required.

If no named credential is provided, then preferred host credentials for the Oracle Home target will be used.

`-wls_cred`

Named credential used to access the Administration Server. This is an optional parameter.

To pass the credential parameter, enter a name:value pair in the following format:

credential_name:credential_owner.

Where,

Credential_name is the name of the named credential.

Credential_owner is the credentials of the Administrator of the WebLogic Domain.

All operations are performed in online mode (using T2P) in case of a Fusion Middleware domain.

If no named credential is provided, the preferred administrator credentials for the domain target will be used.

`-includeOh`

Whether the Oracle Home binaries have to be included in the profile or not.

`-schedule`

The schedule for the Deployment Procedure.

If not specified, the procedure will be executed immediately.

start_time: when the procedure should start.

tz: the timezone ID.

grace_period: grace period in minutes.

Following examples describe how to create a WebLogic Domain profile:

- A WebLogic Domain called *BitlessDomainProfile* is created using the reference target `/Farm01_base_domain/base_domain` at the specified schedule. Since the Oracle home parameter is not passed, a plain WebLogic domain without the Oracle home binaries is created. Also, since the Oracle home credentials haven't been specified, the preferred host credentials for the target home is used.

```
emcli create_fmws_domain_profile
-name="BitlessDomainProfile"
-ref_target="/Farm01_base_domain/base_domain"
-description="A domain profile without software bits"
-schedule="start_time:2014/6/21 21:23;tz:America/New_York;grace_period:60"
```

- A WebLogic Domain profile along with Oracle home binaries called *DomainProfilewithBits* is created immediately. This profile is created from the reference target `/Farm01_base_domain/base_domain` using the specified named credentials.

```
emcli create_fmws_domain_profile
-name="DomainProfileWithBits"
-ref_target="/Farm01_base_domain/base_domain"
-oh_cred="MY_HOST_CRED:SYSMAN"
-includeMWH
```

- The is created in the Software Library in Fusion Middleware Provisioning/Profiles directory. Since the schedule is not mentioned, the job runs immediately.

```
emcli create_fmws_domain_profile
-name=D=SoaProfile
-ref_target="Farm01_SoaDomain/SoaDomain"
```

Output:

For example you will see following attributes when the profile has been submitted successfully:

```
- instance_name: 'CreateFmwProfile-
  SoaProfile_SYSMAN_07_09_2014_11_36_AM'
- instance_guid: 'FDC7FC56E2CF2972E04373B1F00A1512'
```

Note:

To track the status of the profile being created, use the command:

```
emcli get_instance_status -
instance=FDC7FC56E2CF2972E04373B1F00A1512 -xml -details -
showJobOutput
```

Creating an Oracle Home Profile

To create a Fusion Middleware Provisioning Profile from an Oracle Home target, use the EM CLI verb `create_fmws_home_profile_verb`.

```
emcli create_fmws_home_profile
-name="Profile Name"
-ref_target="Reference Target Name"
[-description="Profile Description"]
[-oh_cred="Oracle Home Owner Credentials"]
[-schedule=
start_time:yyyy/MM/dd HH:mm;
[tz:{java timezone ID}];
[grace_period:xxx];
]
```

[] indicates that the parameter is optional.

Description for the options:

`-name`
Name of the Oracle home profile.

`-ref_target`
Name of the Oracle Home target used as reference to create the profile.

`-description`

A short description for the Oracle home profile you create.

-oh_cred
Named credentials used to access the reference host. This is an optional parameter. To pass the credential parameter, enter a name:value pair in the following format: credential_name:credential_owner.

Where,
Credential_name is the name of the named credential.
Credential_owner is the credentials of the Oracle home owner on the Administration Server host.

If no named credential is provided, the preferred host credential for the Oracle home target will be used.

-schedule
The schedule for the Deployment Procedure.
If not specified, the procedure will be executed immediately.
To specify a value, enter:
start_time: when the procedure should start.
tz: the timezone ID.
grace_period: grace period in minutes.

Following examples describe how to create an Oracle Home profile:

- An Oracle Home profile is created in the Software Library in Fusion Middleware Provisioning/Profiles directory. Since the schedule is not mentioned, the job runs immediately.

```
emcli create_fmws_home_profile
-name=SoaProfile
-ref_target="WebLogicServer10_3_6_0_<agent host name>.example.com_6316"
```

Output:

You will see the following attributes when the profile has been submitted successfully:

- instance_name: 'CreateFmwProfile-SoaProfile_SYSMAN_07_09_2014_11_36_AM'
- instance_guid: 'FDC7FC56E2CF2972E04373B1F00A1512'

Note:

To track the status of the profile being created, use the command:

```
emcli get_instance_status -
instance=FDC7FC56E2CF2972E04373B1F00A1512 -xml -details -
showJobOutput
```

- An Oracle home profile called OhProfile1 is created using the reference host target at the specified schedule using preferred credentials.

```
emcli create_fmws_home_profile
-name="OhProfile1"
-ref_target="WebLogicServer_10.3.6.0_host.example.com_5033"
-description="An Oracle Home profile"
-schedule="start_time:2014/6/21 21:23;tz:America/New_York;grace_period:60"
```

- An Oracle home profile named OhProfile2 is created immediately from the reference host target using named credentials.

```
emcli create_fmware_home_profile
-name="OhProfile2" -ref_target="WebLogicServer_11.4.1.0_host.example.com_5023"
-oh_cred="MY_HOST_CRED:SYSMAN"
```

Creating an Installation Media Profile

To create a profile using the Oracle Fusion Middleware installation media, use the EM CLI verb `create_inst_media_profile_verb`

```
emcli create_inst_media_profile
-name="Profile Name"
-host="Reference Target Name"
-version="Reference Target Name"
-platform="Reference Target Name"
[-description="Profile Description"]
[-host_cred="Oracle Home Owner Credentials"]
-files=
WebLogic:WLSFile1;
SOA:SOAFile1,SOAFile2;
OSB:OSBFile;
RCU:RCUFile;
```

[] indicates that the parameter is optional.

Description for the options:

-name

Name of the installation media profile.

-host

Name of the host target where the installation media files are stored.

-version

Version of the installation media files.

-platform

Platform for which the installation media is applicable.

-description

A short description for the installation media profile.

-host_cred

Named credentials used to access the reference host. This is an optional parameter. To pass the credential parameter, enter a name:value pair in the following format: `credential_name:credential_owner`.

Where,

`Credential_name` is the name of the named credential.

`Credential_owner` is the credentials of the Oracle home owner on the Administration Server host.

If no named credential is provided, the preferred host credential for the host target will be used.

.

-files

List of files that have to be uploaded to Software Library. These files are passed in the format `product:file1,file2`. The Installation Media profile supports the following products: WebLogic, SOA, OSB, and RCU. Note that, to create any of these profiles, you must upload the WebLogic media file.

Following examples describe how to create an Oracle Home profile:

- Upload an installation media profile named `WebLogic1036Installer` containing `WebLogic` jar file called `wls1036_generic.jar` to the Software Library from the host `myhost.example.com`. Additionally, you must provide the platform and version details for the installation media file. Since you have not passed any credential as a parameter, the preferred host credentials will be used to access the `WebLogic` jar file.

```
emcli create_inst_media_profile
-name="WebLogic1036Installer"
-host="host.example.com"
-description="WebLogic Server 10.3.6.0 installer"
-version="10.3.6.0"
-platform="Generic"
-files="WebLogic:/u01/media/weblogic/wls1036_generic.jar"
```

- Upload the SOA and WLS installation media files to the Software Library from the host `myhost.example.com`. Additionally, you must provide the platform and version details for the installation media file. The profile called `SOA+WLSInstaller` is created using the named credentials specified.

```
emcli create_inst_media_profile
-name="SOA+WLSInstaller"
-host="myhost.example.com"
-description="SOA 11.1.1.7.0 and WebLogic Server 10.3.6.0 installer"
-version="11.1.1.7.0"
-platform="Generic"
-host_cred="MY_HOST_CRED:SYSMAN"
-files="WebLogic:/u01/media/weblogic/wls1036_generic.jar;SOA:/u01/media/soa/soa1.zip,/u01/media/soa/soa2.zip"
```

- An Oracle Home profile is created in the Software Library in `Fusion Middleware Provisioning/Profiles` directory. Since the schedule is not mentioned, the job runs immediately.

```
emcli create_inst_media_profile
-name="WebCenter Install Media"
-host=slc03qtn.example.com
-description="WC 11.1.1.8.0 and WebLogic Server 10.3.6.0 installer and RCU"
-version="11.1.1.8.0"
-platform="2000"
-host_cred="BBANTHIA:SYSMAN"
-files="WebLogic:/net/adcnas438/export/emgpqa/provisioning/fmwprov/linux64/shiphomes/upinsmed_wls/wls1036_generic.jar;WCP:/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/shiphomes/wcp_11.1.1.8.0/wc.zip;WCC:/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/shiphomes/wcc_11.1.1.8.0/ecm_main1.zip,/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/shiphomes/wcc_11.1.1.8.0/ecm_main2.zip;RCU:/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/shiphomes/wrcu_11.1.1.8.0/rcuHome.zip"
```

Submitting the Procedure using EM CLI

To automate the process of provisioning using the command line, submit your procedure using the Enterprise Manager Command Line Interface (EMCLI) utility. The EMCLI enables you to access Enterprise Manager Cloud Control functionality from text-based consoles (shells and command windows) for a variety of operating systems. You can call Enterprise Manager functionality using custom scripts, such as `SQL*Plus`, OS shell, Perl, or Tcl, thus easily integrating Enterprise Manager functionality with your company's business process.

 **Note:**

Use the procedure below to generate a template input file based on configuration deployment procedure functionality:

1. From the **Middleware Provisioning** page launch the profile.
2. Enter the necessary values.
3. Provide a name to the provisioning deployment procedure and save.
4. Log in to EMCLI using the following commands:

```
emcli login -username=sysman -password=sysman  
emcli sync
```

5. Run the following command to fetch the GUID of the configuration deployment procedure:

```
emcli get_procedures | grep <deployment procedure name>
```

6. Run the following command to fetch an example input file which contains all the values:

```
emcli describe_procedure_input -  
procedure=1965463666C90D9CE053E37BF00A8C65
```

The result of the above command becomes the content of the input file.

7. Make the required changes to the input file including the password.
8. Run the following commands to submit the deployment procedure:

```
emcli submit_procedure -input_file=data:/scratch/<input file  
name>.xml -name=ProvisionMiddleware -instance_name=<new  
deployment procedure name>
```

Listing Middleware Provisioning Profiles

This section describes how you can list all the Fusion Middleware Provisioning profiles that you have created in Enterprise Manager.

In particular, this section covers the following topics:

- [Listing All the Profiles](#)
- [Listing All the WebLogic Domain Profiles](#)
- [Listing All the Oracle Home Profiles](#)
- [Listing All the Installation Media Profiles](#)

Listing All the Profiles

To list all the Fusion Middleware Profiles, run the following command:

```
emcli list_fmw_profiles  
[-source_type="Profile Source"]
```

Description for the options:

```
-source_type
    Valid values: weblogic_domain, oracle_home or install_media.
    Profiles of only this type as source will be shown.
```

Following examples describe how to list an Oracle Home profile:

- To list all the Middleware Provisioning Profiles, run the following command:

```
emcli list_fmws_profiles
```

Output:

Location	Products	Platform	Version	Owner
Fusion Middleware Provisioning/ Profiles/SoaBitlessProfile	Oracle SOA	Linux x86-64	10.3.6.0	SYSMAN
Fusion Middleware Provisioning/ Profiles/SoaGoldImage	Oracle SOA	Linux x86-64	10.3.6.0	SYSMAN
Fusion Middleware Provisioning/ Profiles/WebCenter Install Media	Oracle WebCenter Content	Generic Platform	11.1.1.8.0	SYSMAN

Listing All the WebLogic Domain Profiles

To list all the WebLogic Domain Profiles, run the following command:

```
emcli list_fmws_profiles
    [-source_type="Profile Source"]
```

Description for the options:

```
-source_type
    Valid values: weblogic_domain, oracle_home or install_media.
    Profiles of only this type as source will be shown.
```

Following examples describe how to list a domain based profile:

- To list all the WebLogic Domain Provisioning Profiles, run the following command:

```
emcli list_fmws_profiles
-source_type=weblogic_domain
```

Output:

Location	Products	Platform	Version	Owner
Fusion Middleware Provisioning/ Profiles/SoaBitlessProfile	Oracle SOA	Linux x86-64	10.3.6.0	SYSMAN

Listing All the Oracle Home Profiles

To list all the Oracle Home Profiles, run the following command:

```
emcli list_fmws_profiles
    [-source_type="Profile Source"]
```

Description for the options:

```
-source_type
```

Valid values: `weblogic_domain`, `oracle_home` or `install_media`.
Profiles of only this type as source will be shown.

Following examples describe how to list a Oracle Home based profile:

- To list all the WebLogic Domain Provisioning Profiles, run the following command:

```
emcli list_fmws_profiles
-source_type=oracle_home
```

Output:

Location	Products	Platform	Version	Owner
Fusion Middleware Provisioning/ Profiles/SoaGoldImage	Oracle SOA	Linux x86-64	10.3.6.0	SYSMAN

Listing All the Installation Media Profiles

To list all the Installation Media profiles, run the following command:

```
emcli list_fmws_profiles
[-source_type="Profile Source"]
```

Description for the options:

`-source_type`
Valid values: `weblogic_domain`, `oracle_home` or `install_media`.
Profiles of only this type as source will be shown.

Following examples describe how to list an Oracle Home profile:

- To list all the Install Media based Profiles, run the following command:

```
emcli list_fmws_profiles
-source_type=install_media
```

Output:

Location	Products	Platform	Version	Owner
Fusion Middleware Provisioning/ Profiles/WebCenter Install Media	Oracle WebCenter Content	Generic Platform	11.1.1.8.0	SYSMAN

Describing Provisioning Profiles

To view the summary of the Fusion Middleware Provisioning Profile that you have created in Cloud Control, run the following command:

Usage:

```
emcli describe_fmws_profile
-location="Profile Location"
```

Description for the options:

`-location`
Complete Software Library path to the Profile.
Use `list_fmws_profiles` to know the complete path.

In particular, this section covers the following topics:

- [Describing a WebLogic Domain Profile](#)
- [Describing an Oracle Home Profile](#)
- [Describing an Installation Media Profile](#)

Describing a WebLogic Domain Profile

To view a summary of the WebLogic Domain Profile, run the following command:

Usage:

```
emcli describe_fmwb_profile
-location="Fusion Middleware Provisioning/Profiles/SoaBitlessProfile"
```

Output

```
Location: Fusion Middleware Provisioning/Profiles/SoaBitlessProfile
Created By: SYSMAN
Created On: Sun, 6 Jul 2014
URN: oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1
```

Attachments:

Name	Size	Content Type	Added By	Added On
nmMovePlan.xml	6.95 KB	text/plain	SYSMAN	Sun, 6 Jul 2014
mdm-url-resolver.xml	268 Bytes	text/plain	SYSMAN	Sun, 6 Jul 2014
domainMovePlan.xml	56.91 KB	text/plain	SYSMAN	Sun, 6 Jul 2014

```
Source: WebLogic Domain
Oracle Home Included: No
Node Manager Included: Yes
Platform: Linux x86-64
Version: 10.3.6.0
```

Oracle Homes:

```
Product: Oracle SOA
Version: 11.1.1.7.0
```

WebLogic Domain:

```
Domain Name: SoaDomain
Size: 611.45 MB
Products: Oracle SOA
```

Name	Host	Listen Address	Port Machine	Cluster	Maximum Heap	Average CPU Usage
AdminServer	<agent host name>.example.com	<agent host name>.example.com	7001 LocalMachine		1365	0.361
Soa_server1	<agent host name>.example.com	<agent host name>.example.com	8001LocalMachine	cluster_soa	1365	0.717

Data Sources:

Name	Username	URL	Target
EDNDataSource	SOA_SOAINFRA	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
EDNLocalTxDataSource	SOA_SOAINFRA	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
OraSDPMDDataSource	SOA_SOAINFRA	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
OraSDPMDDataSource	SOA_SOAINFRA	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
SOALocalTxDataSource	SOA_SOAINFRA	dbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
mds-owsm	SOA_MDS	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa
mds-soa	SOA_MDS	jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com	cluster_soa

JMS Servers:

Name	Persistent Store	Directory	Target
BPMJMSServer_auto_1	BPMJMSFileStore_auto_1	UMSJMSFileStore_auto_1	soa_server1
PS6SOAJMSServer_auto_1	PS6SOAJMSFileStore_auto_1	UMSJMSFileStore_auto_1	soa_server1
SOAJMSServer_auto_1	SOAJMSFileStore_auto_1	SOAJMSFileStore_auto_1	soa_server1
UMSJMSServer_auto_1	UMSJMSFileStore_auto_1	UMSJMSFileStore_auto_1	soa_server1

Describing an Oracle Home Profile

To view a summary of the Oracle Home Profile, run the following command:

Usage:

```
emcli describe_fmws_profile
-location="Fusion Middleware Provisioning/Profiles/SoaGoldImage"
```

Output

```
Location: Fusion Middleware Provisioning/Profiles/SoaGoldImage
Created By: SYSMAN
Created On: Tue, 8 Jul 2014
URN: oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1
Source: Oracle Home
Platform: Linux x86-64
Version: 10.3.6.0
```

Oracle Homes:

```
Product: Oracle SOA
Version: 11.1.1.7.0
```

Describing an Installation Media Profile

To view a summary of the Installation Media Profile, run the following command:

Usage:

```
emcli describe_fmw_profile
-location="Fusion Middleware Provisioning/Profiles/WebCenter Install Media"
```

Output:

```
Location: Fusion Middleware Provisioning/Profiles/WebCenter Install Media
Description: WC 11.1.1.8.0 and WebLogic Server 10.3.6.0 installer and RCU
Created By: SYSMAN
Created On: Sun, 6 Jul 2014
URN: oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEEEA369A5E04373B1F00AE77C:0.1
Source: Installation Media
Product: Oracle WebCenter
Platform: Generic Platform
Version: 11.1.1.8.0
```

Files:

Product	File	Size
Oracle WebCenter Content	ecm_main1.zip	2.34 GB
	ecm_main2.zip	1.91 GB
Oracle RCU	PS6SOAJMSFileStore_auto_1	496.16 MB
Oracle WebCenter Portal	SOAJMSFileStore_auto_1	1.96 GB
Oracle WebLogic Server	UMSJMSFileStore_auto_1	1,019.01 MB

Describing an Exported Domain/Partiton Profile

To view a summary of the Exported Domain/Partiton Profile, run the following command:

Usage:

```
emcli describe_fmw_profile
-location="WebLogic Domain Partition Provisioning/Profiles/exportDomain"
```

Output

```
Location: WebLogic Domain Partition Provisioning/Profiles/exportDomain
Created By: SYSMAN
Created On: Mon, 16 Oct 2017
URN: oracle:oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:PartitionProfile:5BB150A40646CFC6E0535B31C40A1737:0.1
```

Attachments:

Name	Size	Content Type	Added By	Added On
base_domain-attributes.json	1.64 KB	text/plain	SYSMAN	Mon, 16 Oct 2017

Type: WebLogic Domain Partition Profile
 Oracle Home Included: No
 Platform: Linux x86-64
 Version: 12.2.1.3.0
 Source: WebLogic Domain
 Domain Name: base_domain

Virtual Targets

Name	URI	Prefix	Host Name	Target
\$ {PARTITION_NAME}	-AdminServer	-virtualTarget	/\$ {PARTITION_NAME}	AdminServer
\$ {PARTITION_NAME}	-Cluster_1	-virtualTarget	/\$ {PARTITION_NAME}	Cluster_1

Example Response:

```
{
  "location": "WebLogic Domain Partition Provisioning/Profiles/exportedDomain",
  "createdBy": "SYSMAN",
  "createdOn": "Mon, 16 Oct 2017",
  "urn": "oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:PartitionProfile:5BAF9D80FF705B3CE0535B31C40ABEFC:0.1",
  "attachments": [
    {
      "fileName": "base_domain-attributes.json",
      "size": "1.64 KB",
      "contentType": "text/plain",
      "addedBy": "SYSMAN",
      "addedOn": "Mon, 16 Oct 2017"
    }
  ],
  "source": "Oracle Home",
  "platform": null,
  "wlsVersion": null
}
```

Deleting Provisioning Profiles

To delete the Fusion Middleware Provisioning Profile from Software Library, run the following:

Usage:

```
emcli delete_fmws_profile
  -location="Profile Location"
```

Description for the options:

-location
 Complete Software Library path to the Profile.
 Use list_fmws_profiles to know the complete path.

Examples:

To delete a profile by the name MyProfile, run the following command:

```
emcli delete_fmws_profile
  -location="Fusion Middleware Provisioning/Profiles/MyProfile"
```

To delete a DomainProfile, run the following command:

```
emcli delete_fmws_profile
    -location="Fusion Middleware Provisioning/Profiles/DomainProfile"
```

Output: The profile Fusion Middleware Provisioning/Profiles/DomainProfile has been deleted successfully.

You can delete only one Fusion Middleware Provisioning Profile at a time.

Describing scaledown_domain usage

To remove specified managed servers from a WebLogic Domain, run the following:

Usage:

```
emcli scaledown_domain
    -domain_target="Domain Target Name"
    -server_list="Server List"
    [-host_cred="Host Credentials"]
    [-wls_cred="WebLogic Administrator Credentials"]
    [-schedule=
        start_time:yyyy/MM/dd HH:mm;
        [tz:{java timezone ID}];
        [grace_period:xxx];
    ]
```

[] indicates that the parameter is optional.

