Oracle® Fusion Middleware

Patching Guide

11*g* Release 1 (11.1.1.5.0)

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Oracle Fusion Middleware Patching Guide 11*g* Release 1 (11.1.1.5.0)

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Preface

The *Oracle Fusion Middleware Patching Guide* describes the tools and procedures required for you to patch your existing Oracle Fusion Middleware environment or upgrade your existing Oracle Application Server environment.

Intended Audience

This guide is intended for existing Oracle Fusion Middleware users who are upgrading their 11*g* Release 1 products to a more recent version or to the latest version. To follow the instructions provided in this document, the reader should be comfortable running system administration operations, such as creating users and groups, adding users to groups, and installing operating system patches on the computer where the products are going to be installed. Users on UNIX systems who are updating their Oracle Fusion Middleware software may need `root` access to run some scripts.

If your existing software version is Oracle Application Server 10*g*, you should refer to the upgrade guide for your particular product for instructions on how to upgrade your environment to the latest Oracle Fusion Middleware 11*g* Release 1 version. See Related Documents for a list of available upgrade guides.

Documentation Accessibility

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

Access to Oracle Support

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

Related Documents

For additional information, see the following manuals:

- Oracle Fusion Middleware Upgrade Guides

  Refer to the following upgrade guides to upgrade your existing Oracle Application Server 10*g* software to Oracle Fusion Middleware 11*g*:

- *Oracle Fusion Middleware Upgrade Planning Guide*

- *Oracle Fusion Middleware Upgrade Guide for Java EE*

- *Oracle Fusion Middleware SmartUpgrade User's Guide*

- *Oracle Fusion Middleware Upgrade Guide for Oracle SOA Suite, WebCenter, and ADF*

- *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*

- *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer*

- *Oracle Fusion Middleware Upgrade Guide for Oracle Service Bus*

- *Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator*

- *Oracle Fusion Middleware Administrator's Guide*. This document contains information about basic Oracle Fusion Middleware concepts as well as instructions for many of the common pre-patching and post-patching tasks.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Oracle Fusion Middleware Patching and Upgrade Overview

This book describes the tools available for you to patch your existing Oracle Fusion Middleware or upgrade your existing Oracle Application Server environment.

The following topics are covered:

- Section 1.1, "Installation, Patching, and Upgrade Terminology"
- Section 1.2, "Patching and Upgrade Tools"
- Section 1.3, "About Database Patches for Oracle Fusion Middleware"

1.1 Installation, Patching, and Upgrade Terminology

This section describes various terms that you should be familiar with before you continue.

1.1.1 Patching

Patching involves copying a small collection of files over an existing installation. A **patch** is normally associated with a particular version of an Oracle product and involves updating from one minor version of the product to a newer minor version of the same product (for example, from version 11.1.1.2.0 to version 11.1.1.3.0).

A **patch set** is a single patch that contains a collection of patches designed to be applied together.

1.1.2 Migration

Migration typically involves moving from a third-party (non-Oracle) product to an Oracle product.

It can also be used to refer to moving an existing set of software parameters (for example, an existing configuration or existing domain) from one release to another. For this release, instructions for migrating your configuration from Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) to 11*g* Release 1 (11.1.1.2.0) are provided in Appendix B, "Using Patch Assistant to Migrate from 11g Release 1 (11.1.1.1.0) to Release 1 (11.1.1.2.0)".

1.1.3 Upgrade

Upgrade involves moving from a previous major version to a new major version. For example, an upgrade would be required to move from Oracle Application Server 10*g* to Oracle Fusion Middleware 11*g*.

1.1.4 Installation

Installation is when new software is copied onto your system for use. After the new software is installed, you can patch it or upgrade it as necessary.

1.2 Patching and Upgrade Tools

Table 1–1 provides a brief summary of the patching and upgrade tools, and provides pointers to more detailed information.