Description for the options:

- -domain_target
Name of the WebLogic domain target.
- -server_list
Comma separated list of the managed servers names to be removed.
- -host_cred
Named credential list for OS user that has write permission on the managed servers domain homes. To pass the credential parameter, enter a name:value pair in the following format: credential_name:credential_owner.

where,

- Credential_name is the name of the named credential.
- Credential_owner is the credentials of the Oracle home owner on the Administration Server host.

Note:

All the operations will be performed with the same credential if only one is provided, if each managed server requires a different credential, then a list of comma separated credentials will be matched against the list of managed servers. If no named credential is provided, the preferred host credentials will be used.

- -wls_cred

Named credential used to access the Administration Server. This is an optional parameter. To pass the credential parameter, enter a name:value pair in the following format: `credential_name:credential_owner`.

where,

- `Credential_name` is the name of the named credential.
- `Credential_owner` is the credentials of the Administrator of the WebLogic Domain.

 **Note:**

If no named credential is provided, the preferred administrator credentials for the domain target will be used.

- `-schedule`
Specify when to run the deployment procedure. If no value is entered, by default, the procedure runs immediately. To schedule a procedure, provide:
 - `start_time`: when the procedure should start
 - `tz`: the timezone ID
 - `grace_period`: grace period in minutes

Example 1

A single Managed Server named `mServer` needs to be removed from the WebLogic Domain target `/Farm01_base_domain/base_domain` at the specified schedule. Since the Managed Server host credentials haven't been specified, the preferred credentials for the target host and domain target are used.

```
emcli scaledown_domain
  -domain_target="/Farm01_base_domain/base_domain"
  -server_list="mServer"
  -schedule="start_time:2014/6/21
21:23;tz:America/New_York;grace_period:60"
```

Describing deploy_jvmd usage

To deploy JVMD agent in a WebLogic Domain, run the following:

Usage:

```
emcli deploy_jvmd
  -domain_name="Domain Target Name"
  [-engine="JVMD Engine URL"]
  [-clusters="Clusters Name"]
  [-servers="Servers Name"]
  [-host_cred="Oracle Home Owner Credentials"]
  [-wls_cred="WebLogic Administrator Credentials"]
  [-deploy_mode="Deploy Mode"]
  [-java_args="Client java arguments"]
  [-schedule=
    start_time:yyyy/MM/dd HH:mm;
    [tz:{java timezone ID}];
    [grace_period:xxx];
  ]
```

```
[ -workDir="Working Directory Location" ]  
[ -libDir="Libraries Directory Location" ]
```

[] indicates that the parameter is optional.

Description for the options:

- `-domain_name`
Name of the WebLogic Domain Target where the agent will be deployed.
- `-engine`
JVMD Engine URL the agent will communicate to.
- `-clusters`
Name of the cluster(s) the JVMD agent will be targeted.
- `-servers`
Name of the server(s) the JVMD agent will be targeted.
- `-host_cred`
Named credential used to access the reference host. This is an optional parameter. To pass the credential parameter, enter a name:value pair in the following format: `credential_name:credential_owner`.

where,

- `Credential_name` is the name of the named credential.
- `Credential_owner` is the credentials of the Oracle home owner on the Administration Server host.

Note:

All the operations will be performed on the Administration Server host. If no named credential is provided, the preferred host credentials for the Oracle home target will be used.

- `-wls_cred`
Named credential used to access the Administration Server. This is an optional parameter. To pass the credential parameter, enter a name:value pair in the following format: `credential_name:credential_owner`.

where,

- `Credential_name` is the name of the named credential.
- `Credential_owner` is the credentials of the Oracle home owner on the Administration Server host.

Note:

If no named credential is provided, the preferred administrator credentials for the domain target will be used.

- `-deploy_mode`

Deployment mode of the JVMD agent. This is an optional parameter. The valid modes are `deploy`, `redeploy` and `undeploy`. If no mode is provided, the `'deploy'` mode will be used by default.

- `-java_args`

Client java arguments that will be used to connect to the Administration Server. This is an optional parameter.

- `-schedule`

Specify when to run the deployment procedure. If no value is entered, by default, the procedure runs immediately. To schedule a procedure, provide:

- `start_time`: when the procedure should start
- `tz`: the timezone ID
- `grace_period`: grace period in minutes

- `-workDir`

Specify the working directory to be used. This is an optional parameter.

- `-libDir`

Default directory for extracting native libraries. This is an optional parameter.

Example 1

A JVMD agent is deployed in the domain `base_domain` at the specified schedule and targeted to two clusters. Also, since the credentials haven't been specified, the preferred credentials for the target are used.

```
emcli deploy_jvmd
  -domain_name="/Farm01_base_domain/base_domain"
  -engine="protocol://myhost.mycompany.com:port"
  -clusters="Cluster1,Cluster2"
  -schedule="start_time:2016/6/21
21:23;tz:America/New_York;grace_period:60"
  -workDir="/u01/mytemp"
```

8

Middleware Profiles Using REST APIs

This chapter describes how you can use REST APIs to create, describe, list, and delete Middleware Profiles. The operations like creating/listing/describing/deleting middleware provisioning profiles, which were only possible from the Cloud Control console is now being additionally supported using a REST request/response interactions.

Profiles are like templates that you can create and store in Software Library. Once a profile is created, it can be launched numerous times to provision WebLogic Domain and/or Oracle Home. The advantage of using a profile is that you can ensure that future WebLogic installations follow a standard, consistent configuration.

In particular, this chapter covers the following:

- [Creating Middleware Provisioning Profiles](#)
- [Listing Middleware Provisioning Profiles](#)
- [Describing Provisioning Profiles](#)
- [Deleting Provisioning Profiles](#)

Creating Middleware Provisioning Profiles

This section describes how you can use the REST APIs to create the three different types of provisioning profiles that are supported in Enterprise Manager Cloud Control:

- [Creating a WebLogic Domain Profile](#)
- [Creating an Oracle Home Profile](#)
- [Creating an Installation Media Profile](#)

Creating a WebLogic Domain Profile

To create a profile from a WebLogic Domain, follow these steps:

1. Perform the GET operation on the URL to view the inputs that you need to provide to create a profile.

Table 8-1 GET Request Configuration for Creating a WebLogic Domain Profile

Feature	Description
URL	<code>:/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/weblogic_domain</code>
Body	None
Parameters/Constraints	None
Request method	GET

Table 8-1 (Cont.) GET Request Configuration for Creating a WebLogic Domain Profile

Feature	Description
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
name: "Name of the profile to be created."
targetName: "Name of the WebLogic Domain target that will be used as reference
to create the profile."
description: "[Optional] Description of the profile that will be created."
credential: "[Optional] Named credential that will be used to access the
reference host. Format: CREDENTIAL_NAME:CREDENTIAL_OWNER. All operations will be
performed on the Administration Server host. Credentials of the Oracle Home
owner on the Administration Server host are required. If no named credential is
provided, then preferred host credentials for the Oracle Home target will be
used."
wlsCredential: "[Optional] Named credential that will be used to access the
Administration Server. Format: CREDENTIAL_NAME:CREDENTIAL_OWNER. If no named
credential is provided, then preferred administrator credentials for the domain
target will be used."
includeOh: "[Optional] Whether the Oracle Home binaries have to be included in
the profile or not. Value: true/false"
schedule: "[Optional] The schedule for the Deployment Procedure. If not
specified, the procedure will be executed immediately. Format:
start_time:yyyy/MM/dd HH:mm; [tz:{java timezone ID}]; [grace_period:xxx];
}"
}
```

2. Update the values, and then perform a POST operation.

Table 8-2 POST Request Configuration for Creating a WebLogic Domain Profile

Feature	Description
URL	em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/weblogic_domain
Request header	
Body	{ "name": "DomainProfileViaRestAPI", "targetName": "/Farm01_SoaDomain/SoaDomain", "credential": "HOSTCRED:SYSMAN", "description": "Domain Profile", "includeOh": "false" }
Parameters	NA
Request method	POST
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
instanceName: "CreateFmwProfile-DomainProfileViaRest_SYSMAN_07_09_2014_09_47_AM"
instanceGuid: "FDBDDDB0C6767690CE04373B1F00A09E8"
executionGuid: "FDBDDDB0C676A690CE04373B1F00A09E8"
executionUrl: "http://<agent host name>:7802/em/faces/core-jobs-
procedureExecutionTracking?
instanceGUID=FDBDDDB0C6767690CE04373B1F00A09E8&showProcActLink=yes&executionGUID=F
DBDDDB0C676A690CE04373B1F00A09E8"
name: "DomainProfileViaRestAPI"
targetName: "/Farm01_SoaDomain/SoaDomain"
description: "Domain Profile"
credential: "HOSTCRED:SYSMAN"
includeOh: "false"
}
```

Creating an Oracle Home Profile

To create a provisioning profile from an Oracle Home, follow these steps:

1. Perform the GET operation on the URL to view the inputs that you need to provide to create a profile.

Table 8-3 GET Request Configuration for Creating an Oracle Home Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/oracle_home
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
name: "Name of the profile to be created."
targetName: "Name of the Oracle Home target that will be used as reference to
create the profile."
description: "[Optional] Description of the profile that will be created."
credential: "[Optional] Named credential that will be used to access the
reference host. Format: CREDENTIAL_NAME:CREDENTIAL_OWNER. If no named credential
is provided, then preferred host credentials for the Oracle Home target will be
used."
schedule: "[Optional] The schedule for the Deployment Procedure. If not
specified, the procedure will be executed immediately. Format:
start_time:yyyy/MM/dd HH:mm; [tz:{java timezone ID}]; [grace_period:xxx];"
}
```

2. Update the values, and then perform a POST operation.

Table 8-4 POST Request Configuration for Creating an Oracle Home Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/oracle_home
Body	<pre>{ "name": "OhProfileViaRestAPI", "targetName": "WebLogicServer10_3_6_0_slc00tkv.example.com_6316", "credential": "HOSTCRED:SYSMAN", "description": "OH Profile" }</pre>
Parameters	NA
Request method	POST
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
instanceName: "CreateFmwProfile-OhProfileViaRestAPI_SYSMAN_07_09_2014_09_54_AM"
instanceGuid: "FDC6776FB9B31CCDE04373B1F00A2B1C"
executionGuid: "FDC6776FB9B61CCDE04373B1F00A2B1C"
executionUrl: "http://<agent host name>:7802/em/faces/core-jobs-procedureExecutionTracking?instanceGUID=FDC6776FB9B31CCDE04373B1F00A2B1C&showProcActLink=yes&executionGUID=FDC6776FB9B61CCDE04373B1F00A2B1C"
name: "OhProfileViaRestAPI"
targetName: "WebLogicServer10_3_6_0_slc00tkv.example.com_6316"
description: "OH Profile"
credential: "HOSTCRED:SYSMAN"
}
```

Creating an Installation Media Profile

To create a provisioning profile from an Installation Media, follow these steps:

1. Perform the GET operation on the URL to view the inputs that you need to provide to create a profile.

Table 8-5 GET Request Configuration for Creating an Installation Media Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/install_media
Body	NA
Parameters/Constraints	NA
Request method	GET

Table 8-5 (Cont.) GET Request Configuration for Creating an Installation Media Profile

Feature	Description
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
name: "Name of the profile to be created."
targetName: "Name of the Host target that where all the installation files are
stored."
description: "[Optional] Description of the profile that will be created."
credential: "[Optional] Named credential that will be used to access the files.
Format: CREDENTIAL_NAME:CREDENTIAL_OWNER. If no named credential is provided,
then normal preferred credentials for the Host target will be used."
platform: "Platform for which the installation media is applicable."
version: "Version of the installation media."
-files: [2]
-0:
{
product: "Product1"
-files: [1]
0: "file1"
}
-1:
{
product: "Product2"
-files: [2]
0: "file2"
1: "file3"
}
}
```

2. Update the values, and then perform a POST operation.

Table 8-6 POST Request Configuration for Creating an Installation Media Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/create/install_media

Table 8-6 (Cont.) POST Request Configuration for Creating an Installation Media Profile

Feature	Description
Body	<pre>{ "name": "ImProfileViaRestAPI", "targetName": "<agent host name>.example.com", "platform": "2000", "version": "11.1.1.8.0", "credential": "HOSTCRED:SYSMAN", "description": "IM Profile", "files": [{ "product": "WebLogic", "files": ["/net/adcnas438/export/emgpqa/provisioning/fmwprov/ linux64/shiphomes/upinsmed_wls/wls1036_generic.jar"] }, { "product": "WCC", "files": ["/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/ fmwprov/linux64/shiphomes/wcc_11.1.1.8.0/ecm_main1.zip", "/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/ fmwprov/linux64/shiphomes/wcc_11.1.1.8.0/ecm_main2.zip"] }, { "product": "WCP", "files": ["/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/ fmwprov/linux64/shiphomes/wcp_11.1.1.8.0/wc.zip"] }] }</pre>
Parameters	NA
Request method	POST
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
  instanceName: "CreateFmwProfile-ImProfileViaRestAPI_SYSMAN_07_09_2014_10_07_AM"
  instanceGuid: "FDC6BDD54DA70346E04373B1F00A2DBE"
  executionGuid: "FDC6BDD54DAA0346E04373B1F00A2DBE"
  executionUrl: "http://slc03qtn:7802/em/faces/core-jobs-
procedureExecutionTracking?
instanceGUID=FDC6BDD54DA70346E04373B1F00A2DBE&showProcActLink=yes&executionGUID=F
DC6BDD54DAA0346E04373B1F00A2DBE"
  name: "ImProfileViaRestAPI"
  targetName: "slc03qtn.example.com"
```

```

description: "IM Profile"
credential: "HOSTCRED:SYSMAN"
platform: "2000"
version: "11.1.1.8.0"
-files: [3]
-0:
{
product: "WebLogic"
-files: [1]
0: "/net/slcnas438/export/emgpqa/provisioning/fmwprov/linux64/shiphomes/
upinsmed_wls/wls1036_generic.jar"
}
-1:
{
product: "WCC"
-files: [2]
0: "/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/
shiphomes/wcc_11.1.1.8.0/ecm_main1.zip"
1: "/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/
shiphomes/wcc_11.1.1.8.0/ecm_main2.zip"
}
-2:
{
product: "WCP"
-files: [1]
0: "/net/slcnas478/export/farm_em_repos/emgpqa/provisioning/fmwprov/linux64/
shiphomes/wcp_11.1.1.8.0/wc.zip"
}
}

```

Listing Middleware Provisioning Profiles

This section describes how you can list all the profiles that you have created in Enterprise Manager. The summary includes a basic link for each profile. This link can be used to view the summary of the profile with the *Describe* API. For more information on this, see [Describing Provisioning Profiles](#).

In particular, this section includes the following topics:

- [Listing All the Profiles](#)
- [Listing WebLogic Domain Profiles](#)
- [Listing Oracle Home Profile](#)
- [Listing Installation Media Profiles](#)

Listing All the Profiles

Perform the GET operation on the URL to get the canonical link, which can be later used to describe the profile.

Table 8-7 GET Request Configuration for Listing All the Profiles

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/list

Table 8-7 (Cont.) GET Request Configuration for Listing All the Profiles

Feature	Description
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
  -profiles: [3]
  -0:
  {
    canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/
    provisioning/profile/describe/oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1"
    location: "Fusion Middleware Provisioning/Profiles/SoaBitlessProfile"
    products: "Oracle SOA"
    source: "WebLogic Domain"
    urn: "oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1"
  }
  -1:
  {
    canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/
    provisioning/profile/describe/oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1"
    location: "Fusion Middleware Provisioning/Profiles/SoaGoldImage"
    products: "Oracle SOA"
    source: "Oracle Home"
    urn: "oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1"
  }
  -2:
  {
    canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/
    provisioning/profile/describe/oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7E0000000000000000000000000:0.1"
    description: "WC 11.1.1.8.0 and WLS 10.3.6.0 installer and RCU"
    location: "Fusion Middleware Provisioning/Profiles/WebCenter Install Media"
    -products: [2]
    0: "Oracle WebCenter Content"
    1: "Oracle WebCenter Portal"
    source: "Installation Media"
    urn: "oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7E0000000000000000000000000:0.1"
  }
}
```

Listing WebLogic Domain Profiles

Perform the GET operation on the URL to get the canonical link, which can be later used to describe the profile.

Table 8-8 GET Request Configuration for Listing the WebLogic Domain Profiles

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/list/weblogic_domain
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
  -profiles:
  {
    canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/
    provisioning/profile/describe/oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1"
    location: "Fusion Middleware Provisioning/Profiles/SoaBitlessProfile"
    products: "Oracle SOA"
    source: "WebLogic Domain"
    urn: "oracle:defaultService:em:provisioning:
    1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1"
  }
}
```

Listing Oracle Home Profile

Perform the GET operation on the URL to get the canonical link, which can be later used to describe the profile.

Table 8-9 GET Request Configuration for Listing the Oracle Home Profiles

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/list/oracle_home
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
  -profiles:
  {
    canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/
    provisioning/profile/describe/oracle:defaultService:em:provisioning:"
  }
}
```

```

1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1"
location: "Fusion Middleware Provisioning/Profiles/SoaGoldImage"
products: "Oracle SOA"
source: "Oracle Home"
urn: "oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1"
}
}

```

Listing Installation Media Profiles

Perform the GET operation on the URL to get the canonical link, which can be later used to describe the profile.

Table 8-10 GET Request Configuration for Listing the Installation Media Profiles

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/list/install_media
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```

{
-profiles:
{
canonicalLink: "http://slc03qtn:7802/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEEEEA369A5E04373B1F00AE77C:0.1"
description: "WC 11.1.1.8.0 and WLS 10.3.6.0 installer and RCU"
location: "Fusion Middleware Provisioning/Profiles/WebCenter Install Media"
-products: [2]
0: "Oracle WebCenter Content"
1: "Oracle WebCenter Portal"
source: "Installation Media"
urn: "oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEEEEA369A5E04373B1F00AE77C:0.1"
}
}

```

Describing Provisioning Profiles

This section describes how you can view a summary of all the profiles that you have created in Enterprise Manager. For this, you'll need to run the List API and procure the canonical link. For more information on this, see [Listing Middleware Provisioning Profiles](#).

In particular, this section covers the following topics:

- [Describing a WebLogic Domain Profile](#)
- [Describing an Oracle Home Profile](#)
- [Describing an Installation Media Profile](#)

Describing a WebLogic Domain Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-11 GET Request Configuration for Describing the WebLogic Domain Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```
{
location: "Fusion Middleware Provisioning/Profiles/SoaBitlessProfile"
createdBy: "SYSMAN"
createdOn: "Sun, 6 Jul 2014"
urn: "oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1"
-attachments: [3]
-0:
{
fileName: "nmMovePlan.xml"
size: "6.95 KB"
contentType: "text/plain"
addedBy: "SYSMAN"
addedOn: "Sun, 6 Jul 2014"
}
-1:
{
fileName: "mdm-url-resolver.xml"
size: "268 Bytes"
contentType: "text/plain"
addedBy: "SYSMAN"
addedOn: "Sun, 6 Jul 2014"
}
-2:
{
fileName: "domainMovePlan.xml"
size: "56.91 KB"
```

```
contentType: "text/plain"
addedBy: "SYSMAN"
addedOn: "Sun, 6 Jul 2014"
}
source: "WebLogic Domain"
oracleHomeIncluded: "No"
nodeManagerIncluded: "Yes"
platform: "Linux x86-64"
wlsVersion: "10.3.6.0"
-oracleHome:
{
-products: [1]
-0:
{
name: "Oracle SOA"
version: "11.1.1.7.0"
}
}
-domain:
{
name: "SoaDomain"
size: "611.45 MB"
-products: [1]
0: "Oracle SOA"
}
-servers: [2]
-0:
{
name: "AdminServer"
host: "<agent host name>.example.com"
listenAddress: "<agent host name>.example.com"
nonSslPortEnabled: "Yes"
nonSslPort: "7001"
sslPortEnabled: "No"
machine: "LocalMachine"
maxHeap: "1365"
averageCpuUsage(%): "0.361"
}
-1:
{
name: "soa_server1"
host: "slc00tkv.example.com"
listenAddress: "<agent host name>.example.com"
nonSslPortEnabled: "Yes"
nonSslPort: "8001"
sslPortEnabled: "No"
machine: "LocalMachine"
cluster: "cluster_soa"
maxHeap: "1365"
averageCpuUsage(%): "0.717"
}
-dataSources: [7]
-0:
{
name: "EDNDataSource"
schema: "SOA_SOAINFRA"
url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
-targets: [1]
0: "cluster_soa"
}
-1:
```

```
{
  name: "EDNLocalTxDataSource"
  schema: "SOA_SOAINFRA"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [1]
  0: "cluster_soa"
}
-2:
{
  name: "OraSDPMDDataSource"
  schema: "SOA_ORASDPM"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [1]
  0: "cluster_soa"
}
-3:
{
  name: "SOADDataSource"
  schema: "SOA_SOAINFRA"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [1]
  0: "cluster_soa"
}
-4:
{
  name: "SOALocalTxDataSource"
  schema: "SOA_SOAINFRA"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [1]
  0: "cluster_soa"
}
-5:
{
  name: "mds-owsm"
  schema: "SOA_MDS"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [2]
  0: "cluster_soa"
  1: "AdminServer"
}
-6:
{
  name: "mds-soa"
  schema: "SOA_MDS"
  url: "jdbc:oracle:thin:@<agent host name>.example.com:1521/dbv.example.com"
  targets: [2]
  0: "cluster_soa"
  1: "AdminServer"
}
-jmsServers: [4]
-0:
{
  name: "BPMJMSServer_auto_1"
  persistentStore: "BPMJMSSFileStore_auto_1"
  storeType: "fileStore"
  directory: "BPMJMSSFileStore_auto_1"
  target: "soa_server1"
}
-1:
{
  name: "PS6SOAJMSServer_auto_1"
```

```

persistentStore: "PS6SOAJMSFileStore_auto_1"
storeType: "fileStore"
directory: "PS6SOAJMSFileStore_auto_1"
target: "soa_server1"
}
-2:
{
name: "SOAJMSServer_auto_1"
persistentStore: "SOAJMSFileStore_auto_1"
storeType: "fileStore"
directory: "SOAJMSFileStore_auto_1"
target: "soa_server1"
}
-3:
{
name: "UMSJMSServer_auto_1"
persistentStore: "UMSJMSFileStore_auto_1"
storeType: "fileStore"
directory: "UMSJMSFileStore_auto_1"
target: "soa_server1"
}
}
}

```

Describing an Oracle Home Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-12 GET Request Configuration for Describing the Oracle Home Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/ oracle:defaultService:em:provisioning: 1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```

{
location: "Fusion Middleware Provisioning/Profiles/SoaGoldImage"
createdBy: "SYSMAN"
createdOn: "Tue, 8 Jul 2014"
urn: "oracle:defaultService:em:provisioning:
1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1"
source: "Oracle Home"
platform: "Linux x86-64"
wlsVersion: "10.3.6.0"
-oracleHome:

```

```

{
  size: "3.51 GB"
  -products: [1]
  -0:
  {
    name: "Oracle SOA"
    version: "11.1.1.7.0"
  }
}

```

Describing an Installation Media Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-13 GET Request Configuration for Describing the Installation Media Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEE EA369A5E04373B1F00AE77C:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	GET
Supported Since Release	FMW 12.1.0.7

Example Response:

```

{
  location: "Fusion Middleware Provisioning/Profiles/WebCenter Install Media"
  description: "WC 11.1.1.8.0 and WebLogic Server 10.3.6.0 installer and RCU"
  createdBy: "SYSMAN"
  createdOn: "Sun, 6 Jul 2014"
  urn: "oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEEEE369A5E04373B1F00AE77C:0.1"
  source: "Installation Media"
  product: "Oracle WebCenter"
  platform: "Generic Platform"
  version: "11.1.1.8.0"
  -files: [4]
  -0:
  {
    product: "Oracle WebCenter Content"
    size: "2.34 GB"
  }
  -files: [2]
  -0:
  {
    fileName: "ecm_main1.zip"
    size: "1.91 GB"
  }
}

```

```
}
-1:
{
fileName: "ecm_main2.zip"
size: "437.6 MB"
}
}
-1:
{
product: "Oracle RCU"
size: "496.16 MB"
-files: [1]
-0:
{
fileName: "rcuHome.zip"
size: "496.16 MB"
}
}
-2:
{
product: "Oracle WebCenter Portal"
size: "1.96 GB"
-files: [1]
-0:
{
fileName: "wc.zip"
size: "1.96 GB"
}
}
-3:
{
product: "Oracle WebLogic Server"
size: "1,019.01 MB"
-files: [1]
-0:
{
fileName: "wls1036_generic.jar"
size: "1,019.01 MB"
}
}
}
```

Deleting Provisioning Profiles

This section describes how you can delete the profiles you have created in Enterprise Manager.

In particular, this section covers the following topics:

- [Deleting a WebLogic Domain Profile](#)
- [Deleting an Oracle Home Profile](#)
- [Deleting an Installation Media Profile](#)

Deleting a WebLogic Domain Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-14 DELETE Request Configuration for Deleting the WebLogic Domain Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_FMWBundle:FD8AEF47A15C0874E04373B1F00AEC31:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	DELETE
Supported Since Release	FMW 12.1.0.7

Example Response:

After the deletion is successful, you might see something on the lines of the following message:

```
Profile Fusion Middleware Provisioning/Profiles/MyProfile deleted successfully.
```

Deleting an Oracle Home Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-15 DELETE Request Configuration for Deleting the Oracle Home Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_FMWBundle:FDB228F176CA1B47E04373B1F00AF708:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	DELETE
Supported Since Release	FMW 12.1.0.7

Example Response:

After the deletion is successful, you might see something on the lines of the following message:

```
Profile Fusion Middleware Provisioning/Profiles/MyProfile deleted successfully.
```

Deleting an Installation Media Profile

Use the canonical link obtained from the LIST API in the GET operation to view the summary of the selected profile.

Table 8-16 DELETE Request Configuration for Deleting the Installation Media Profile

Feature	Description
URL	/em/websvcs/restful/extws/cloudservices/fmw/provisioning/profile/describe/oracle:defaultService:em:provisioning:1:cmp:COMP_Component:SUB_InstallationMedia:FD8AA7EEE EA369A5E04373B1F00AE77C:0.1
Request header	Is authorization required??
Body	NA
Parameters/Constraints	NA
Request method	DELETE
Supported Since Release	FMW 12.1.0.7

Example Response:

After the deletion is successful, you might see something on the lines of the following message:

```
Profile Fusion Middleware Provisioning/Profiles/MyProfile deleted successfully.
```

9

Scaling Up / Scaling Out Fusion Middleware Domains

This chapter explains how you can scale up and scale out a SOA Domain, an Service Bus Domain, a WebLogic Domain, and a WebCenter Domain using Oracle Enterprise Manager Cloud Control (Cloud Control). In particular, this chapter covers the following:

- [Getting Started](#)
- [Prerequisites](#)
- [Running the Scale Up / Scale Out Middleware Deployment Procedure](#)
- [Middleware Provisioning and Scale Up / Scale Out Best Practices](#)

Note:

To scale up multiple products in one session, you can clone the servers from each product's cluster simultaneously.

Getting Started

A WebLogic Domain consists of a set of managed servers running independently or in a cluster, sharing the distributed resources. A WebLogic Server cluster consists of multiple WebLogic managed servers running simultaneously and working together to provide increased scalability and reliability. The server instances that constitute a cluster can run on the same machine, or be located on different machines. You can increase a cluster's capacity by adding additional server instances to the cluster on an existing machine, or by adding machines to the cluster to host the new server instances. You can use the Domain Scale Up / Scale Out deployment procedure to automate the scaling up or scaling out of a domain. You can:

- Scale up a domain by adding or cloning a managed server to a host that already exists in the domain or cluster.
- Scale out a domain by adding or cloning a managed server to a host that is not present in the domain or cluster.

Prerequisites

Before running the Scale Up / Scale Out Middleware deployment procedure, you must meet the prerequisites listed in this section.

 **Note:**

For information about how to setup your infrastructure for Middleware Provisioning, see [Prerequisites for Provisioning from the Middleware Provisioning Profiles](#).

Meet the following prerequisites before you start extending the WebLogic Domain:

- The WebLogic Domain that is scaled up / scaled out must be an existing domain that has been discovered with Cloud Control.
- If you are scaling out a domain, ensure that the destination machine contains sufficient space. If the size of the Middleware Home on the source machine is 3 GB, you need approximately 3 GB in the working directory on the source and destination machines. Additionally, the destination machine should also have 3 GB of space for the Middleware Home. The working directory is cleaned up after deployment procedure has been successfully completed.
- The Middleware Home directory you specify on the destination machine must be a new directory or must be empty.
- The Management Agent must be installed on the source (where the Administration Server is running) and the destination machines. The Administration Server for the domain must be up and running.
- The Administration Server and Managed Server (being cloned) must be up and running before you run the deployment procedure.
- The Managed Server and Node Manager ports must be free.
- Ensure that the user has the necessary permission to the stage directory inside the work directory. The scale up may fail with an error in case sufficient permissions are not granted to the user. In such an event, assign the necessary **700** permission to the stage directory and retry.
- For scaling out a domain, the user must have the following permissions:
 - Read permissions on:
 - * Administration Server Host Middleware Directory
 - * Administration Server Host Domain Directory
 - Write permissions on:
 - * Administration Server Host Working Directory
 - * Working Directory of all the destination Managed Server hosts
 - * Middleware Directory of all the destination Managed Server hosts
 - * Domain Directory of all the destination Managed Server hosts
- For scaling up a domain, the user must have the following permissions:
 - Read permissions on:
 - * Administration Server Host Working Directory
 - * Domain Directory of all the destination Managed Server hosts
- The domain being scaled up / out should not be in Edit mode. Ensure that there is a running WebLogic Console for this domain.

- If you choose to associate a new managed server with an existing Node Manager or a machine, ensure that the Node Manager is up and running. If not, the deployment procedure will fail.
- Ensure that you have discovered an existing OHS target in Enterprise Manager, if you want to front end the Oracle HTTP Server.
- Ensure that the target machine which is being scaled up and Enterprise Manager host where the OMS is running are in the same timezone, before you begin the scaleup process.
- Ensure that you do not delete the Aggregation Server when you are scaling down a domain. If the Aggregation Server is deleted, then a lot of dependent applications will stop running.

Running the Scale Up / Scale Out Middleware Deployment Procedure

A WebLogic Domain consists of a set of managed servers running independently or in a cluster, sharing the distributed resources. A WebLogic Server cluster consists of multiple WebLogic managed servers running simultaneously and working together to provide increased scalability and reliability. The server instances that constitute a cluster can run on the same machine, or be located on different machines. You can increase a cluster's capacity by adding additional server instances to the cluster on existing machines, or by adding machines to the cluster to host the new server instances.

The Scale Up / Scale Out Middleware wizard allows you to increase a cluster's capacity by adding additional server instances to the cluster on an existing machine, or by adding machines to the cluster to host the new server instances.

Note:

Java Object Cache is always configured on a scaled out or scaled up middleware managed server whether it was available before scale up or not.

To scale up or scale out a domain, follow these steps:

1. Ensure that the prerequisites are met. See [Prerequisites](#).
2. Specify the source domain. See [WebLogic Domain Scaling Up: Scale up/Scale out Fusion Middleware Domain Page](#).
3. Specify when the scale up or scale out operation should be performed. [Weblogic Domain Scaling Up / Scaling Out : Schedule Page](#).

 **Note:**

For scaling out a WebCenter Domain, you must perform the following steps manually:

1. Oracle HTTP Server must be installed, discovered, monitored in Cloud Control. Additionally, you must ensure that for the scale out instance the configuration file should be manually configured.
2. If the Spaces Server is scaled out, then you must run the following commands to attach the WebService Policy:

```
attachWebServicePolicy(application='WC_Spaces2/webcenter',
moduleName='webcenter', moduleType='web',
serviceName='SpacesWebService',
subjectName='SpacesWebServiceSoapHttpPort',
policyURI='oracle/
wss11_saml_token_with_message_protection_service_policy')
```

3. If the Discussion Server is scaled out, then you must run the following commands to attach the WebService Policy:

```
attachWebServicePolicy(application='WC_Collaboration2/owc_discussions',
moduleName='owc_discussions', moduleType='web',
serviceName='OWCDiscussionsServiceAuthenticated',
subjectName='OWCDiscussionsServiceAuthenticated',
policyURI='oracle/wss10_saml_token_service_policy')
```

WebLogic Domain Scaling Up: Scale up/Scale out Fusion Middleware Domain Page

You can automate the scaling up or scaling out of a domain or cluster using the Domain Scale Up / Out Deployment Procedure. You can add capacity to an existing WebLogic Domain and /or cluster by:

- Adding attributes of a new managed server to an existing cluster.
- Adding and copying attributes of a new managed server to an existing cluster.
- Cloning a managed server. If the source server is clustered, when you clone an existing Managed Server, another Managed Server will be created in the same cluster.

A wizard guides you through the process.

1. From the Targets menu, select **Middleware**.
2. A list of Middleware targets is displayed. Find the WebLogic Domain that you want to use as the source for the scaling up or out operation. Right click on that WebLogic Domain to access the context sensitive menu. From the menu, select **Provisioning** and then select **Scale Up / Scale Out WebLogic Domain**.

Alternatively, you can click WebLogic Domain link. On the domain home page, from the WebLogic Domain menu, select **Provisioning**, and click **Scale Up/Scale Out WebLogic Domain**.

The Scale up/Scale out Fusion Middleware Domain page is displayed.

You can also launch this as a procedure from Middleware Provisioning page. To do so, from **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware provisioning**. On the Middleware Provisioning page, from the deployment procedures table, select **Scale up/Scale out Middleware**, and click **Launch**. In this case you will need to provide the source information by selecting the WebLogic domain that needs to be extended.

3. In the **Weblogic Domain** section, enter the Working Directory field details specifying the directory on the Administration Server machine where the domain scale up related files are temporarily stored. A minimum of one GB of directory space is required to store the temporary files. If this directory is not present, it will be created. When the scale up operation has been completed, the directory and its contents will be deleted.

Host Credentials: In this section, you must provide all the credentials for all the hosts on which the Managed Servers are running. To do so, click the add icon for each host, and in the Add New Credentials dialog box, enter a valid username and password. If you want the job to use these credentials for each target when the job runs, select the **Set As Preferred Credentials** check box.

Deploy JVMD agent: Deploys the JVMD agent on the servers or clusters of a Weblogic Domain. Java Virtual Machine Diagnostics (JVMD) enables administrators to diagnose performance problems in Java applications. After the JVMD Agent is deployed on the targeted JVM (the one running a production WebLogic Server), it collects real-time data and transmits it to the JVM Diagnostics Engine.

WebLogic Administrator Credentials: In this section, you must set the credentials to access WebLogic administration server. To do so, click the **Add** for each of the WebLogic Domains, and in the Add new administrator credentials dialog box, enter a valid administrator name and password. If you want the job to use these credentials for each target when the job runs, then select the **Set As Preferred Credentials** check box.

 **Note:**

The Working Directory must not be created under the Middleware Home or the WebLogic Domain Home directory.

4. In the **Hosts** section, click **Add** to select the host you want to add managed servers to.
5. In the **Machines** section, you can **Add** the destination hosts and then create new machines if required.

 **Note:**

To perform administrative operations such as start and stop from the Enterprise Manager Cloud Control, the Node Manager must be configured and running on the machine.

6. In the **Servers** section, you can add a new managed server to a WebLogic Domain.

To add a new managed server to a WebLogic Domain, click **Add**. Enter configuration details for a new Managed Server like a unique name for the new Managed Server, listen address, and the SSL port.

 **Note:**

The **Add** button is only available for Clusterless domains. If the domain has clusters, then cloning is the preferred option.

If the domain has the administration port enabled, **Administration Port** column will appear in the servers table so that the user can enter the administration port for the new server. If the domain does not have the administration port enabled, this column will not be visible in the servers table. When a new server is added/ cloned, automatically a new port is set. You must ensure that this new port is free, if not the deployment procedure will fail.

If you select **Custom Identity and Custom Trust**, you must provide valid inputs for all the KeyStore fields.

Cloning an Existing Managed Server: To do so, select the host you want to add the new server to and click Clone. This option adds a new managed server to the domain, and copies a pre-determined set of the attributes from the existing server.

Deleting a Managed Server: To do so, select the managed server and click Delete Server.

7. In the **Custom Scripts and Variables** section, you can add any custom properties that you want to pass to your scripts.
8. Click **Next**.

 **Note:**

If you are scaling a domain with products like SOA or OSB, then a **JMS Servers** section is displayed if the source domain has it configured.

Weblogic Domain Scaling Up / Scaling Out : Schedule Page

On the Schedule page, specify a Deployment Instance name. If you want to run the procedure immediately, retain the default selection, that is, **Immediately**.

If you want to run the procedure later, select **Later** and provide time zone, start date, and start time details.

You can set the notification preferences according to deployment procedure status.

If you want to run only prerequisites, select **Pause the procedure to allow me to analyze results after performing prerequisite checks**. This pauses the procedure execution after all prerequisite checks are performed.

Click **Next**.

Middleware Provisioning and Scale Up / Scale Out Best Practices

This section lists some of the best practices to be followed while using the Middleware Provisioning deployment procedure.

- **Configuration of the source domain should not be changed:** While executing these deployment procedures, ensure that no administrative activities (such as configuration changes on the source domain and software patching) are actively performed on the source domain. If you change the configuration, the managed server may not respond to requests and the Administration Server will have an Unknown status.
- **Provisioning on the same machine:** If you are using the Deployment Procedure to provision or scale up to the same machine as the source, the working directory on the source and target machines is populated by default. If these values are changed, you must ensure that the working directory on the source and the destination machines are different. For example, if the working directory is `/tmp/source` for the source machine, it could be `/tmp/dest` on the destination directory. You must also ensure that the listen port number and SSL port numbers (if enabled) for the Administration Server and Managed Server are different on the source and destination servers.
- **JDBC Configuration:** While configuring the JDBC data sources, the database user and schema owner must enter appropriate passwords.
- **Custom Java Applications and their Deployment Plan:** These deployment procedures support custom java applications in staged mode. Externally staged applications need to be manually deployed. For instructions on manual deployment, see the *WebLogic Administration Guide*.

- **Multi NIC Machines:** If the destination machine is a multi NIC system, enter a listen address that is accessible to both the Administration Server and Managed Server.
- **Port Conflicts:** While adding a new server on a host, you must enter ports that are unique to that server and are not used by any other existing managed server or process on that host.

Export and Import of Domain Partitions

This chapter provides an overview of exporting and importing Oracle WebLogic Domain Partitions. Oracle WebLogic Server supports WebLogic domain partition functionality. Partition functionality is introduced and supported through WebLogic Server Multitenancy feature. It consolidates applications into fewer domains with partition within domains and maintains secured isolation. It provides increased efficiency and reduced cost. For more information on WebLogic Server Multitenancy, see *WebLogic Server Multitenant* in the *Oracle® Fusion Middleware Using WebLogic Server Multitenant* guide. The WebLogic domain partition can be exported and imported between WebLogic Server domains. Export or import is also supported between domains residing on different Enterprise Manager deployments. In particular, this chapter covers the following:

- [About Exporting and Importing WebLogic Domain Partitions](#)
- [Exporting WebLogic Domain Partition](#)
- [Importing WebLogic Domain Partition](#)

About Exporting and Importing WebLogic Domain Partitions

A domain partition (partition for short) is an administrative and runtime slice of a WebLogic domain. Multi-Tenancy provides shared infrastructure for use by multiple organizations. These organizations are a conceptual grouping of tenants. Multiple tenants are supported in a single domain. It improves density and achieves more efficient use of resources and eliminates the following hurdles involved in sharing multiple applications:

1. Runtime Cross-Application impact
2. Security differences
3. Data Co-Mingling
4. Administrative challenges

A domain partition is an administrative portion of a domain that can be managed independently and can share runtime capacity in a domain, that is, the managed servers and clusters. Each domain partition has its own runtime copy of the applications and resources. It provides application isolation and efficiency. Multiple instances of an application can run in different domain partitions without modifying the application.

Domain partitions use fewer server and domain resources. This enables you to simplify the management of Software As a Service (SaaS) and Platform As a Service (PaaS) applications.

Oracle WebLogic Server supports WebLogic domain partition functionality. A single WebLogic domain can contain several partitions, each capable of having its own set of services like JDBC, JMS, SAF, applications, and security realm. Oracle WebLogic Multitenant Server provides resource isolation within a domain partition which is an administrative and runtime slice of a WebLogic domain. It runs application instances

and related resources for a tenant. Domain partitions achieve greater density by allowing application instances and related resources to share the domain, WebLogic Server, Java virtual machine, and operating system. While isolating Tenant-Specific application data, configuration, and runtime traffic.

A partition can contain one or more resource groups. These resource groups can be converted to templates. A domain partition can be exported and imported into a new or same domain. This export or import functionality moves the services and applications that are part of the partition. This functionality is primarily used in Enterprise Manager to provision partitions on demand. The key capabilities and limitations of the WebLogic domain partition functionality are:

- Partition export or import is supported.
- An empty partition cannot be created.
- One partition can be exported at a time from a domain.
- One partition can be imported into one domain at a time.
- The applications and services running in the domain are cloned along with the partition. They can neither be deleted nor can new ones be added during provisioning.

Related Topics

- [Exporting WebLogic Domain Partition](#)
- [Importing WebLogic Domain Partition](#)

Exporting WebLogic Domain Partition



Note:

Exporting WebLogic domain partition functionality is supported from WLS version 12.2.1.0.0 onwards.

To export a domain partition, follow these steps:

1. From the **Targets** menu, select **Middleware**.
2. Expand the **Target Type** and check the option against **WebLogic** to view a list of WebLogic targets.
3. Right click on the WebLogic Domain target, and from the **Provisioning** menu, click **Create Provisioning Profile** and select **By Exporting WebLogic Domain Partition** option and click **Next**.
4. Enter a profile name in the **Name** field under the **Profile** tab.

 **Note:**

As part of the export process, the Enterprise Manager creates a profile of the partition and stores in the software library. The profile contains exported partition archive and some metadata that helps the Enterprise Manager in the importing process.

5. Enter the description of the profile created in the **Description** field.
6. In the **WebLogic Domain Partition** field select the partition.
7. Verify the values in the fields **Domain Home** and **Oracle Home**.
8. Select the values for the remaining fields **Oracle Home Credential**, **WebLogic Administrator Credential**, and **Working Directory**.

 **Note:**

The temporary staging directory of the agent is used by default, to copy the script and generate archives. In case this directory does not have enough permissions or space, the user can specify another directory.

9. In the Software Library Upload Location, select the Software Library storage details. Ensure to provide a valid storage type and upload location to update the profile.
10. Click **Create**.

 **Note:**

Exporting WebLogic Domain Partition operation can be performed using EMCLI verb `create_partition_profile`. See `create_partition_profile` in the *Oracle® Enterprise Manager Command Line Interface*.

You can view the profile created in the **Middleware Provisioning** page. The new profile will be shown in the **Profiles** table, select the name of the profile to view more details.

Related Topics

- [About Exporting and Importing WebLogic Domain Partitions](#)
- [Importing WebLogic Domain Partition](#)

Importing WebLogic Domain Partition



Note:

Importing WebLogic domain partition functionality is supported from WLS version 12.2.1.0.0 onwards.

To import a domain partition into an existing WebLogic domain, follow these steps:

1. From the **Targets** menu, select **Middleware**.
2. Expand the **Target Type** and check the option against **WebLogic** to view a list of WebLogic targets.
3. To import the WebLogic Domain Partition, right click on the domain where you want to import the partition.
4. From the **Provisioning** menu, select **Import WebLogic Domain Partition**.