Table 1–1 Summary of Patching, Migration, and Upgrade Tools

Tool	Description	More Information
OPatch	OPatch is typically used to patch the software on your system by copying a small collection of files over your existing installation. In Oracle Fusion Middleware, OPatch is used to patch an existing Oracle Fusion Middleware 11*g* installation.	Chapter 2, "Patching Oracle Fusion Middleware with Oracle OPatch"
WebLogic Server Upgrade Installer	WebLogic Server Upgrade Installer is used to update your existing Oracle WebLogic Server installation to the latest available version. Oracle Fusion Middleware products require the presence of Oracle WebLogic Server and its directory structure on your system. When you update your Oracle Fusion Middleware software, you must also update the version of Oracle WebLogic Server on your system using the WebLogic Server Upgrade Installer. The WebLogic Server Upgrade Installer is only available from My Oracle Support.	*Oracle Fusion Middleware Upgrade Guide for Oracle WebLogic Server*
Patch Set Installer	The Patch Set Installer is used to update your existing Fusion Middleware product to the latest version. At the time of publication, the latest version is 11*g* (11.1.1.4.0). The Patch Set Installer updates the software in the product's Oracle home directory; when you run the Patch Set Installer you will need to provide the location of your existing Middleware home and Oracle home directories. The Patch Set Installer does not provide any mechanisms for configuring your product, so after the installation is complete you must run the Configuration Wizard to configure a domain before you can start using your product.	Chapter 3, "Applying the Latest Oracle Fusion Middleware Patch Set"
Patch Set Assistant	Patch Set Assistant is used to update your database schemas to prepare them for use with the latest version of Oracle Fusion Middleware software. This tool is used with Patch Set updates only and cannot be used for upgrades. If you need to create or drop schemas, you should use the Repository Creation Utility (RCU).	Chapter 4, "Updating Your Schemas with Patch Set Assistant"
Upgrade Assistant	The Upgrade Assistant is used to upgrade schemas and configuration information from Oracle Application Server 10*g* to Oracle Fusion Middleware 11*g*.	*Oracle Fusion Middleware Upgrade Planning Guide*

1.3 About Database Patches for Oracle Fusion Middleware

This guide provides instructions for applying Oracle Fusion Middleware patches to your existing Oracle Fusion Middleware installations.

However, there are specific cases where you might be instructed apply an Oracle Database patch to an existing Oracle Fusion Middleware Oracle home. This is because some Oracle Fusion Middleware products include specialized components, such as application programming interfaces (APIs), software libraries, and other software code developed for Oracle Database products.

In these specific cases, you might be referred to Oracle Database patching and installation documentation for more information.

Note that in most cases Oracle Fusion Middleware patches include all necessary software updates. You should apply Database patches only when specifically instructed or if you are experiencing a specific issue that can be resolved by the database patch.

2

Patching Oracle Fusion Middleware with Oracle OPatch

This document describes patching in an Oracle Fusion Middleware environment.

The following topics are covered:

- Section 2.1, "About Patching"
- Section 2.2, "About OPatch"
- Section 2.3, "OPatch in a Fusion Middleware Environment"
- Section 2.4, "Running OPatch"
- Section 2.5, "Troubleshooting OPatch in a Fusion Middleware Environment"

2.1 About Patching

Patches are a small collection of files copied over to an existing installation. They are associated with particular versions of Oracle products.

2.1.1 Types of Patches That can be Used with OPatch

OPatch can be used for the following types of patches:

A patch set exception (also known as a PSE, one-off, or interim patch)
This is usually a single fix for a single problem. One-offs in ST products (GC, DB/AS Control etc) are packaged and applied via OPatch. One-offs are bug fixes given to customers in critical need and are not cumulative, regressed or versioned. You can use the `opatch lsinventory` command to see which one-off patches are installed on your system.

A patch bundle (also known as an MLR patch)
This type of patch is created by putting several fixes into a single patch. This is usually done if several fixes are needed and the various interim patches apply to the same modules and cause the prior patch to be removed if applied individually as they can not coexist. Patch bundles are also applied using OPatch and metadata information about them are also kept in a set of XML files in the inventory and manipulated by OPatch.