You can also import WebLogic Domain Partition from the **Middleware Provisioning** page. From the **Enterprise** menu, select **Provisioning and Patching** and click **Middleware Provisioning**. Select a profile under the **Profiles** table and click **Import Partition** button. The profile must have been created by either exporting a domain or by exporting a partition

5. Under the **General** tab, select a profile under the **WebLogic Domain Partition Profile** field.
6. Click on the **View** icon to view the profile details.
7. Upon selecting a profile, the values in the following fields are prefilled:
 - **WebLogic Domain Partition**
 - **Virtual Targets**
 - **Database**



Note:

The Database field is filled only if the source partition has data sources.

8. The details of the profile can be viewed by clicking on the view icon available next to the **WebLogic Domain Partition Profile** field. The details include information on Data Sources, JMS Servers, Applications, and Virtual Targets.

If you like to make an advanced configuration, click **Use Custom JSON file** and enter the location of custom well-formed JSON file in the **JSON File Location** field.

 **Note:**

You can download the JSON file from **Profile Viewer**. Click the View icon next to the profile search icon and download it from the attachments table. You can then modify it and copy it to the Administration Server host of the domain and provide that location in the **JSON File Location** field.

9. Enter the credentials in fields **Oracle Home Credential** and **WebLogic Administrator Credential** by using the search icon against the fields.
10. Enter a unique name in the **Partition Name** field.
11. Under the **Virtual Targets** tab, in the **Targets** field choose the virtual targets from the drop down menu. The host name specified must have DNS entries that resolve to the correct server or load balancer. If the host name is not specified then it is equivalent of wildcarding the host name to match all incoming requests.

 **Note:**

Two virtual targets cannot be mapped to the same target in a partition.

12. Choose a database under the **Database** tab against the **Connection String** field.

 **Note:**

This is optional and has to be executed only if the source partition has data source. Ensure that the schema is already created, the database services are up and running and the database service has the same name mentioned in the data source.

While selecting the target in the Select target window the following database types are available:

- Cluster Database
- Database Instance
- Pluggable Database

13. Enter a password in the **Schema Password** field.
14. Click **Next** and confirm the changes.

Importing WebLogic Domain Partition operation can be performed using EMCLI verb too. Use the following steps.

1. The generic `submit_procedure` EMCLI verb is used to import WebLogic Domain Partition. Launch the import partition user interface from the desired domain target.
2. Enter all the required details.
3. Navigate to the next page.
4. Click **Save**.

5. Enter the unique `SAVED_CONFIG_NAME`.
6. Execute the following command:

```
emcli describe_procedure_input -name=SAVED_CONFIG_NAME >  
input.properties
```

7. Un-comment the secret variables like *passwords* and provide values for them.
8. Submit the procedure by executing the following command:

```
emcli submit_procedure -name=ProvisionPartition -  
input_file=data:input.properties [-  
instance_name=UNIQUE_SUBMISSION_NAME]
```



Note:

For more details on the verbs, see Deployment Procedure Verbs in the *Enterprise Manager Command Line Interface*.

Related Topics

- [About Exporting and Importing WebLogic Domain Partitions](#)
- [Exporting WebLogic Domain Partition](#)

11

Migrating a Domain to a Partition

This chapter provides an overview of exporting an existing domain and importing it as a partition into another domain with the help of Domain to Partition Conversion Tool (D-PCT). Enterprise Manager Cloud Control provides an user friendly user interface that helps you to convert domains into partitions.

The export tool component in D-PCT is used on the WebLogic Server installation that hosts the source domain. You can use this tool to create and configure partition, resource groups, and resource group templates. By default, this tool moves all applications, libraries, and resources to the new partition. Optionally, it also provides a mechanism for selecting individual applications, libraries, and resources.

In particular, this chapter covers the following:

- [Pre-Requisites and Limitations](#)
- [Exporting WebLogic Domain](#)
- [Importing WebLogic Domain Partition](#)

Pre-Requisites and Limitations

Prerequisites of Migrating a WebLogic Server Domain to a Domain Partition:

Before you configure D-PCT, you must fulfill the following prerequisites:

- The target domain must be configured on a WebLogic Server 12.2.1.1 or above installation.
- You must download and install JDK 8 on the host machine of the source domain. This is required for running the export tool on WebLogic Server 10.3.6.
- The target WebLogic Server 12.2.1.1 or above domain must be up and running.
- All servers in the domain must be up and running.
- For a straightforward conversion from a domain to a partition and to ensure correct operation of the import tool to create a virtual target based on the JavaScript Object Notation (JSON) file, it is important that the target and source domains have identical cluster and server names.
- Before using the import tool to create a new partition, you must ensure that the new domain is configured the same as the source domain with regard to servers, clusters, virtual targets, and security realms.

Limitations of Migrating a WebLogic Server Domain to a Domain Partition:

The following scenarios are not supported by Domain to Partition Conversion Tool (D-PCT) tool:

- The domain upgrade of libraries and resources to a new release is not supported at import. Administrators and users are responsible for possible necessary domain upgrades from the source domain before exporting the archive file.

- Neither the application runtime state nor the application specific runtime configuration is exported to the archive file. For example, the JMS messages in queues or users in an embedded LDAP realm are not exported.
- The remote clients compiled with WebLogic Server versions prior to 12.2.1 are not able to look up JNDI resources deployed on a partition. They need to be recompiled with the WebLogic Server releases 12.2.1 or later.
- JDBC does not support the use of the Logging Last Resource (LLR) feature in WebLogic Server Multitenant. Data sources with this option need to be converted to use a substitute setting that may or may not be an adequate replacement.

For more information on D-PCT limitations and considerations, see *Oracle Fusion Middleware Using Oracle WebLogic Server Multitenant* guide.

Exporting WebLogic Domain

To export the domain, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching** and click **Middleware Provisioning**.
2. Click **Create Profile** button.
3. Select **By Exporting a WebLogic Domain** option and click **Next**.
4. In the **Profile** tab, enter a profile name in the **Name** field.
5. Enter the description of the profile created in the **Description** field.
6. In the **Source Target** tab, enter the **Oracle Home Credential** by using the search icon against the field.
7. Enter the directory on the domain host in the **Java Home** field.

Note:

JDK8 is required to perform an export operation.

8. In the **Domain to Partition Conversion Tool** section, enter the WebLogic Home in the **12.2.1.1.0+ Oracle Home** field by using the search icon against the field. The **Domain to Partition Conversion Tool** is present only in version 12.2.1.1.0 and above. Thus, the Oracle WebLogic Home version should be of version 12.2.1.1.0 or above.
9. Enter the operating system credential for Oracle Home in the **12.2.1.1.0+ Oracle Home Credential** field by using the search icon against the field.
10. Click **Create**.

Importing WebLogic Domain Partition

To import a domain partition into an existing WebLogic domain, see [Importing WebLogic Domain Partition](#).

12

Deploying / Redeploying / Undeploying Java EE Applications

This chapter explains how you can deploy, undeploy, and redeploy Java EE Applications using Oracle Enterprise Manager Cloud Control (Cloud Control).

In particular, this chapter covers the following:

- [Getting Started with the Deploy/Undeploy Java EE Application Deployment Procedure](#)
- [Deploying, Undeploying, or Redeploying Java EE Applications](#)
- [Supported Releases for Deploy/Undeploy Java EE Applications Deployment Procedure](#)
- [Prerequisites for Deploying/Undeploying Java EE Applications](#)
- [Creating a Java EE Application Component](#)
- [Java EE Applications Deployment Procedure](#)
- [Deploying / Redeploying / Undeploying Java EE Applications Using EMCLI](#)

Getting Started with the Deploy/Undeploy Java EE Application Deployment Procedure

This section provides an overview of the steps involved in deploying, redeploying, and undeploying Java EE Applications. The Deploy / Undeploy Java EE Applications Deployment Procedure allows you to perform the following operations:

- Deploy
- Undeploy
- Redeploy

Consider this section to be a documentation map to understand the sequence of actions you must perform to successfully provision a Java EE Application. Click the reference links provided against the steps to reach the relevant sections that provide more information.

Table 12-1 Getting Started with Deploying, Undeploying, or Redeploying a Java EE Application

Step	Description	Reference Links
Step 1	<p>Understanding the Deployment Procedure</p> <p>Understand the Deployment Procedures offered by Cloud Control to deploy, undeploy, or redeploy a Java EE Application. Know how the Deployment Procedure function, what use cases it covers, and so on.</p>	To learn about the Deployment Procedure, see Deploying, Undeploying, or Redeploying Java EE Applications .
Step 2	<p>Selecting the Use Case</p> <p>This chapter covers the use cases for deploying, undeploying, and redeploying Java EE Application. Select the use case that best matches your requirements.</p>	<ul style="list-style-type: none"> To deploy a Java EE Application, see Deploying a Java EE Application. To redeploy a Java EE Application, see Redeploying a Java EE Application. To undeploy a Java EE Application, see Undeploying a Java EE Application.
Step 3	<p>Meeting the Prerequisites</p> <p>Before you run the Deployment Procedure, you must meet the prerequisites, such as configuring the Software Library and creating components to be provisioned as part of the Deploy / Undeploy Java EE Application deployment procedure.</p>	To learn about the prerequisites for deploying, undeploying or redeploying Java EE Application, see Prerequisites for Deploying/Undeploying Java EE Applications .
Step 4	<p>Running the Deployment Procedure</p> <p>Run the Deployment Procedure to successfully deploy, redeploy, or undeploy one or more Java EE applications.</p>	To run the Deploy / Undeploy Java EE Applications Deployment Procedure, follow the steps explained in Java EE Applications Deployment Procedure .

Deploying, Undeploying, or Redeploying Java EE Applications

This deployment procedure supports deployment of Java EE Applications packaged into .ear, .war, .jar, .rar or .gar files as per Java EE specifications. Administrators can use Cloud Control to deploy, redeploy, and undeploy one or more Java EE applications and need not drill down into the WebLogic Server Administration Console or the Oracle Enterprise Manager Fusion Middleware Control console to perform these tasks. The Java EE applications need to be pre-configured before you add them to the Cloud Control Software Library. You can deploy a pre-configured Java EE application to one or more WebLogic domains in Cloud Control.

The Java EE Application Deployment Procedure offers GUI-rich interactive screens that allow you to deploy / redeploy to, or undeploy a pre-configured Java EE application from one or more WebLogic Domains.

The Enterprise Manager Cloud Control 13c Release 2 Plug-ins Update 1 supports deploying/redeploying/undeploying to resource group templates, global resource groups, or partition resource groups.

Supported Releases for Deploy/Undeploy Java EE Applications Deployment Procedure

This deployment procedure can be used to deploy, undeploy, or redeploy Java EE Applications to and from WebLogic versions 10.3, 10.3.1 and later, including 12.1.1, 12.1.2, 12.1.3, 12.2.1, 12.2.1.x, and 12.1.x.

WebLogic versions 8.x and 9.x are not supported.

Prerequisites for Deploying/Undeploying Java EE Applications

Before running the Deploy / Undeploy Java EE Applications Deployment Procedure, ensure that the following prerequisites are met:

- Ensure that the Software Library is configured. See [Setting Up Oracle Software Library](#) for details.
- The Java EE Application component must have been created in the Software Library. See [Creating a Java EE Application Component](#) for details.
- The Management Agent must be installed on the Administration Server host machine for the WebLogic Domain to which you are deploying, undeploying, or redeploying the Java EE application. Deployment commands are executed from the Administration Server host machine.
- If a target execution script is to be run as part of the deployment procedure, then the Management Agent must be installed on the Managed Server's host machine where the target execution script is to be run.
- A target execution script can be used to set up the required environment or replace tokens in additional files such as property files. The script will be executed on selected targets.

Creating a Java EE Application Component

You can create a Java EE Application component which contains the archive, deployment plan, predeploy, postdeploy, target execution scripts, and other files required for deploying the Java EE application.

Note:

If you create a Java EE Application component on the host where the Software Library is configured, then you must ensure that this host name and the management agent host name should match, if not, you will see the following error while creating the component:

```
An error was encountered during saving entity samples.gar.  
Please see the log for details.  
oracle.sysman.emSDK.app.exception.EMSystemException
```

To create a Java EE Application component, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Software Library**.
2. Create a folder or select a folder from the Software Library, select **Create Entity**, then select **Component**.
3. From the Create Entity: Component dialog box, select Java EE Application and click **Continue**.
4. In the Create Java EE Application: Describe page, enter the Name, Description, and click **Next**.
5. In the Create Java EE Application: Select Files page, select one or more files to be associated with the Java EE Application. You can upload files from a storage location in the Software Library. For Software Library to become usable, at least one upload file location must be configured. In the Specify Destination section, click the **Browse** button in the Upload Location field. Select either of the following:

- **OMS Shared File System:** An OMS Shared File System location is required to be shared (or mounted) across all the Oracle Management Server (OMS) hosts. This option is ideal for UNIX systems.

For single OMS environments, you can configure the Software Library either on the host where the OMS is running or in a shared location, so that it is accessible to all the OMS hosts. For multiple OMS environments, Oracle recommends that you configure the Software Library in a shared location so that the storage is accessible through NFS mount points to all Oracle Management Servers in the environment.

- **OMS Agent File System:** An OMS Agent File System location is a location that is accessible to one of the OMS host's Agent. This option is ideal for OMS installed on Windows hosts. By selecting this option for uploading files, you can avoid sharing a location between all participating OMS hosts.

Credentials must be set before using an OMS Shared File System or OMS Agent File System. For an OMS Shared File System, normal host credentials must set before configuring a storage location. However, for OMS Agent File System location configuration, a credential (preferred or named) has to be specified.

6. In the Specify Source section, you can add the standard Java EE archive files such as `.ear`, `.war`, `.jar`, `.rar`, `.gar`, and other optional files such pre and post-deploy scripts, target execution script, execution plan and additional files. You can either upload each file separately (Individual Files) or upload a zip file (Zip File) that contains the `JavaEEAppComp.manifest` file. You can upload the files from:
 - **Local Filesystem:** Click **Browse** and upload the files from your local system.
 - **Agent Filesystem:** You can upload the files from a remote filesystem monitored by the Management Agent. Click **Browse** and select a host machine from the list and click **Select**. Click **Add**. The Remote File Browser window is displayed. Click the **Login As** button and enter the credentials for the host machine. Specify the location in which the files are present, select one or more archive related files and click **Add**. The selected files are listed in the Current Selection section. Click **OK** to return to the Create Entity: Select Files page.
7. The files are listed in the table. Specify the type of the file by selecting the options in the Type field. Click **Next**.

- Review and verify the information entered so far. Click **Save and Upload** to upload the files and create the Java EE Application component.

Java EE Applications Deployment Procedure

This section describes the Java EE Application deployment procedure. It covers the following:

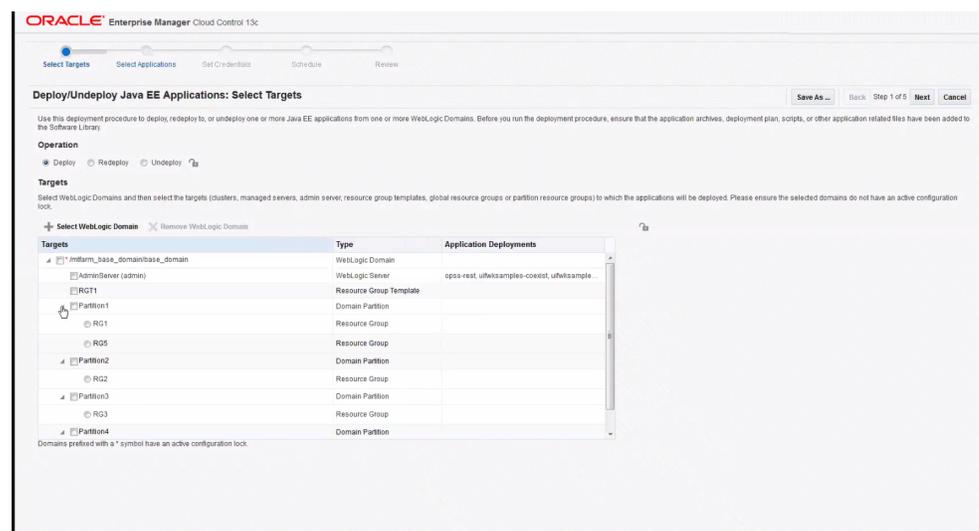
- Deploying a Java EE Application
- Undeploying a Java EE Application
- Redeploying a Java EE Application

Deploying a Java EE Application

Follow these steps to deploy a Java EE Application:

- From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
- Select the Java EE Application procedure from the list and click **Launch**. You can also use the following method to launch the deployment procedure:
 - Click **Middleware** from the Targets menu.
 - Right click on a WebLogic Domain from the list and from the context sensitive menu, select **Provisioning**, then select **Deploy / Undeploy Java EE Applications**.
 - In the Deployment Procedure Manager page, select the Java EE Application Provisioning procedure and click **Launch**.
- In the Deploy/Undeploy Java EE Applications: Select Targets page, choose the **Deploy** operation.

Figure 12-1 Deploy / Undeploy Java EE Applications: Select Target



Each domain has entities like clusters, admin server, managed server, global resource group, resource group templates, and partitions.

While deploying Multi-Tenancy partitions, each partition has one or more Resource Groups. The deployment is possible for only one of the selected Resource Groups of a partition.

Click the **radio button** to select the desired Resource Group for a partition.

While deploying applications to Resource Groups and Resource Group Templates, you must ensure that application deployment meets the uniqueness criteria of application names set by WebLogic. Deployment procedure wizard validates and ensures the uniqueness in simpler cases. In case of extended resource groups from resource group templates, the uniqueness check is left to WebLogic deployer as Enterprise Manager does not have the hierarchy details. Hence, you must ensure the uniqueness before hand to avoid a deployment procedure failure.

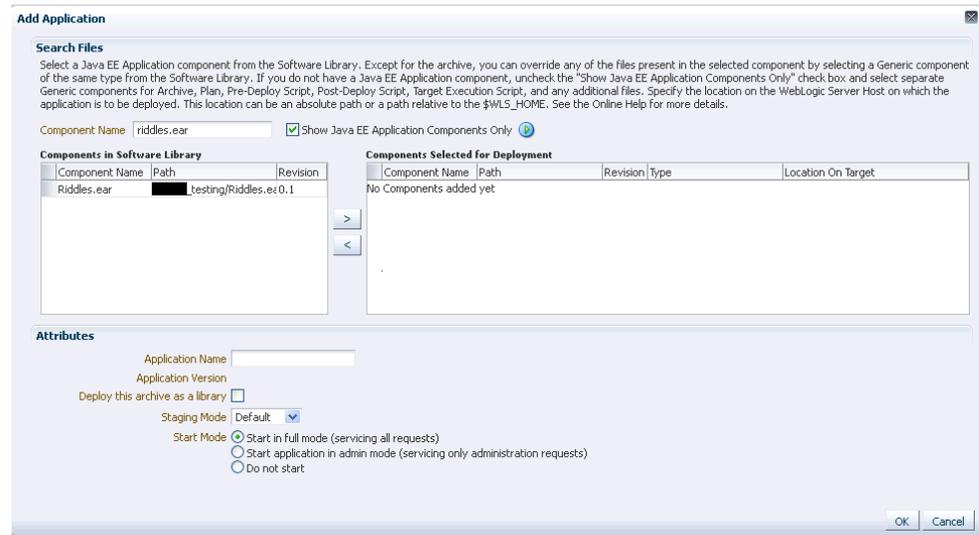
4. Select WebLogic Domains and select the targets on which the Java EE application is to be deployed. Click **Add WebLogic Domains**. Choose one or more WebLogic domains from the list and click **Select**.

 **Note:**

You can lock an operation, a target, or an application.. Click the **Lock** icon to lock an operation or the fields you are configuring in any of the pages in the wizard. Once the fields have been locked, the Operator needs to provide minimal input while running the deployment procedure

5. The selected WebLogic domains are listed in the Targets table. Select the targets (clusters, managed servers, admin servers, Global Resource Groups, Resource Group Templates, Partitions, or Resource groups) for each domain and click **Next**.
6. In the Deploy / Undeploy Java EE Applications: Select Applications page, add the archives and other related files that are to be deployed from the Software Library. Click **Add** to select one or more archives and other application related files or components from the Software Library. The Add Application popup is displayed. In the Component Name field, enter a file name or a wild card pattern to search for and retrieve components from the Software Library. Select the **Show Java EE Application Components Only** checkbox to list only the Java EE Application components in the Components in Software Library column. Select the archives and click the right arrow to move them to the Components Selected for Deployment section.

Figure 12-2 Deploy / Undeploy Java EE Applications: Add Applications



Note:

In the image shown above, Application Version and Plan Version will not be visible if you are redeploying non-versioned application.

7. In the Type field, the type of each component is displayed. The Type can be:
 - **Archive:** This is the archive file which can be a .ear, .war, .jar, .rar, or .gar file.

Note:

If you have selected a .gar archive file, the WebLogic Domain to which the application is being deployed must be 12.1.2.0.0 or higher.

- **Plan:** This is an .xml file containing the deployment options for this application.
- **Pre Deploy Script:** This is a script containing WLST commands. The Management Agent runs this script on the Administration Server of each WebLogic domain before the application is deployed. You can use this script to create data sources, JMS end points, and any other resources that might be needed by the application that is being deployed.
- **Post Deploy Script:** This is a WLST script that is executed by the Management Agent on the Administration Server after the application is deployed. You can use this script to perform any post deployment configuration. For example, if you need to roll back and undo the changes made by the pre deploy script, you can select this option.

 **Note:**

The archive, plan, predeploy, and postdeploy scripts can be moved only to the Administration Server.

- **Additional File:** You can add one or more files that will be required by the application that are not part of the application archive. These files can be of any type and can be moved only to the selected targets (managed servers and clusters).
 - **Target Execution Script:** These scripts can be used to set up the required environment or replace tokens in the additional files like property files. These scripts will be executed on selected targets.
8. In the Location On Target field, for each component, specify the location on the WebLogic Server Host on which the application is to be deployed. This can be an absolute path or relative to the `$WLS_HOME` for the selected targets.
 9. After selecting the required files for deployment, enter a unique name for the application and specify the Staging Mode which can be:
 - **Default:** Each server in the WebLogic Domain maintains two attributes which are Staging Mode and StagingDirectoryName. The Staging Mode is the default staging mode for the server and StagingDirectoryName is the location on which the staged files are stored. Select this option to use the default staging mode for all the targets.
 - **Stage:** Select this option if the archive files should be moved to the destination machine.
 - **No Stage:** Select this option if the archive files should not be moved to the destination machine.
 10. Select the **Deploy this archive as library** option if the application needs to be deployed as a shared library. You can select this option if one or more applications need the same set of files.
 11. Select the Start Mode for deployment which can be:
 - **Start in full mode (servicing all requests):** Select this option to make the deployed application available to all users.
 - **Start application in admin mode (servicing only administration requests):** If you select this option, the deployed application is available only to the Administrator.
 - **Do not start:** The application is deployed but not started. You can select this option if any manual post-deployment configuration is required.
 12. Click **OK** to add the archive and return to the Select Applications page. You can add more archives or click **Next** to proceed. If you have added more than one archive, select the **Skip on Failure** checkbox to skip any failed deployments and continue deploying the remaining applications.
 13. Click the **Lock** icon to lock the fields you have configured.

 **Note:**

The Designer can lock the fields after configuring them. This ensures that the Operator can run the deployment procedure with minimal input.

14. Click **Next**. Specify the credentials for each domain you have selected, the host on which the Administration Server is running, and the hosts to which the additional files or execution scripts are to be moved. You can choose:
 - **Preferred Credentials:** This option is selected by default and the preferred credentials stored in the Management Repository are used. This option is available only if it has already been defined in Cloud Control.
 - **Named Credentials:** A named credential specifies the authentication information for a user and can be a combination of username / password, public and private key pair, and can be used to perform provisioning, patching, run jobs, and other system management tasks.

After selecting the credentials, click **Apply**.

For more information on setting up the credentials, see Enterprise Manager Security Guide.

15. Click the **Lock** icon to lock the fields you have configured. These fields cannot be edited once they are locked.
16. In the Schedule Deployment page, you can schedule the date on which the Java EE Application deployment procedure should be executed.
17. Click **Next**. On the Review page, review the details you have provided for the Deployment Procedure. If you are satisfied with the details, then click **Submit** to run the Deployment Procedure according to the schedule set. If you want to modify the details, click the Edit link in the section to be modified or click **Back** repeatedly to reach the page where you want to make the changes.

After you submit the deployment procedure, you will return to the Procedure Activity page where you can view the status of the Deployment Procedure. After the Java EE Application has been deployed, you can search for the target and navigate to the Target Home page.

Redeploying a Java EE Application

Follow these steps to redeploy a Java EE application:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. Select the Java EE Application procedure from the list and click **Launch**. You can also use the following method to launch the deployment procedure:
 - Click **Middleware** from the Targets menu.
 - Right click on a WebLogic Domain from the list and from the context sensitive menu, select **Provisioning**, then select Deploy / Undeploy Java EE Applications.
 - In the Deployment Procedure Manager page, select the Java EE Application Provisioning procedure and click **Launch**.
3. In the Select Targets page, choose the **Redeploy** operation.

 **Note:**

Click the **Lock** icon to lock an operation or the fields you are configuring in any of the pages in the wizard. Once the fields have been locked, the Operator needs to provide minimal input while running the deployment procedure.

4. Click **Add WebLogic Domains** to add one or more WebLogic domains. In the list of targets displayed, choose a target and click Select.
5. The deployment targets are listed in the Targets table. Select the applications that need to be redeployed and click Next.
6. In the Select Applications page, a list of applications that can be redeployed are displayed. Select an application and click **Edit** to modify the archive details and other application related files. In the Application Details window, enter a file name or a wild card pattern to search for and retrieve files from the Software Library. Select the archives and click the right arrow to move them to the Components Selected for Deployment section.
7. In the Type field, the type of each component is displayed. The Type can be:
 - **Archive:** This is the archive file which can be a .ear, .war, .jar, or .rar file.
 - **Plan:** This is an .xml file containing the deployment options for this application.
 - **Pre Deploy Script:** This is a script containing WLST commands. The Management Agent runs this script on the Administration Server of each WebLogic domain before the application is deployed. You can use this script to create data sources, JMS end points, and any other resources that might be needed by the application that is being deployed.
 - **Post Deploy Script:** This is a WLST script that is executed by Management Agent on the Administration Server after the application is deployed. You can use this script to perform any post deployment configuration. For example, if you need to roll back and undo the changes made by the pre deploy script, you can select this option.

 **Note:**

The archive, plan, predeploy, and postdeploy scripts can be moved only to the Administration Server.

- **Additional File:** You can add one or more files that will be required by the application that are not part of the application archive. These files can be of any type and can be moved only to the selected targets (managed servers and clusters).
 - **Target Execution Script:** These scripts can be used to set up the required environment or replace tokens in the additional files like property files. These scripts will be executed on selected targets.
8. Review the default location on the target machine on which the component will reside. This can be an absolute path or relative to the `$WLS_HOME` for the selected targets.

9. After selecting the required files for deployment, enter a unique name for the application and specify the Staging Mode which can be:
 - **Default:** Each server in the WebLogic Domain maintains two attributes which are Staging Mode and StagingDirectoryName. The Staging Mode is the default staging mode for the server and StagingDirectoryName is the location on which the staged files are stored. Select this option to use the default staging mode for all the targets.
 - **Stage:** Select this option if the archive files should be moved to the destination machine.
 - **No Stage:** Select this option if the archive files should not be moved to the destination machine.
 10. Select the Start Mode for deployment which can be:
 - **Start in full mode (servicing all requests):** Select this option to make the deployed application available to all users.
 - **Start application in admin mode (servicing only administration requests):** If you select this option, the deployed application is available only to the Administrator.
 - **Do not start:** The application is deployed but not started. You can select this option if any post-deployment configuration is required.
 11. Specify the Retirement Policy for the application. You can select:
 - **Allow the application to finish its current sessions and then retire:** Select this option if all the current sessions should be completed before retirement.
 - **Retire the previous version after retire timeout:** Specify a timeout period after which the application will be automatically retired.
-  **Note:**

The Retirement Policy field is applicable only when you are redeploying versioned application.
12. Click **OK** to add the archive and return to the Select Applications page. You can add more archives or click **Next** to proceed. If you have added more than one archive, select the **Skip on Failure** checkbox to skip any failed deployments and continue deploying the remaining applications.
 13. Click the **Lock** icon to lock the fields you have configured. These fields cannot be edited once they are locked.
 14. Click **Next**. Specify the credentials for each domain you have selected, the host on which the Administration Server is running, and the hosts to which the additional files or execution scripts are to be moved. You can choose:
 - **Preferred Credentials:** This option is selected by default and the preferred credentials stored in the Management Repository are used. This option is available only if it has already been defined in Cloud Control.
 - **Named Credentials:** A named credential specifies the authentication information for a user and can be a combination of username / password, public and private key pair, and can be used to perform provisioning, patching, run jobs, and other system management tasks.

For more information on setting up the credentials, see Enterprise Manager Security Guide.

15. Click the **Lock** icon to lock the fields you have configured. These fields cannot be edited once they are locked.
16. In the Schedule Deployment page, you can schedule the date on which the Java EE Application deployment procedure should be executed.
17. Click **Next**. On the Review page, review the details you have provided for the Deployment Procedure. If you are satisfied with the details, then click **Submit** to run the Deployment Procedure according to the schedule set. If you want to modify the details, click the Edit link in the section to be modified or click **Back** repeatedly to reach the page where you want to make the changes.

After you submit the deployment procedure, you will return to the Procedure Activity page where you can view the status of the Deployment Procedure. After the Java EE Application has been redeployed, you can search for the target and navigate to the Target Home page.

Undeploying a Java EE Application

Follow these steps to undeploy a Java EE Application:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. Select the Java EE Application procedure from the list and click **Launch**. You can also use the following method to launch the deployment procedure:
 - Click **Middleware** from the Targets menu.
 - Right click on a WebLogic Domain from the list and from the context sensitive menu, select **Provisioning**, then select Deploy / Undeploy Java EE Applications.
 - In the Deployment Procedure Manager page, select the Java EE Application Provisioning procedure and click **Launch**.
3. In the Select Targets page, choose the **Undeploy** operation.
4. Click **Add WLS Domains** to add one or more WebLogic domains. In the list of targets displayed, choose a target and click **Select**.
5. The deployment targets are listed in the Targets table. Select the application that needs to be undeployed and click **Next**.

The screenshot shows the Oracle Enterprise Manager Cloud Control 13c interface. The page title is "Deploy/Undeploy Java EE Applications: Select Targets". The "Operation" section has three radio buttons: "Deploy", "Redeploy", and "Undeploy" (which is selected). Below this is the "Targets" section, which contains a table with the following data:

Current Applications	Targets	Administration Server Host	Delete EM Target
EMGC_EMGC_DOMAINEMGC_DOMAIN		<Host_Name>	<input type="checkbox"/>
emgc	EMGC_OMS1		<input checked="" type="checkbox"/>
emops	EMGC_OMS1		<input checked="" type="checkbox"/>
jmsdengine(13.2.2.0.0)	EMGC_OMS1		<input type="checkbox"/>

You can select the **Delete EM Target** checkbox for each selected application to automatically erase target history after the undeployment procedure.

6. Specify the credentials for each domain you have selected, the host on which the Administration Server is running, and the hosts to which the additional files or execution scripts are to be moved. You can choose:
 - **Preferred Credentials:** This option is selected by default and the preferred credentials stored in the Management Repository are used. This option is available only if it has already been defined in Cloud Control.
 - **Named Credentials:** A named credential specifies the authentication information for a user and can be a combination of username / password, public and private key pair, and can be used to perform provisioning, patching, run jobs, and other system management tasks.

For more information on setting up the credentials, see Enterprise Manager Security Guide.

7. Specify the deployment schedule and click **Next**.
8. Review the details and click **Undeploy**. You will return to the Procedure Activity page where you can check the status.

Deploying / Redeploying / Undeploying Java EE Applications Using EMCLI

This section lists the procedures to deploy, redeploy, or undeploy a Java EE application using EMCLI:

- [Deploying a Java EE Application Using EMCLI](#)
- [Undeploying a Java EE Application Using EMCLI](#)
- [Redeploying a Java EE Application Using EMCLI](#)

Deploying a Java EE Application Using EMCLI

To deploy a Java EE application using EMCLI, run the following command:

```
emcli submit_procedure -name="JAVAEE_APPLICATION_DEPLOYMENT" -input_file=data="/input-deploy.properties"
[instance_name="javaee_deploy"]
```

Sample Input File

This section shows the format of a sample `input-deploy.properties` file.

```
stopOnError=true
operation=Deploy

#Host Creds for all the hosts part of the domain
domains.0.domainTargetName=/Farm01_wls1213_njrf_1clms/wls1213_njrf_1clms
domains.0.wlsCredType=New
domains.0.wlsUserName=weblogic1
domains.0.wlsPassword=welcome1$
#domains.0.credName=wls_creds:SYSMAN
```

```

#Host Creds for all the hosts part of the domain
domains.0.hosts.0.hostName=hostname.example.com
domains.0.hosts.0.hostCredType=New
domains.0.hosts.0.hostUserName=<USERID>
domains.0.hosts.0.hostPassword=<PASSWORD>
#domains.0.hosts.0.hostCredName=user1_creds:<USERID>

#For each application
domains.0.javaeeApps.0.appName=MyCalender
domains.0.javaeeApps.0.isSharedLib=false
domains.0.javaeeApps.0.stageMode=DEFAULT
domains.0.javaeeApps.0.startMode=full
domains.0.javaeeApps.0.retirementPolicy=true
domains.0.javaeeApps.0.retirementTimeout=0
domains.0.javaeeApps.0.targets=Cluster_1
#domains.0.javaeeApps.0.deleteTarget=false

domains.0.javaeeApps.0.archiveSwLibPath=demo_folder/calendar_app
domains.0.javaeeApps.0.archiveFileName=Calendar.war
domains.0.javaeeApps.0.archiveStagingLocation=/my_arch/mystage

# If there is no plan, then this can be skipped
#domains.0.javaeeApps.0.planSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.planFileName=xyz.jar
#domains.0.javaeeApps.0.planStagingLocation=/my_plan/mystage

# If there is no predeploy script, this can be skipped
#domains.0.javaeeApps.0.preDeployScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.preDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.preDeployScriptStagingLocation=/my_prescript/
mystage

# If there is no postdeploy script, this can be skipped
#domains.0.javaeeApps.0.postDeployScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.postDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.postDeployScriptStagingLocation=/my_postscript/
mystage

# If there are no additional scripts, this can be skipped
#domains.0.javaeeApps.0.additionalFiles.0.swLibPath=my_folder/calpp
#domains.0.javaeeApps.0.additionalFiles.0.fileName=additional.zip
#domains.0.javaeeApps.0.additionalFiles.0.stagingLocation=/my_add/mystage

# If there is no target execution script, this can be skipped
#domains.0.javaeeApps.0.targetExecScriptSwLibPath=my_folder/my_script
#domains.0.javaeeApps.0.targetExecScriptFileName=script.pl
#domains.0.javaeeApps.0.targetExecScriptStagingLocation=/my_exec/mystage

```

Description of the Input File

- stopOnError: Set this flag to **true** if the deployment procedure should stop when an error is encountered while a Java EE application is being deployed.
- operation: The type of operation (**Deploy**) being performed.

- **Domain Details:** Specify the details of the WebLogic domains on which these applications are being deployed.
 - `domains.0.domainTargetNameWhere`:
 - * 0 is the index of the domain
 - * `domainTargetName` is the name of the target in Enterprise Manager.
 - `domains.0.wlsCredType`: The credentials for the domain. Possible values are Preferred, New, or Named Credentials.
 - `domains.0.wlsUserName` (optional): If New Credentials are selected, specify the user name here.
 - `domains.0.wlsPassword` (optional): If New Credentials are selected, specify the password here.
 - `domains.0.credName` (optional): If Named Credentials are selected, specify the name of the credentials followed by the name of the credential owner in the format `<cred_name>:<owner_name>`. For example, `user1_creds:SYSMAN`.
- **Host Details:**

Specify the Administration Server host details here.

 - `hosts.0.hostName`: where:
 - * 0 is the index for the Administration Server host. If additional files, and target execution scripts are present, indexes 1, 2, 3, and so on must be used for all the other hosts in the domain.
 - * `hostName` is the name of the Administration Server host.
 - `domains.0.hosts.0.hostCredType`: The credentials for the Administration server. Possible values are Preferred, New, or Named Credentials.
 - `domains.0.wlsUserName`(optional): If New Credentials are selected, specify the user name here.
 - `domains.0.wlsPassword`(optional): If New Credentials are selected, specify the password here.
 - `domains.0.credName`(optional): If Named Credentials are selected, specify the name of the credentials followed by the name of the credential owner in the format `<cred_name>:<owner_name>`. For example, `user1_creds:SYSMAN`.
- **Application Details:**

Specify the details of the Java EE applications that are being deployed.

 - `javaeeApps.0.appName`: where:
 - * `javaeeApps.0.appName`: The name of the Java EE application being deployed. Since multiple applications can be deployed, the index (0) identifies each application being deployed.
 - * `isSharedLib`: Set this flag to **true** if the application is to be deployed in a shared library.
 - * `stageMode` The stage mode can be **Default**, **Stage**, and **No Stage**.
 - * `startMode`: This can be **Full**, **Admin**, or **Do not start**.
 - * `retirementPolicy`: Set this flag to **true** if a retirement policy is available.
 - * `retirementtimeout`: Specify the retirement timeout period here.

- * targets: The target(s) on which the applications are to be deployed.
- * archiveSwLibPath: The location in which the archive is stored in the Software Library.
- * archiveFileName: The name of the archive file.
- * archiveStagingLocation: The location in which the archive should be staged on the Administration Server host.

**Note:**

In the remaining optional sections, you can specify the Software Library path, the file name, and the staging location as necessary.

Undeploying a Java EE Application Using EMCLI

To undeploy a Java EE application using EMCLI, run the following command:

```
emcli submit_procedure -name="JAVAEE_APPLICATION_UNDEPLOY" -input_file=data="/input-undeploy.properties"
[instance_name="javaee_undeploy"]
```

Sample Input File

This section shows the format of a sample `input-undeploy.properties` file.

```
stopOnError=true
operation=Undeploy

#Host Creds for all the hosts part of the domain
domains.0.domainTargetName=/Farm01_wls1213_njrf_1c1ms/wls1213_njrf_1c1ms
domains.0.wlsCredType=New
domains.0.wlsUserName=weblogic1
domains.0.wlsPassword=welcome1$
#domains.0.credName=wls_creds:SYSMAN

#Host Creds for all the hosts part of the domain
domains.0.hosts.0.hostName=hostname.example.com
domains.0.hosts.0.hostCredType=New
domains.0.hosts.0.hostUserName=user1
domains.0.hosts.0.hostPassword=KDsa0105
#domains.0.hosts.0.hostCredName=user1_creds:SYSMAN

#For each application
domains.0.javaeeApps.0.appName=MyCalendar
#domains.0.javaeeApps.0.isSharedLib=false
#domains.0.javaeeApps.0.stageMode=DEFAULT
#domains.0.javaeeApps.0.startMode=full
#domains.0.javaeeApps.0.retirementPolicy=true
#domains.0.javaeeApps.0.retirementTimeout=0
domains.0.javaeeApps.0.targets=Cluster_1
domains.0.javaeeApps.0.deleteTarget=true

#domains.0.javaeeApps.0.archiveSwLibPath=my_folder/calpp
```

```

#domains.0.javaeeApps.0.archiveFileName=file.jar
#domains.0.javaeeApps.0.archiveStagingLocation=/my_arch/mystage

# If there is no plan, then this can be skipped
#domains.0.javaeeApps.0.planSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.planFileName=xyz.jar
#domains.0.javaeeApps.0.planStagingLocation=/my_plan/mystage

# If there is no predeploy script, this can be skipped
#domains.0.javaeeApps.0.preDeployScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.preDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.preDeployScriptStagingLocation=/my_prescript/
mystage

# If there is no postdeploy script, this can be skipped
#domains.0.javaeeApps.0.postDeployScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.postDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.postDeployScriptStagingLocation=/my_postscript/
mystage

# If there are no additional scripts, this can be skipped
#domains.0.javaeeApps.0.additionalFiles.0.swLibPath=my_folder/calpp
#domains.0.javaeeApps.0.additionalFiles.0.fileName=additional.zip
#domains.0.javaeeApps.0.additionalFiles.0.stagingLocation=/my_add/mystage

# If there is no target execution script, this can be skipped
#domains.0.javaeeApps.0.targetExecScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.targetExecScriptFileName=tscript.pl
#domains.0.javaeeApps.0.targetExecScriptStagingLocation=/my_exec/mystage

```

Description of the Input File

- stopOnError: Set this flag to **true** if the deployment procedure should stop when an error is encountered while a Java EE application is being undeployed.
- operation: The type of operation (**Undeploy**) being performed.
- Domain Details: Specify the details of the WebLogic domains on which these applications are being undeployed.
 - domains.0.domainTargetNameWhere:
 - * 0 is the index of the domain
 - * domainTargetName is the name of the target in Enterprise Manager.
 - domains.0.wlsCredType: The credentials for the domain. Possible values are Preferred , New. or Named Credentials.
 - domains.0.wlsUserName(optional): If New Credentials are selected, specify the user name here.
 - domains.0.wlsPassword(optional): If New Credentials are selected, specify the password here.
 - domains.0.credName (optional): If Named Credentials are selected, specify the name of the credentials followed by the name of the credential owner in the format <cred_name>:<owner_name>. For example, user1_creds:SYSMAN.
- Host Details:

Specify the Administration Server host details here.

- `hosts.0.hostName`: where:
 - * `0` is the index for the Administration Server host. If additional files, and target execution scripts are present, indexes 1, 2, 3, and so on must be used for all the other hosts in the domain.
 - * `hostName` is the name of the Administration Server host.
 - `domains.0.hosts.0.hostCredType`: The credentials for the Administration Server. Possible values are Preferred, New, or Named Credentials.
 - `domains.0.wlsUserName(optional)`: If New Credentials are selected, specify the user name here.
 - `domains.0.wlsPassword(optional)`: If New Credentials are selected, specify the password here.
 - `domains.0.credName(optional)`: If Named Credentials are selected, specify the name of the credentials followed by the name of the credential owner in the format `<cred_name>: <owner_name>`. For example, `user1_creds:SYSMAN`.
- Application Details:

Specify the details of the Java EE applications that are being undeployed.

- `javaeeApps.0.appName`: where:
 - * `javaeeApps.0.appName`: The name of the Java EE application being undeployed. Since multiple applications can be undeployed, the index (0) identifies each application being deployed.
 - * `isSharedLib`: Set this flag to **true** if the application being undeployed is present in a shared library.
 - * `stageMode`: The stage mode can be **Default**, **Stage**, and **No Stage**.
 - * `startMode`: This can be **Full**, **Admin**, or **Do not start**.
 - * `retirementPolicy`: Set this flag to **true** if a retirement policy is available.
 - * `retirementtimeout`: Specify the retirement timeout period here.
 - * `targets`: The target(s) from which the applications are to be undeployed.
 - * `deleteTarget`:

Set this flag to **true** if the target is to be deleted after the application has been undeployed.
 - * `archiveSwLibPath`: The location in which the archive is stored in the Software Library.
 - * `archiveFileName`: The name of the archive file.
 - * `archiveStagingLocation`: The location in which the archive should be staged on the Administration Server host.

 **Note:**

In the remaining optional sections, you can specify the Software Library path, the file name, and the staging location as necessary.

Redeploying a Java EE Application Using EMCLI

To redeploy a Java EE application using EMCLI, run the following command:

```
emcli submit_procedure -name="JAVAEE_APPLICATION_REDEPLOYMENT" -input_file=data="/
input-redeploy.properties"
[instance_name="javaee_redeploy"
```

Sample Input File

```
stopOnError=true
operation=Redeploy

#Host Creds for all the hosts part of the domain
domains.0.domainTargetName=/Farm01_wls1213_njrf_1clms/wls1213_njrf_1clms
domains.0.wlsCredType=New
domains.0.wlsUserName=weblogic1
domains.0.wlsPassword=welcome1$
#domains.0.credName=wls_creds:SYSMAN

#Host Creds for all the hosts part of the domain
domains.0.hosts.0.hostName=hostname.example.com
domains.0.hosts.0.hostCredType=New
domains.0.hosts.0.hostUserName=user1
domains.0.hosts.0.hostPassword=KDsa0105
#domains.0.hosts.0.hostCredName=user1_creds:SYSMAN

#For each application
domains.0.javaeeApps.0.appName=MyCalender
domains.0.javaeeApps.0.isSharedLib=false
domains.0.javaeeApps.0.stageMode=DEFAULT
domains.0.javaeeApps.0.startMode=full
domains.0.javaeeApps.0.retirementPolicy=true
domains.0.javaeeApps.0.retirementTimeout=0
domains.0.javaeeApps.0.targets=Cluster_1
#domains.0.javaeeApps.0.deleteTarget=false

domains.0.javaeeApps.0.archiveSwLibPath=demo_folder/calendar_app
domains.0.javaeeApps.0.archiveFileName=Calendar.war
domains.0.javaeeApps.0.archiveStagingLocation=/my_arch/mystage

# If there is no plan, then this can be skipped
#domains.0.javaeeApps.0.planSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.planFileName=xyz.jar
#domains.0.javaeeApps.0.planStagingLocation=/my_plan/mystage

# If there is no predeploy script, this can be skipped
#domains.0.javaeeApps.0.preDeployScriptSwLibPath=my_folder/calpp
#domains.0.javaeeApps.0.preDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.preDeployScriptStagingLocation=/my_prescript/
mystage

# If there is no postdeploy script, this can be skipped
#domains.0.javaeeApps.0.postDeployScriptSwLibPath=my_folder/calpp
```

```
#domains.0.javaeeApps.0.postDeployScriptFileName=xyz.py
#domains.0.javaeeApps.0.postDeployScriptStagingLocation=/my_postscript/
mystage

# If there are no additional scripts, this can be skipped
#domains.0.javaeeApps.0.additionalFiles.0.swLibPath=my_folder/calpp
#domains.0.javaeeApps.0.additionalFiles.0.fileName=additional.zip
#domains.0.javaeeApps.0.additionalFiles.0.stagingLocation=/my_add/mystage

# If there is no target execution script, this can be skipped
#domains.0.javaeeApps.0.targetExecScriptSwLibPath=my_folder/my_script
#domains.0.javaeeApps.0.targetExecScriptFileName=script.pl
#domains.0.javaeeApps.0.targetExecScriptStagingLocation=/my_exec/mystage
```



Note:

See [Deploying a Java EE Application Using EMCLI](#) for details on the input details.

13

Provisioning Coherence Nodes and Clusters

This chapter explains how you can provision Coherence nodes or clusters across multiple targets in a farm using Oracle Enterprise Manager Cloud Control (Cloud Control). In particular, this chapter covers the following:

- [Getting Started](#)
- [Supported Releases](#)
- [Deploying Coherence Nodes and Clusters](#)
- [Troubleshooting](#)

For more information about Oracle Coherence, see *Managing Oracle Coherence in the Enterprise Manager Cloud Control Oracle Fusion Middleware Management Guide*.

Getting Started

This section helps you get started with this chapter by providing an overview of the steps involved in provisioning Coherence nodes and clusters. The Coherence Deployment Procedure allows you to do the following:

- Add one or more nodes to a new cluster and add this cluster as an Cloud Control monitored target.
- Add a management node to an existing cluster and add this cluster as an Cloud Control monitored target.
- Add one or more nodes to a cluster that is already being monitored by Cloud Control.
- Update existing nodes by copying modified software components or configuration files and restart the nodes.
- Create a new Coherence cluster.

Consider this section to be a documentation map to understand the sequence of actions you must perform to successfully deploy a Coherence node. Click the reference links provided against the steps to reach the relevant sections that provide more information.

Table 13-1 Getting Started with Deploying a Coherence Node

Step	Description	Reference Links
Step 1	Understanding the Deployment Procedure Understand the Deployment Procedure that is offered by Cloud Control for deploying a Coherence node. Know how the Deployment Procedure functions, what use cases it covers, and so on.	To learn about the Deployment Procedure, see Deploying Coherence Nodes and Clusters .
Step 2	Knowing About The Supported Releases Know what releases of Oracle Coherence are supported.	To learn about the releases supported by the Deployment Procedure, see Supported Releases .
Step 3	Meeting the Prerequisites Before you run any Deployment Procedure, you must meet the prerequisites, such as adding the Coherence node as a target, and setting up of Oracle Software Library.	To learn about the prerequisites for deploying a Coherence node, see Prerequisites .
Step 4	Running the Deployment Procedure Run the Deployment Procedure to successfully deploy a Coherence node.	To deploy a Coherence node, follow the steps explained in Deployment Procedure .

Supported Releases

This section lists the releases of Oracle Coherence supported by this Deployment Procedure:

- Oracle Coherence 3.5, 3.6, and 3.7.
- Oracle Coherence 12.1.2 Standalone Version.

Deploying Coherence Nodes and Clusters

This section describes how you can add one or more nodes to an existing cluster or create a new cluster using the Coherence Node Provisioning procedure.

This section covers the following:

- [Prerequisites](#)
- [Creating a Coherence Component](#)
- [Deployment Procedure](#)

Prerequisites

Before running the Deployment Procedure, meet the following prerequisites:

- The host on which a Coherence node is being added or updated must be a monitored target in Cloud Control.

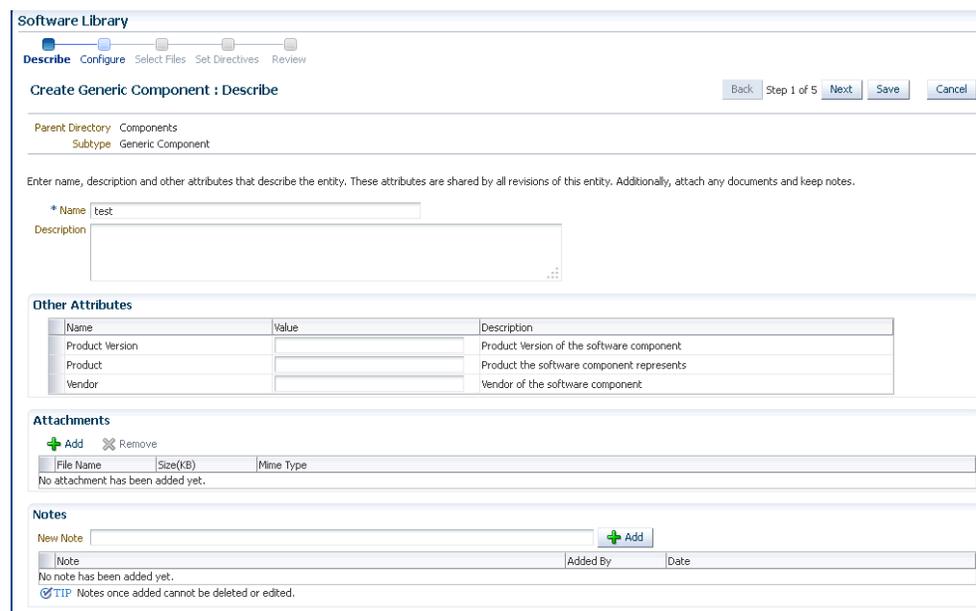
- A zip file with the Coherence software, default configuration files and start scripts must be created. This zip file must be added as a software component to the Oracle Software Library. If the size of the zip file is more than 25 MB, it must be uploaded from a host monitored by the Management Agent. You can add specific configuration files as components to the Software Library which will override the default configuration files. These configuration files can be different depending on the type of node (storage, management, etc.). While adding a software component, it is recommended that you specify the Product Name as **Coherence**.
- If you are provisioning a new node on a host on which the Coherence binaries are not present, you must upload the `coherence.zip` file and the `default-start-script.pl` to the Oracle Software Library. Each file required for provisioning must be uploaded as an individual software component.

Creating a Coherence Component

You can create one or more Coherence components and save it to the Software Library. This components are required while provisioning Coherence nodes and clusters. To create a Coherence component, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Software Library**.
2. Create a folder in which the components are to be stored. After the folder has been created, right click on the folder and select **Create Entity** and **Component** from the **Actions** menu.
3. A Create Component popup window appears. From the Select Subtype drop down list, select the **Generic Component** and click **Continue**.

Figure 13-1 Create Generic Component: Describe Page



Software Library

Describe Configure Select Files Set Directives Review

Create Generic Component : Describe Back Step 1 of 5 Next Save Cancel

Parent Directory Components
Subtype Generic Component

Enter name, description and other attributes that describe the entity. These attributes are shared by all revisions of this entity. Additionally, attach any documents and keep notes.

* Name test

Description

Other Attributes

Name	Value	Description
Product Version		Product Version of the software component
Product		Product the software component represents
Vendor		Vendor of the software component

Attachments

+ Add ✕ Remove

File Name	Size(KB)	Mime Type
No attachment has been added yet.		

Notes

New Note + Add

Note	Added By	Date
No note has been added yet.		

TIP Notes once added cannot be deleted or edited.

4. In the Create Generic Component: Describe page, enter the Product as Coherence. This is helpful when you are searching for files during Coherence Provisioning. Click **Next**.

- In the Create Generic Component: Select Files page, check the **Upload Files** option.

Figure 13-2 Create Generic Component: Select Files Page



- In the Specify Source section, select Agent Machine in the File Source drop down box and upload the following files:
 - `$AGENT_ROOT/plugins/oracle.sysman.emas.agent.plugin_12.1.0.1.0/archives/coherence/bulkoperationsmbean_11.1.1.jar`
 - `$AGENT_ROOT/plugins/oracle.sysman.emas.agent.plugin_12.1.0.1.0/archives/coherence/coherenceEMIntg.jar`
 - `$AGENT_ROOT/plugins/oracle.sysman.emas.agent.plugin_12.1.0.1.0/scripts/coherence/default-start-script.pl`

If you are uploading a large zip file such as `Coherence.zip`, you must save it on the Agent machine. Specify the path on the Agent to upload the file. This zip file must be downloaded from <http://www.oracle.com/technetwork/middleware/coherence/downloads/index.htm>

- Click **Save and Upload** to submit a file transfer job to upload the remote files to the specified upload location.

Deployment Procedure

To deploy a Coherence node or a cluster, follow these steps:

- From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
- Select the Coherence Node Provisioning deployment procedure and click **Launch**.

Note:

You can also use the following methods to launch the deployment procedure:

- From the **Enterprise** menu, select **Provisioning and Patching**, then select **Procedure Library**. Select the Coherence deployment procedure from the list and click **Launch**.
- Select the **Coherence Node Provisioning** option from the Coherence Home page menu.

- The Source Selection page which is the first page of the Coherence Node Provisioning wizard is displayed.

Figure 13-3 Source Selection Page

Coherence Node Provisioning: Source Selection

Cancel Step 1 of 5 Next

Source

Add all software components needed for Coherence node provisioning or update. For each component, you need to provide destination directory information on the target machine. This can be an absolute path or a relative path from `${INSTALL_DIR}` or `${COHERENCE_HOME}`. The value of `INSTALL_DIR` variable needs to be defined in target Selection step. `COHERENCE_HOME` will be set to `INSTALL_DIR/coherence`. You can skip adding software components if these are available on the target machine.

Add Previous Next 1

Component Name	Revision	Destination Directory	Location	File Name	Remove
Common Provisioning Module	0.1	<code>\${INSTALL_DIR}</code>	Common Provisioning Utilities/11.2.0.1.0/all_platforms/Common Provisioning Module	ProvCommon.pm	

Cancel Step 1 of 5 Next

- You can add all the software components needed to add or update a Coherence cluster. If the Coherence Home has already been created, you can click **Next** to go to the next page.

If the Coherence Home does not exist, click **Add** to add the Coherence binaries and the Start script from the Software Library. The Select Source popup is displayed. All software components with the product name Coherence that are present in the Software Library are displayed. Select required components and click **Select**.

- For each component you have selected, specify the destination directory on the target machine. This can be an absolute path or a relative path from `${INSTALL_DIR}` or `${COHERENCE_HOME}`. The contents of the `coherence.zip` file will be extracted to this directory.

Note:

- The value of the `$INSTALL_DIR` is defined in the Coherence Node Provisioning: Target Selection page and it is set as a level above the `COHERENCE_HOME` directory.
- If the software components are available in the target machine, this step can be skipped.

- Click **Next**. The Target Selection page is displayed. On this page, you can:
 - Add Nodes:** You can add a new node or make a copy of an existing node. Click the **Search** icon in the Target Name field and select a Coherence cluster from the list. The following details are displayed:
 - Cluster Name:** The name of the cluster.
 - Cluster Communication:** This can be Multicast or Well Known Address (WKA).
 - License Mode:** The mode in which the cluster has been deployed.

Click **Add** in the New Nodes section to add new nodes to an existing Coherence cluster monitored by Cloud Control. The Add Coherence Node page is displayed. Specify the details of the node and click **Continue** to add

the node and return to the Coherence Node Provisioning: Select Target page. See [Adding a Coherence Node](#) for details.

- **Creating a Copy of an Existing Node:** You can make a copy of an existing node. When you select a cluster to which a node is to be added, a list of nodes present in the cluster are displayed in the Existing Nodes section. Select a node from this list and click **Create Like**. The Add Coherence Node page is displayed. Specify the details of the node and click **Continue** to return to the Coherence Node Provisioning: Select Target page. A copy of the selected node is now listed in the New Nodes section and can be deployed.
- **Create Cluster:** Click **Create Cluster** to create a new Coherence cluster. Enter Cluster Name along with the following details:
 - **Cluster Name:** Enter a unique name for the cluster.
 - **Cluster Communication:** Select **Multicast** or **Well Known Address (WKA)**. If you select Multicast, you are prompted for the Cluster Port and Cluster Address. If you select WKA, enter one or more sets of `<hostname>: <port>` entries separated by a comma and make sure that the WKA details have been specified in the Coherence Node Provisioning: Add Node page.

 **Note:**

- * If you select WKA, you need to create an override file (tangosol-coherence-override-em.xml) for the WKA entries and specify the Dtangosol.coherence.override parameter in this file. This file is created from the default-start-script.pl which can be modified if required.
- * If you select WKA for Cluster Communication while creating a copy of an existing node (**Create Like** option), you are prompted for the IP address instead of host name in the Well Known Address field.

- **License Mode:** Specify the mode in which the cluster is to be deployed. This can be Development, Evaluation, or Production.

Click **Add** in the New Nodes section to add nodes to the new cluster being created. The Add Coherence Node page is displayed. Specify the details of the node and click **Continue** to add the node and return to the Coherence Node Provisioning: Select Target page.

To create a cluster, you must have the following components, coherenceEMIntg.jar, bulkoperationsmbean_11.1.1.jar, default-start-script.pl, and Coherence.zip.

7. Click **Next** to go to the next step in the wizard. In the Coherence Node Provisioning: Set Credentials page, you can set credentials for each host. You can apply the same credentials for multiple hosts by selecting multiple hosts from the list.
8. Select the host and specify the credentials which can be:
 - **Preferred Credentials:** This option is selected by default and the preferred credentials stored in the Management Repository are used. This option is available only if it has already been defined in Cloud Control.

- **Named Credentials:** You can override the preferred credentials and select a common set of credentials that will be used for all the hosts and WebLogic domains.
- **New Credentials:** You can override the preferred credentials and specify a separate set of credentials for each host.

Select the credentials and click **Apply** to apply the credentials to the selected hosts. For more information on setting up credentials, see the Enterprise Manager Security chapter in the Enterprise Manager Security Guide.

9. Click **Next**. The Schedule page is displayed. On this page, you can specify the schedule for deploying the node. You can choose to deploy the node immediately or at a later date.

 **Note:**

If you set the Grace Period as **Indefinite**, Cloud Control will keep trying to deploy the node for an indefinite period. If you specify a date / time in this field, the deployment process will be aborted after this period.

10. Click **Next**. The Review page is displayed. You can review the details you have provided for deploying the node. If you are updating a node, you can view the node processes that will be stopped on this page. Click **Finish** to deploy or update the node.

After the new Management Node has been created, you must wait for the first collection before you add nodes to the cluster.

Adding a Coherence Node

You can add a node to an existing cluster or create a new cluster by adding one or more new nodes. To add a node, follow these steps:

1. Click **Add** in the Coherence Node Provisioning: Target Selection page. The Add Coherence Node page is displayed. Enter the following details:

Figure 13-4 Add Coherence Node Page

The screenshot shows the 'Add Coherence Node' configuration page with the following sections:

- Host Details:** Includes a dropdown for 'Host Name' and a text input for 'Number of Nodes' (set to 1).
- Node Details:** Includes text inputs for 'Node Name' (mnode 1), 'Site Name' (MSite), 'Rack Name' (Mrack), 'Role Name' (Management), 'Unicast Address', and 'Unicast Port' (26000). There is also a checkbox for 'Well Known Address(WKA)' and a checkbox for 'Do not copy software components'.
- JVM Diagnostics Details:** Includes text inputs for 'JVM Manager Host' and 'JVM Manager Port'.
- Management Node Details:** Includes a checkbox for 'Management node with MBeanServer', text inputs for 'JMX Remote Port' (26100) and 'JMX User Name', a 'JMX Password' field, and a checkbox for 'Primary management node used for monitoring'. There is also a checkbox for 'Use Bulk Operations MBean'.
- Environment Details:** Includes text inputs for 'Install Directory' (/scratch/provcohi) and 'Start Script' (/ch/provcohi/default-start-script.pl).

Table 13-2 Add Coherence Node Page

Field Name	Description
Host Name	Select the host on which the node is to be added. You may have more than one node on the host depending on the machine configuration and the node configuration. Note: The Host Name you select here is used to set two start up parameters. Use the <code>tangosol_coherence_machine</code> environment variable to set the <code>tangosol.coherence.machine</code> parameter and <code>oracle_coherence_machine</code> to set the <code>oracle.coherence.machine</code> parameter.
Number of Nodes	Specify the number of nodes that need to be added. By default, this field has the value of 1 but you can add as many nodes as required depending on the machine and node configuration. If the value is more than 1, then all the nodes will have the following properties: <ul style="list-style-type: none"> Each node will use the same <code>COHERENCE_HOME</code> and start script. The Node Name value will be added as the prefix and a number will be appended to each node. For example <code><node_name>_1</code>, <code><node_name>_2</code> and so on. Each name should be a unique one in the cluster. The JMX Remote Port value will be increased by 1 for each additional node. For example, if the value of the JMX Remote Port for the first node is 8088, the value for the second node will be 8089 and so on.
Node Name	Enter a unique name for the node.
Site Name	This is the location of the Coherence node. This is geographical physical site name which identifies the racks and machines on which the node is running.
Rack Name	The name of the rack in the site on which the machine is located.
Role Name	The role could be storage/data, application/process, proxy or management node. Note: The Node Name, Site Name, Rack Name, and Role Name cannot exceed 32 characters.

Table 13-2 (Cont.) Add Coherence Node Page

Field Name	Description
Do not Copy Software Components	If you are adding a node on a machine on which a Coherence Home is already present, you must check the Do not copy Software Components checkbox. If you are copying the files onto a new host, unchecked the Do not copy Software Components checkbox to ensure that the binaries selected in the Coherence Node Provisioning: Source Selection page.
Well Known Address (WKA)	If Cluster Communication has been set to WKA in the Coherence Node Provisioning: Target Selection page, enter the host and port number in the format host1:port1, host2:port2 and so on.
JVM Diagnostics Details	
JVM Manager Host and Port	If this node is to be monitored by JVM Diagnostics Manager, specify the address and port number of the JVM Diagnostics Console.
Management Node with MBeanServer	You can define multiple management nodes in the cluster but only one management node can be marked as the Primary Management Node. We recommend that you add at least two management nodes preferably running on different hosts / machines to support fail over.
JMX Remote Port	The port number of the EMIntegration Mbean server.
JMX User Name	The user name for the JMX server if authentication is enabled.
JMX Password	The password for the JMX server if authentication is enabled. Note: To enable the JMX authentication, you need to set <code>com.sun.management.jmxremote.authenticate=true</code> . The JMX User name and JMX Password need to be set in the <code>\$JDK_HOME/jre/lib/management/jmxremote.password</code> and <code>\$JDK_HOME/jre/lib/management/jmxremote.access</code> files.
Primary Management Node used for Monitoring	Select this checkbox to mark the management node you are adding as the Primary Management Node used for Monitoring. This node is used to discover the Coherence cluster and any nodes added later will be added to the newly discovered cluster. If several nodes are being added to a cluster, only one management node can be marked as the primary one. If the primary management node fails, you can configure any of the other management nodes for monitoring. If no other management node is available, you can add a new primary management node to an existing cluster and this node can be used to monitoring.
Use Bulk Operations MBean	This checkbox is selected by default. When this option is selected, a new management node with BulkOperationsMBean will be started.
Install Directory	Enter the absolute path to the folder under which the Coherence software components reside. The path specified here will be used as the Destination Directory specified on the Coherence Node Provisioning: Source Selection page. This value could be different for each node or the same for one or more nodes.
Start Script	This script is used to bring up the Coherence node. This script is operating system specific and sets the proper environment required for the node by specifying the relevant system parameters. See sample script for an example.

The following table summarizes how the values specified during deployment will be used by the environment variables specified in the start script. The deployment procedure also sets the `JAVA_HOME` and `AGENT_HOME` variables by using the Agent installation details. You may override these by specifying appropriate values in your start script.

Table 13-3 Environment Variables

UI Parameter	Environment Variable Set	Coherence System Parameter
CLUSTER_NAME	tangosol_coherence_cluster	tangosol.coherence.cluster
CLUSTER_ADDRESS	tangosol_coherence_clusteraddress	tangosol.coherence.clusteraddress
CLUSTER_PORT	tangosol_coherence_clusterport	tangosol.coherence.clusterport
NODE_NAME (32 chars)	tangosol_coherence_member	tangosol.coherence.member
SITE_NAME (32 chars)	tangosol_coherence_site	tangosol.coherence.site
RACK_NAME (32 chars)	tangosol_coherence_rack	tangosol.coherence.rack
MACHINE_NAME	tangosol_coherence_machine	tangosol.coherence.machine
ROLE_NAME (32 chars)	tangosol_coherence_role	tangosol.coherence.role
JMX_REMOTE_PORT	jmx_remote_port	com.sun.management.jmxremote.port
LICENSE_MODE	license_mode	tangosol.coherence.mode
COHERENCE_HOME	coherence_home	oracle.coherence.home
START_SCRIPT	start_script	oracle.coherence.startscript
JVM_CONSOLE_HOST	jvm_console_host	jamconhost
JVM_CONSOLE_PORT	jvm_console_port	jamconport
WKA_PORT	wka_port	tangosol.coherence.override=em-coherence-override.xml

2. After adding the node, click **Continue** to return to the Coherence Node Provisioning: Target Selection page.
3. Click **Next** to go to the next step in the wizard.

Sample Scripts

The `default-start-script.pl` and `generate-wka-override.pl` scripts are present in the `$EMAS_PLUGIN_ROOT/scripts/coherence/directory`.

default-start-script.pl

This script is the default start script used to start a Coherence node. A sample script is shown below:

```
#!/usr/local/bin/perl

# Sample script to demonstrate starting of following Coherence nodes.
# When this script is passed in as a start script in Coherence Node Provisioning
# Deployment Procedure, while executing start node step, the deployment procedure
# sets all user entered options as environment variables. Based on the values of
# these environment variables, you can start different types of Coherence nodes
#
# - Management Node with Oracle Bulk Operation MBean is started when
# "bulk_mbean" and "jmx_remote_port" variables are set. For this option,
# oracle.sysman.integration.coherence.EMIntegrationServer Java class is executed
# that starts a MBeanServer in this node and registers Oracle Bulk Operation
# MBean. You need coherenceEMIntg.jar and bulkoperationsmbean_11.1.1.jar in the
```

```

# classpath.

#
# - Management Node is started when "jmx_remote_port" is set, but "bulk_mbean" is
# NOT set.
#
# - Managed node when "jmx_remote_port" is not set.
#
#
# Following variables are set from the deployment procedure. Use these values to
# define required system parameters to override Coherence default settings.

my $coherence_home=$ENV{'COHERENCE_HOME'};

my $start_script=$ENV{'START_SCRIPT'};
my $java_home=$ENV{'JAVA_HOME'};
my $agent_home=$ENV{'AGENT_HOME'};
my $wka_port=$ENV{'WKA_PORT'};
my $license_mode=$ENV{'LICENSE_MODE'};
my $jamhost=$ENV{'JAM_CONSOLE_HOST'};
my $jamport=$ENV{'JAM_CONSOLE_PORT'};

my $member=$ENV{'tangosol_coherence_member'};
my $site=$ENV{'tangosol_coherence_site'};
my $rack=$ENV{'tangosol_coherence_rack'};
my $machine=$ENV{'tangosol_coherence_machine'};

# tangosol.coherence.machine has a limitation of 32 chars
# As a workaround, use oracle.coherence.machine to set machine name
# This parameter is used to identify hosts for cluster management features
my $oracle_coherence_machine=$ENV{'oracle_coherence_machine'};
my $role=$ENV{'tangosol_coherence_role'};

my $jmxport=$ENV{'jmx_remote_port'};
my $cluster=$ENV{'tangosol_coherence_cluster'};
my $clusteraddr=$ENV{'tangosol_coherence_clusteraddress'};
my $clusterport=$ENV{'tangosol_coherence_clusterport'};
my $bulkmban=$ENV{'bulk_mbean'};
my $jmx_auth=$ENV{'jmx_enable_auth'};

my $SYS_OPT="";
my $JVM_OPT="";

my $psep="";
my $dsep="";
if ( !&IsWindows() ) {
    $psep=":";
    $dsep="/";
}
else
{
    $psep=".";
    $dsep="\";
}

print
"\n\n*****\n\n"

print "Output from default-start-script\n";
print "Starting Node : $member\n";
print "Coherence Home : $coherence_home \n";

```

```
print "Start Script : $start_script \n";
print "Java Home : $java_home \n";
print "Agent Home : $agent_home \n";
print "WKA Port: $wka_port \n";
print "License Mode: $license_mode \n";

print "Site Name : $site \n";
print "Rack Name : $rack \n";
print "Machine Name : $machine \n";
print "Oracle Coherence Machine Name : $oracle_coherence_machine \n";
print "Role Name : $role \n";

print "Cluster Name : $cluster \n";
print "Cluster Addr : $clusteraddr \n";
print "Cluster Port : $clusterport \n";
print "JMX Port : $jmxport \n";
print "Bulk MBean : $bulkmbean \n";
print "JMX Auth Enabled : $jmx_auth \n";
#

# you may run a local script as part of this script and override those
# settings.
# Override JAVA_HOME variable by setting it locally
#
# ./set-env.sh
#echo "After setting JAVA_HOME locally, JAVA_HOME: $JAVA_HOME"
# Options for Java Virtual Machine.
$JVM_OPT="-server -Xms512m -Xmx512m -Xincgc -verbose:gc";
#
# Set system parameters to Coherence node
$SYS_OPT="-Djava.net.preferIPv4Stack=true";
# This param allows the mbeans on this node to be registered to mbean servers
running on management nodes

$SYS_OPT="$SYS_OPT -Dtangosol.coherence.management.remote=true";
$SYS_OPT="$SYS_OPT -Dcom.sun.management.jmxremote.ssl=false";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.cluster=$cluster";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.member=$member";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.site=$site";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.rack=$rack";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.machine=$machine";
# set this if machine name > 32 chars, tangosol.coherence.machine has a limitaion
# of 32 chars
$SYS_OPT="$SYS_OPT -Doracle.coherence.machine=$oracle_coherence_machine";
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.role=$role";

# Set coh home and start script so they will be part of input args

$SYS_OPT="$SYS_OPT -Doracle.coherence.home=$coherence_home";
$SYS_OPT="$SYS_OPT -Doracle.coherence.startscript=$start_script";

# set jmxremote.authenticate=true if $jmx_enable_auth is present.
# username/password needs to be set in $JDK_
HOME/jre/lib/management/jmxremote.password and

# $JDK_HOME/jre/lib/management/jmxremote.access files.
Uncomment the following block after adding these files.
#
if ($jmx_auth ne "") {
$SYS_OPT="$SYS_OPT -Dcom.sun.management.jmxremote.authenticate=$jmx_auth";
```

```

else {
$SYS_OPT="$SYS_OPT -Dcom.sun.management.jmxremote.authenticate=false";
}

# Default is true, so make sure to set it to false if not using authentication
# $SYS_OPT="$SYS_OPT -Dcom.sun.management.jmxremote.authenticate=false";
# set jmxremote.port only for management nodes, if user passes in.
# It enables monitoring from remote systems through this port.
if ($jmxport ne "") {
$SYS_OPT="$SYS_OPT -Dcom.sun.management.jmxremote.port=$jmxport";
}
#
# Define clusteraddress and clusterport if we have valid values.
#
if($clusteraddr ne "") {
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.clusteraddress=$clusteraddr";
}

if("$clusterport" ne "") {
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.clusterport=$clusterport";
}

if("$license_mode" ne "") {
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.mode=$license_mode";
}
#This is used to generate WKA override file. If you choose to use an existing
#override file, you can comment this out.
#Make sure you set "-Dtangosol.coherence.override" to the appropriate file name.
if("$wka_port" ne "") {
$wka_port = "\".$wka_port.\"";
$wka_script = $agent_
home.$dsep."sysman".$dsep."admin".$dsep."scripts".$dsep."coherence".$dsep."genera
te-wka-override.pl";
print "executing $wka_script $wka_port\n";
if ( !&IsWindows() ) {
system("chmod 0700 $wka_script");
}
if(fork() == 0) {
exec("$wka_script $wka_port") or die "Could not execute
generate-wka-override.xml\n";
}
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.override=em-coherence-override.xml";
}
my $startup_class="";
my $cmd="";
# Note that Coherence lib is under $COHERENCE_HOME/coherence. Add any application
# specific jars to this classpath, if needed.
my $CLASSPATH=$coherence_home.$dsep."lib".$dsep."coherence.jar".$psep.$coherence
_home.$dsep."lib".$dsep."reporter.jar";
print "CLASSPATH: $CLASSPATH\n";
if($jamhost ne "" && $jamport ne "") {
$CLASSPATH=$CLASSPATH.$psep.$agent
_home.$dsep."archives".$dsep."jlib".$dsep."jamagent.war";
my $jamjvmid="$cluster/$member";
print "Using Oracle JVMID - $jamjvmid\n";
$SYS_OPT="$SYS_OPT -Doracle.coherence.jamjvmid=$jamjvmid";
$SYS_OPT="jamconshost=$jamhost $SYS_OPT";
$SYS_OPT="jamconspport=$jamport $SYS_OPT";
$SYS_OPT=" oracle.ad4j.groupidprop=$jamjvmid $SYS_OPT";
}
if ($bulkmbean ne "" && $jmxport ne "") {

```

```

# Management node with Bulk Operation MBean.
# add Oracle supplied jars for Bulk Operation MBean
$CLASSPATH=$CLASSPATH.$psep.$agent
_home.$dsep.."..$dsep.."..$dsep."lib".$dsep."coherenceEMIntg.jar".$psep.$agent
_home.$dsep.."..$dsep.."..$dsep."dependencies".$dsep."bulkoperationsmbean
_11.1.1.jar";
# Start MBeanServer
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.management=all";
print "Starting a management node with Bulk Operation MBean \n";
$startup_class="oracle.sysman.integration.coherence.EMIntegrationServer";
$cmd=$java_home.$dsep."bin".$dsep."java -cp $CLASSPATH $JVM_OPT $SYS_OPT $startup
_class";
} elsif ($jmxport ne "") {
# Management Node with out Bulk Operation MBean
# Start MBeanServer
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.management=all";
print "Starting a management node ... \n";
$startup_class="com.tangosol.net.DefaultCacheServer";
$cmd=$java_home.$dsep."bin".$dsep."java -cp $CLASSPATH $JVM_OPT $SYS_OPT $startup
_class";
} else {
# A simple managed node. Do not start MBeanServer.
$SYS_OPT="$SYS_OPT -Dtangosol.coherence.management=none";
print "Starting a simple managed node ... \n";
$startup_class="com.tangosol.net.DefaultCacheServer";
$cmd=$java_home.$dsep."bin".$dsep."java -cp $CLASSPATH $JVM_OPT $SYS_OPT $startup
_class";
}
if ( !&IsWindows() ) {
if (fork() == 0) {
print "Executing start script from child process... $cmd \n";
exec("$cmd") or die "Could not execute $cmd\n";
}
} else {
print "Command used to start node = $cmd\n";
exec($cmd);
}
print "exiting default start script\n";
exit 0;
sub IsWindows {
$osname = $^O;
if ( $osname eq "Windows_NT"
|| $osname eq "MSWin32"
|| $osname eq "MSWin64" )
{
return 1;
}
else {
return 0;
}
}
}

```

generate-wka-override.pl

If Cluster Communication has been set to WKA in the Coherence Node Provisioning: Target Selection page, this script is launched by the default-start-script.pl. The generate-wka-override.pl is used to generate the override file. If you have your own override file, you can comment out the part that uses the generate-wka-override.pl script in the default-start-script.pl.

```
#!/usr/local/bin/perl
#
# $Header: emas/sysman/admin/scripts/coherence/generate-wka-override.pl /main/1
# 2011/02/01 16:51:33 $
#
# generate-wka-override.pl
#
# Copyright (c) 2011, 2011, Oracle and/or its affiliates. All rights reserved.
#
# NAME
# generate-wka-override.pl - <one-line expansion of the name>
#
# DESCRIPTION
# <short description of component this file declares/defines>
# expects input args as:
# host1:port1,host2:port2,host3:port3
# writes the wka information to em-coherence-override.xml
# Sample xml file:
#<coherence xml-override="/tangosol-coherence-override-{mode}.xml">
# <cluster-config>
# <unicast-listener>
# <well-known-addresses>
# <socket-address id="1">
# <address>10.232.129.69</address>
# <port>8088</port>
# </socket-address>
# <socket-address id="2">
# <address>10.232.129.69</address>
# <port>8089</port>
# </socket-address>
# </well-known-addresses>
# <port>8088</port>
# </unicast-listener>
# </cluster-config>
#</coherence>
#
use Cwd;
use IPC::Open3;
my $host_port = $ARGV[0];
@host_port_array = split(',', $host_port);
$size = @host_port_array;

my $xmlfile="em-coherence-override.xml";
print "$xmlfile\n";
open(XMLFL,"> $xmlfile");
print XMLFL "<coherence
xml-override=\"/tangosol-coherence-override-{mode}.xml\">\n";
print XMLFL "<cluster-config>\n";
print XMLFL "<unicast-listener>\n";
print XMLFL "<well-known-addresses>\n";

my $id = 1;
for($i = 0; $i < $size; $i++) {
$single_host_port = $host_port_array[$i];
$single_host_port =~ s/^\s+|\s+$//g;
@single_host_port_array = split(':', $single_host_port);
$wka_host = $single_host_port_array[0];
$wka_port = $single_host_port_array[1];
$id = $id + $i;
print XMLFL "<socket-address id=\"$id\">\n";
print XMLFL "<address>$wka_host</address>\n";
```

```
print XMLFLL "<port>$wka_port</port>\n";
print XMLFLL "</socket-address>\n";
}
print XMLFLL "</well-known-addresses>\n";
print XMLFLL "</unicast-listener>\n";
print XMLFLL "</cluster-config>\n";
print XMLFLL "</coherence>";
close(XMLFLL);
exit 0;
```

Troubleshooting

We recommend that you have at least two management nodes running on different machines in a Coherence cluster. If a monitoring failure occurs, the second management node can be used. Some of the common failure scenarios are listed below:

- **Error Condition:** Loss of Management Node
Solution: If the primary management node fails, you need to change the monitoring configuration of the cluster to point to another management node in the cluster. If no other management node is present in the cluster, you can use the Coherence Node Provisioning deployment procedure, select an existing cluster and add a new management node. This process will update the monitoring configuration for the cluster.
- **Error Condition:** Loss of Agent Monitoring the Cluster
Solution: If the Agent is not available, you need to use another Management Agent to point to the management node of Coherence cluster.
- **Error Condition:** Loss of Host with EM Agent and Management Node
Solution: If the Host is not available, you need to switch to another management node that is running on a different machine.

Provisioning SOA Artifacts and Composites

This chapter explains how you can provision SOA Artifacts and Composites using Oracle Enterprise Manager Cloud Control (Cloud Control). In particular, this chapter covers the following:

- [Getting Started with SOA Artifacts Provisioning](#)
- [Understanding SOA Artifacts Provisioning](#)
- [Deployment Procedures, Supported Releases, and Core Components Deployed](#)
- [Provisioning SOA Artifacts](#)
- [Deploying SOA Composites](#)

Note:

In Enterprise Manager 12c Release 4, there is support to provision SOA 11g artifacts. Note that you cannot provision SOA 12c artifacts.

Getting Started with SOA Artifacts Provisioning

This section helps you get started with this chapter by providing an overview of the steps involved in provisioning SOA Artifacts and Composites. Consider this section to be a documentation map to understand the sequence of actions you must perform to successfully provision SOA Artifacts and Composites. Click the reference links provided against the steps to reach the relevant sections that provide more information.

Table 14-1 Getting Started with Provisioning SOA Artifacts and Composites

Step	Description	Reference Links
Step 1	<p>Understanding the Deployment Procedure</p> <p>Understand the two Deployment Procedures that are offered by Cloud Control for provisioning SOA Artifacts and Composites. Know how the two Deployment Procedures function, what use cases they cover, what releases they support, and what core components they provision.</p>	<p>To learn about the Deployment Procedure, see Deployment Procedures, Supported Releases, and Core Components Deployed.</p>

Table 14-1 (Cont.) Getting Started with Provisioning SOA Artifacts and Composites

Step	Description	Reference Links
Step 2	<p>Selecting the Deployment Procedure to Provision</p> <p>This chapter covers use cases for different SOA components. Identify the component you want to provision and understand the use cases that are covered.</p>	<ul style="list-style-type: none"> To learn about provisioning SOA Artifacts, see Provisioning SOA Artifacts. To learn about provisioning SOA Composites, see Deploying SOA Composites.
Step 3	<p>Meeting the Prerequisites</p> <p>Before you run any Deployment Procedure, you must meet the prerequisites, such as setting up of the provisioning environment, applying mandatory patches, and setting up of Oracle Software Library.</p>	To learn about the prerequisites for provisioning SOA artifacts and composites, access the reference links provided for Step (2) and navigate to the <i>Prerequisites</i> subsection.
Step 4	<p>Running the Deployment Procedure</p> <p>Run the Deployment Procedure to successfully provision SOA Artifacts and Composites.</p>	To provision SOA Artifacts and Composites, access the reference links provided for Step (2) and navigate to the <i>Provisioning Procedure</i> subsection.

Understanding SOA Artifacts Provisioning

SOA artifacts deployment procedures support provisioning of SOA composites, Web Service policies, and policy and credential stores.

Following are some of the terms used in SOA artifacts provisioning:

SOA Composite

A SOA composite is a logical construct. Its components can run in a single process on a single computer or be distributed across multiple processes on multiple computers. A complete application might be constructed from just one composite, or it could combine several different composites. The components making up each composite might all use the same technology, or they might be built using different technologies.

SOA Infra Domain

The SOA Infrastructure domain is a WebLogic domain that contains soa-infra binaries. The SOA Infrastructure includes a set of service engines (Human Workflow, Decision Service, and Oracle Mediator) that execute the business logic of their respective components within the SOA composite application (for example, a Human Workflow process).

Web Services

A Web service is a program that can be accessed remotely using different XML-based languages. What this program can do (that is, the functionality it implements) is described in a standard XML vocabulary called Web Services Description Language (WSDL). For example, a banking Web service may implement functions to check an account, print a statement, and deposit and withdraw funds. These functions are

described in a WSDL file that any consumer can invoke to access the banking Web service. As a result, a consumer does not have to know anything more about a Web service than the WSDL file that describes what it can do.

A Web service consumer (such as, a desktop application or a Java Platform, Enterprise Edition client such as a portlet) invokes a Web service by submitting a request in the form of an XML document to a Web service provider. The Web service provider processes the request and returns the result to the Web service consumer in an XML document.

WS Policies and Assertions

Policies describe the capabilities and requirements of a Web service such as whether and how a message must be secured, whether and how a message must be delivered reliably, and so on. Policies belong to one of the following categories: Reliable Messaging, Management, WS-Addressing, Security, and MTOM.

Policies are comprised of one or more assertions. A policy assertion is the smallest unit of a policy that performs a specific action. Policy assertions are executed on the request message and the response message, and the same set of assertions is executed on both types of messages. The assertions are executed in the order in which they appear in the policy. Assertions, like policies, belong to one of the following categories: Reliable Messaging, Management, WS-Addressing, Security, and MTOM.

Policy Stores

The Policy Store is a repository of system and application-specific policies and roles. Application roles can include enterprise users and groups specific to the application (such as administrative roles). A policy can use any of these groups or users as principals. A policy store can be file-based or LDAP-based. A file-based policy store is an XML file, and this store is the out-of-the-box policy store provider. An LDAP-based policy store can use either of the following LDAP servers: Oracle Internet Directory or Oracle Virtual Directory (with a local store adapter, or LSA).

Credential Stores

A Credential Store is a repository of security data (credentials) that certify the authority of users, Java components, and system components. A credential can hold user name and password combinations, tickets, or public key certificates. This data is used during authentication, when principals are populated in subjects, and, further, during authorization, when determining what actions the subject can perform.

Human Workflow

Human Workflow component is responsible for managing the lifecycle of human tasks, including creation, assignment, expiration, deadlines, and notifications, as well as its presentation to end users. It supports sophisticated dynamic task routing leveraging declarative patterns and tight integration with business rules. The three main sub-components of Human Workflow are a Task editor, Task Service Engine, and a Worklist application.

Oracle B2B

Oracle B2B provides the secure and reliable exchange of documents between businesses. For example, Retailer, Supplier, and Manufacturer. This type of eCommerce, B2B, represents mature business documents, classic business processes and industry specific messaging services and requires an architecture to

manage the complete end-to-end business process. Together with the Oracle SOA Suite, Oracle B2B meets this challenge and provides an architecture enabling a unified business process platform, end-to-end instance tracking, visibility, auditing, process intelligence, governance, and security.

Deployment Procedures, Supported Releases, and Core Components Deployed

Cloud Control offers the following Deployment Procedures for provisioning SOA Artifacts and Composites:

Deployment Procedure	Supported Releases	Artifacts Migrated
SOA Artifacts Provisioning	<p>Oracle SOA Suite 11gR1 Patch Set 1 to Patch Set 4 (11.1.1.2.0) to 11.1.1.5.0)</p> <p>Oracle SOA Suite 12cR2 Patch Set 1 and Patch Set 2 (12.2.1.1) and (12.2.1.2)</p> <p>Patch Set 3 and later are not supported</p>	<ul style="list-style-type: none"> • SOA Composites • Oracle WebLogic Server Policies • Assertion Templates • JPS Policy and Credential Stores • Human Workflow • Oracle B2B
Deploy SOA Composites	Oracle SOA Suite 11gR1 Patch Set 1 to Patch Set 4 (11.1.1.2.0) to 11.1.1.5.0)	<ul style="list-style-type: none"> • SOA Composites



Note:

Provisioning of a gold image from the Software Library is not supported for Microsoft Windows Vista.



Note:

Cloning of human workflow artifacts and B2B artifacts are not supported. For information about cloning human workflow artifacts, see the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite and Oracle Business Process Management Suite*. For information about cloning B2B artifacts, see the *Oracle Fusion Middleware User's Guide for Oracle B2B*. These guides are available at:

http://docs.oracle.com/docs/cd/E14571_01/index.htm



Note:

Provisioning from installation media or an existing domain is only supported for plain WLS domains. SOA and OSB are not supported.

Provisioning SOA Artifacts

This section describes how you can provision SOA artifacts. In particular, this section covers the following:

- [Provisioning SOA Artifacts from a Reference Installation](#)
- [Provisioning SOA Artifacts from Gold Image](#)

Provisioning SOA Artifacts from a Reference Installation

This section describes how you can provision SOA artifacts from one soa-infra domain to another.

Before running the Deployment Procedure, meet the following prerequisites:

- Ensure that you meet the prerequisites described in [Provisioning SOA Artifacts and Composites](#).
- Ensure that you have already provisioned Oracle SOA Suite 11g and its underlying Oracle WebLogic Server Domain.
- Ensure that all the components (not only the soa-infra domain) within the source and target Oracle WebLogic Server Domains are up and running.
- Ensure that the source and the destination soa-infra domains are of the same version.

To provision SOA artifacts (composites, web service policies, JPS configuration) from a reference installation, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Procedure Library**.
2. On the Deployment Procedure Manager page, in the Procedure Library subtab, from the table, select **SOA Artifacts Provisioning** deployment procedure. Select **Launch** and click **Go**. Cloud Control displays the Select Source page of the Deployment Procedure.

Note:

You can also access this deployment procedure as follows:

From the SOA Infrastructure Home page:

- a. From the Targets menu, click **Middleware**.
 - b. In the Middleware page, click on a target of type **SOA Infrastructure**.
 - c. In the SOA Infrastructure home page, from the SOA infrastructure-specific menu, select **SOA Artifacts Provisioning**.
3. On the Select Source page, do the following:
 - a. Retain the default selection, that is, **Provision from reference environment**.

- b. Click on the torch icon against the **Domain Name** field. Search for the Oracle WebLogic Server Domain that you want to deploy the SOA artifacts from and select it. Ensure that the source Oracle WebLogic Server Domain is up and running.
- c. In the **Credentials** section, retain the default section, that is, **Preferred Credentials** so that the preferred credentials stored in the Management Repository can be used.

To override the preferred credentials with another set of credentials, select **Override Preferred Credentials**. You are prompted to specify the Oracle WebLogic Server Domain credentials and the Oracle WebLogic Administration Server host credentials. In the Oracle WebLogic Server Domain Credentials section, specify the administrator credentials that can be used to access the WebLogic Server Administration Console. In the Oracle WebLogic Administration Server Host Credentials section, specify the operating system credentials of the user who installed the Admin Server.

- d. Optionally, if you want to save the SOA artifacts as an image in the Software Library, select **Save SOA Artifacts Gold Image in Software Library**.
For example, in future, if you want to provision this particular version to other Oracle WebLogic Server Domains, then instead of using the reference installation, which could potentially be down, you can use the gold image you saved in the Software Library.
- e. Click **Next**.

4. On the Select Destination page, do the following:

- a. Click on the torch icon against the **Domain Name** field. Search for the Oracle WebLogic Server Domain that you want to deploy the SOA artifacts to and select it. Ensure that the destination Oracle WebLogic Server Domain is up and running.
- b. In the **Credentials** section, retain the default selection, that is, **Preferred Credentials** so that the preferred credentials stored in the Management Repository can be used.

To override the preferred credentials with another set of credentials, select **Override Preferred Credentials**. You are prompted to specify the Oracle WebLogic Server Domain credentials and the Oracle WebLogic Administration Server host credentials. In the Oracle WebLogic Server Domain Credentials section, specify the administrator credentials that can be used to access the WebLogic Server Administration Console. In the Oracle WebLogic Administration Server Host Credentials section, specify the operating system credentials of the user who installed the Admin Server.

- c. Click **Next**.
5. On the Select Artifacts page, do the following:
 - a. In the **Choose the type of SOA artifacts to provision** section, select **SOA Composites, Web Services Policies, and Java Platform Security Configuration**.

- b. Click **Next**.
6. On the SOA Composites page, do the following:
 - a. Select the composites you want to provision and specify a configuration plan from the Software Library or a directory.

2. On the Deployment Procedure Manager page, in the Procedure Library subtab, from the table, select **SOA Artifacts Provisioning** deployment procedure. Select **Launch** and click **Go**. Cloud Control displays the Select Source page of the Deployment Procedure.

 **Note:**

You can also access this deployment procedure as follows:

- From the SOA Infrastructure Home page:
 - a. From the Targets menu, click **Middleware**.
 - b. In the Middleware page, click on a target of type **SOA Infrastructure**.
 - c. In the SOA Infrastructure home page, from the SOA infrastructure-specific menu, select **SOA Artifacts Provisioning**.

3. On the Select Source page, do the following:
 - a. Select **Provision from Gold Image**.
 - b. Click on the torch icon against the **Gold Image Name** field. Search for the gold image you want to provision the SOA artifacts from and select it.
 - c. Click **Next**.
4. On the Select Destination page, do the following:
 - a. Click on the torch icon against the **Domain Name** field. Search for the Oracle WebLogic Server Domain that you want to deploy the SOA artifacts to and select it.
 - b. In the **Credentials** section, retain the default section, that is, **Preferred Credentials** so that the preferred credentials stored in the Management Repository can be used.

To override the preferred credentials with another set of credentials, select **Override Preferred Credentials**. You are prompted to specify the Oracle WebLogic Server Domain credentials and the Oracle WebLogic Administration Server host credentials. In the Oracle WebLogic Server Domain Credentials section, specify the administrator credentials that can be used to access the WebLogic Server Administration Console. In the Oracle WebLogic Administration Server Host Credentials section, specify the operating system credentials of the user who installed the Admin Server.
 - c. Click **Next**.
5. On the Select Artifacts page, do the following:
 - a. In the **Choose the type of SOA artifacts to provision** section, select **SOA Composites, Web Services Policies, and Java Platform Security Configuration**.
 - b. Click **Next**.
6. On the SOA Composites page, do the following:
 - a. Select the composites you want to provision and specify a configuration plan from the Software Library or a directory.

Launch and click **Go**. Cloud Control displays the Select Destination page of the Deployment Procedure.

3. On the Destination page, do the following:
 - a. Click on the torch icon against the **Destination Domain Name** field. Search for the Oracle WebLogic domain that you want to deploy the SOA composites to, and select it.
 - b. In the **Credentials** section, retain the default section, that is, **Preferred Credentials** so that the preferred credentials stored in the Management Repository can be used.

To override the preferred credentials with another set of credentials, select **Override Preferred Credentials**. You are prompted to specify the Oracle WebLogic Server Domain credentials and the Oracle WebLogic Administration Server host credentials. In the Oracle WebLogic Server Domain Credentials section, specify the administrator credentials that can be used to access the WebLogic Server Administration Console. In the Oracle WebLogic Administration Server Host Credentials section, specify the operating system credentials of the user who installed the Admin Server.
 - c. Click **Next**.
4. On the Source page, do the following:
 - a. In the Composites section, click **Add**. Select Composites Source as Software Library or File System depending on where the composites are located. Select the Plan Source location and path.

If the composite already exists on the destination host, then select **Overwrite** to overwrite that existing composite with the composite from the source domain. If you want the composite that you are deploying now to be set as the default component, then retain the **Force Default** selection.
 - b. In the Options section, select **Verify adapter dependencies** if you want to ignore the missing adapters in the destination domain and proceed with the provisioning operation. Each composite may refer to one or more adapters, and the composites may not run properly if the depending adapters are missing in the destination domain. However, if you select this option, you can ignore all such missing adapters.
 - c. Click **Next**.
5. On the Schedule page, schedule the Deployment Procedure to run either immediately or later.
6. On the Review page, review the details you have provided for provisioning SOA composites, and click **Submit**.

Provisioning Service Bus Resources

Service Bus is an enterprise-class service bus that connects, manages, and mediates interactions between heterogeneous services. Service Bus accelerates service configuration, integration, and deployment, thus simplifying management of shared services across the Service-Oriented Architecture (SOA).

The resources of Service Bus can be organized into individual projects. Projects are non-hierarchical, disjointed, top-level grouping constructs. All resources (such as business services, proxy services, WS-Policies, WSDLs, schemas, XQuery transformations, JARs, and so on) reside in exactly one non-overlapping project. Resources can be created directly under a project or be further organized into folders. Folders may be created inside projects or inside other folders, and the folders are similar to directories in a file system, with the project level being the root directory.

While Oracle Enterprise Manager Cloud Control (Cloud Control) allows you to discover and monitor these Service Bus targets, it also provides Deployment Procedures that help you provision Service Bus resources.

This chapter explains how you can provision Service Bus resources. In particular, this chapter covers the following:

- [Getting Started with Provisioning Service Bus Resources](#)
- [Supported Releases](#)
- [Provisioning Service Bus Resources from Service Bus Domain](#)
- [Provisioning Service Bus Resources from Oracle Software Library](#)

Getting Started with Provisioning Service Bus Resources

This section helps you get started with this chapter by providing an overview of the steps involved in provisioning Service Bus resources. Consider this section to be a documentation map to understand the sequence of actions you must perform to successfully provision Service Bus resources. Click the reference links provided against the steps to reach the relevant sections that provide more information.

Table 15-1 Getting Started with Provisioning Service Bus Resources

Step	Description	Reference Links
Step 1	Knowing About The Supported Releases Know what releases of Service Bus can be provisioned by the Deployment Procedure.	To learn about the releases supported by the Deployment Procedure, see Supported Releases .

Table 15-1 (Cont.) Getting Started with Provisioning Service Bus Resources

Step	Description	Reference Links
Step 2	<p>Selecting the Use Case</p> <p>This chapter covers a few use cases for provisioning Service Bus resources. Select the use case that best matches your requirements.</p>	<ul style="list-style-type: none"> To learn about provisioning Service Bus resources from the an Service Bus domain, see Provisioning Service Bus Resources from Service Bus Domain. To learn about provisioning Service Bus resources from the Software Library, see Provisioning Service Bus Resources from Oracle Software Library.
Step 3	<p>Meeting the Prerequisites</p> <p>Before you run any Deployment Procedure, you must meet the prerequisites, such as setting up of the provisioning environment, applying mandatory patches, and setting up of Oracle Software Library.</p>	<ul style="list-style-type: none"> To learn about the prerequisites for provisioning Service Bus resources from the an Service Bus domain, see Provisioning Service Bus Resources from Service Bus Domain. To learn the prerequisites for provisioning Service Bus resources from the Software Library, see Provisioning Service Bus Resources from Oracle Software Library.
Step 4	<p>Running the Deployment Procedure</p> <p>Run the Deployment Procedure to successfully provision Service Bus resources.</p>	<ul style="list-style-type: none"> To provision Service Bus resources from the an Service Bus domain, see Provisioning Service Bus Resources from Service Bus Domain. To provision Service Bus resources from the Software Library, see Provisioning Service Bus Resources from Oracle Software Library.

Supported Releases

Using this Deployment Procedure, you can provision the resources for Service Bus 2.6, 2.6.1, 3.0, and 10gR3 (3.1).

Provisioning Service Bus Resources from Service Bus Domain

This section describes how you can provision Service Bus resources directly from an Service Bus domain.

Before running the Deployment Procedure, meet the following prerequisites:

Prerequisites for Designers

- Ensure that you meet the prerequisites described in [Setting Up Your Infrastructure](#).
- Ensure that the source Service Bus (from where you want to export the resources) is already discovered and monitored in Cloud Control.
- If you want to use a customization file to customize the environment variables in the changed (target) environment, then you must ensure that the customization file is available as a generic component in Oracle Software Library. For instructions to create generic components, see [Setting Up Oracle Software Library](#).

Prerequisites for Operators

- If you have PAM/LDAP enabled in your environment, then ensure that the target agents are configured with PAM/LDAP. For more information, see My Oracle Support note 422073.1.
- Ensure that you use an operating system user that has the privileges to run the Deployment Procedure, and that can switch to *root* user and run all commands on the target hosts. For example, commands such as *mkdir*, *ls*, and so on.

If you do not have the privileges to do so, that is, if you are using a locked account, then request your administrator (a designer) to either customize the Deployment Procedure to run it as another user or ignore the steps that require special privileges.

For example, user account A might have the root privileges, but you might use user account B to run the Deployment Procedure. In this case, you can switch from user account B to A by customizing the Deployment Procedure.

For information about customization, see *Setting Up Credentials*.

To provision Service Bus resources from a source Service Bus domain, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. From the Deployment Procedures section, select the Service Bus Resource Provisioning procedure from the list and click **Launch**.
3. On the Select Source page, in the Source section, select **Service Bus Domain**.
 - a. For **Domain**, click the torch icon and select the Service Bus domain from where the resources can be exported and deployed to a target Service Bus domain. In the following page of the wizard, you will be allowed to select the domain's projects that you want to export.
 - b. For **BEA Home Directory**, specify the full path to the BEA home directory where all BEA product-related files are stored. For example, `/home/mark/bea`.
 - c. Click **Next**.
4. On the Select Projects page, do the following:
 - a. In the Resource Summary section, select the projects you want to export and deploy to the target Service Bus domain. The selected projects are exported to a JAR file, and the JAR file is moved to the host where the target Service Bus domain is running.

Note that the resources of the selected projects that exist in the target Service Bus domain but not in the exported JAR file will be deleted.

- b. In the Export Mode section, do one of the following:

Select **Export Projects** if you want to export the resources at project level. While deploying the exported JAR file to the target host, the entire project is deployed. This may add, overwrite, or delete resources depending on the availability of resources on the target host.

Select **Export Resources** if you want to export the resources at resource level. While deploying the exported JAR file to the target host, only the resources are deployed. This may add or overwrite resources depending on the availability of resources on the target host.

To understand these options better, read the use cases described in [Understanding the Export Modes for Service Bus Resources](#).

- c. (Optional) In the Security Options section, if the projects you want to export contain any resources with sensitive data, then specify a pass-phrase to protect them. The same pass-phrase will be used to import the protected resources during deployment.
- d. (Optional) In the Save Projects to Software Library section, select **Save Projects to Software Library** and specify a component name and location if you want to save the exported project JAR file as a generic component in the Software Library.

By default, the projects you select here are exported to a JAR file and moved to the host where the Administration server of the target Service Bus domain is running. However, the JAR files are not saved in the Software Library for future use. Using this option, you can save them as a component in the Software Library.

- 5. On the Select Target page, do the following:
 - a. In the Target section, specify the following:
 - For **Domain**, click the torch icon and select the Service Bus domain where you want to deploy the selected resources.
 - For **BEA Home Directory**, specify the full path to the BEA home directory where all BEA product-related files are stored.
 - b. (Optional) In the Advanced Options section, select the settings you want to retain if you have done some customization to the resources selected for deployment, and if you want to preserve those changes in the target Service Bus domain.
 - Note that for Service Bus 2.6.x, Security and Policy Configuration, Credentials, and Access Control Policies cannot be preserved.
 - c. In the Customization section, provide details about the customization file that can be used to modify the environment settings in the target Service Bus domain.
 - If you do not want to use a customization file, select **None**.
 - If you are using a customization file and if it is available on the host where the target Service Bus domain is running, then select **Use the Customization file on the target host** and specify the full path to the location where the file is present.
 - If the customization file is stored as a generic component in Oracle Software Library, then select **Select the customization file from the Software Library** and specify the full path to the location in Oracle Software Library where the generic component is stored.
 - d. Click **Next**.
- 6. On the Set Credentials page, specify the following and click **Next**.
 - a. Specify the login credentials of the source and target Service Bus domains.
 - b. Specify the credentials of the hosts where the Management Agents, which are monitoring the administration servers of the Service Bus domains, are running
- 7. In the Schedule page, specify a Deployment Instance name. If you want to run the procedure immediately, then retain the default selection, that is, One Time

(Immediately). If you want to run the procedure later, then select One Time (Later) and provide time zone, start date, and start time details. You can set the notification preferences according to deployment procedure status. If you want to run only prerequisites, you can select **Pause the procedure to allow me to analyze results after performing prerequisite checks** to pause the procedure execution after all prerequisite checks are performed. Click **Next**.

8. On the Review page, review the details you have provided for the Deployment Procedure. If you are satisfied with the details, then click **Submit** to run the Deployment Procedure according to the schedule set. If you want to modify the details, click the **Edit** link in the section to be modified or click **Back** repeatedly to reach the page where you want to make the changes.
9. In the Procedure Activity page, view the status of the execution of the job and steps in the deployment procedure. Click the **Status** link for each step to view the details of the execution of each step. You can click **Debug** to set the logging level to Debug and click **Stop** to stop the procedure execution.

Understanding the Export Modes for Service Bus Resources

The following describes the different use cases and explains how the export modes will work for those circumstances.

While the first column shows the project selected from the source domain and the resources contained in that selected project, the second column shows the availability of that project in the target domain. And, while the third column shows how Export at Project Level work, the fourth column shows how Export at Resource Level works.

Table 15-2 Understanding Export Modes

Source Domain	Target Domain	Export at Project Level	Export at Resource Level
You have selected Project_1 from the source domain, and this project has Resource_1, Resource_2, and Resource_3.	The target domain has no projects at all.	The entire Project_1 will be deployed to the target domain.	The entire Project_1 will be deployed to the target domain.
You have selected Project_1 from the source domain, and this project has Resource_1, Resource_2, and Resource_3.	The target domain has Project_1, and this project has Resource_1.	The entire Project_1 will be deployed to the target domain, wherein, Resource_1 will be overwritten because it is already available in the target domain, and Resource_2 and Resource_3 will be ADDED.	Only the resources of Project_1 will be deployed to the target domain, wherein, Resource_1 will be overwritten because it is already available in the target domain, and Resource_2 and Resource_3 will be ADDED.
You have selected Project_1 from the source domain, and this project has Resource_1.	The target domain has Project_1, and this project has Resource_1, Resource_2, and Resource_3.	The entire Project_1 will be deployed to the target domain, wherein, Resource_1 will be overwritten because it is already available in the target domain, and Resource_2 and Resource_3 will be DELETED.	Only the resources of Project_1 will be deployed to the target domain, wherein, only Resource_1 will be overwritten because it is already available in the target domain. The other two resources already available in the target domain, that is, Resource_2 and Resource_3 will NOT be affected.

Provisioning Service Bus Resources from Oracle Software Library

This section describes how you can provision Service Bus resources from the Software Library.

Before running the Deployment Procedure, meet the following prerequisites:

Prerequisites for Designers

- Ensure that you meet the prerequisites described in [Setting Up Your Infrastructure](#).
- Export the resources of an Service Bus domain as a JAR file. Use Service Bus console for this.
- Ensure that the JAR file is available as a generic component in Oracle Software Library. For instructions to create generic components, see [Setting Up Oracle Software Library](#).
- If you want to use a customization file to customize the environment variables in the changed (target) environment, then you must ensure that the customization file is available as a generic component in Oracle Software Library. For instructions to create generic components, see [Setting Up Oracle Software Library](#).

Prerequisites for Operators

- If you have PAM/LDAP enabled in your environment, then ensure that the target agents are configured with PAM/LDAP. For more information, see [My Oracle Support note 422073.1](#).
- Ensure that you use an operating system user that has the privileges to run the Deployment Procedure, and that can switch to *root* user and run all commands on the target hosts. For example, commands such as `mkdir`, `ls`, and so on.

If you do not have the privileges to do so, that is, if you are using a locked account, then request your administrator (a designer) to either customize the Deployment Procedure to run it as another user or ignore the steps that require special privileges.

For example, user account A might have the root privileges, but you might use user account B to run the Deployment Procedure. In this case, you can switch from user account B to A by customizing the Deployment Procedure.

For information about customization, see [Customizing Deployment Procedures](#).

To provision Service Bus resources from a source Service Bus domain, follow these steps:

1. From the **Enterprise** menu, select **Provisioning and Patching**, then select **Middleware Provisioning**.
2. From the **Deployment Procedures** section, select the **Service Bus Resource Provisioning** procedure from the list and click **Launch**.
3. On the **Select Source** page, in the **Source** section, select **Oracle Software Library**.
 - a. For **Component**, click the torch icon and select the generic component that contains the resources to be deployed to a target Service Bus domain.

8. In the Procedure Activity page, view the status of the execution of the job and steps in the deployment procedure. Click the **Status** link for each step to view the details of the execution of each step. You can click **Debug** to set the logging level to Debug and click **Stop** to stop the procedure execution.

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