Security Patches (also known as Critical Patch Updates or CPUs)
Security patches are different from other patch types in that they only fix a single or small number of problems, and that they should be applied as soon as possible – when

a security patch is released extra attention is brought to the existence of the security problem. CPUs are periodic security bundles released by Oracle and are very much like interim patches and will be applied just like an interim patch using OPatch. Just like interim patches, CPUs are not versioned.

Patch Set Updates (PSUs)

Patch Set Updates are released on a quarterly basis, following the same schedule as the Critical Patch Updates (CPUs). These come out the closest Tuesday to the 15th of the months of January, April, July and October. Patch Set Update content is intended to address the top fifty critical bugs affecting the broad customer base.

2.1.2 Types of Patches That can not be Used with OPatch

The only type of patch that cannot be used with OPatch is a patch set. A patch set contains a large number of merged patches, is thoroughly tested, changes the version of the product it is applied to, and can sometimes introduce new functionality. Patch sets are cumulative bug fixes that fix all bugs and consume all patches since the last base release. Patch sets and the Patch Set Assistant are usually applied through OUI-based product specific installers.

2.2 About OPatch

OPatch is a Java-based utility that runs on all supported operating systems and requires installation of the Oracle Universal Installer. This document contains information pertaining to OPatch commands that are most commonly used in an Oracle Fusion Middleware environment. You can use all supported OPatch commands if you choose; for a full list of OPatch commands and for more information about the OPatch utility, refer to the *Oracle Universal Installer and OPatch User's Guide* at the following URL:

```
http://download.oracle.com/docs/cd/E11882_01/em.112/e12255/toc.htm
```

This section contains the following:

- Section 2.2.1, "Getting OPatch"

- Section 2.2.2, "Getting Patches"

- Section 2.2.3, "OPatch Environment Variables"

- Section 2.2.4, "OPatch System Requirements"

- Section 2.2.5, "Backup and Recovery Considerations for Patching"

2.2.1 Getting OPatch

OPatch can be found in your Fusion Middleware product's *ORACLE_HOME*/OPatch (on UNIX operating systems) or *ORACLE_HOME*\OPatch (on Windows operating systems) directory.

Oracle recommends that you always check for and obtain the latest version of OPatch from My Oracle Support (formerly Oracle Meta*Link*).

1. Access and log into My Oracle Support at the following location:

   ```
   http://support.oracle.com/
   ```

2. In the Search Knowledge Base field, enter **224346.1**. This is the ID of the document that describes how to obtain the latest version of OPatch.

3. In the search results, click on the link corresponding to document ID 224346.1.

4. In the document, click on the **Patch 6880880** link which will take you to the screen where you can obtain the latest version of OPatch based on release versions and platforms.

2.2.2 Getting Patches

You can obtain the latest patches by specifying the patch ID in My Oracle Support (formerly Meta*Link*):

1. Access and log into My Oracle Support at the following location:

   `http://support.oracle.com/`

2. Click the **Patches & Updates** link.

3. Enter the **Patch ID or Number**, then click **Search**. A Patch Search Results table appears.

4. Using the Release and Platform columns, find the desired patch, then click the associated Patch ID.

5. In the page that now appears, click the **Download** button in the right-hand column.

2.2.3 OPatch Environment Variables

OPatch uses the environment variables listed in Table 2–1:

Table 2–1   OPatch Environment Variables

Variable	Description
ORACLE_HOME	Points to the location of the Oracle home directory.
MW_HOME	Points to the location of the Middleware home directory.
PATH	Points to the location(s) from which various commands should be run.

2.2.4 OPatch System Requirements

The OPatch utility has the following requirements:

- The ORACLE_HOME environment variable must point to a valid Oracle home directory and match the value used during installation of the Oracle home directory.

- If the -invPtrLoc command-line argument was used during installation, then it must be used when using the OPatch utility. Oracle recommends the use of the default central inventory for a platform.

- The java, ar, cp, and make commands must be available in one of the directories listed in the PATH environment variable. The commands are not available for all platforms.

2.2.5 Backup and Recovery Considerations for Patching

It is highly recommended that you back up the ORACLE_HOME before any patch operation. You can back up the ORACLE_HOME using your preferred method. You can use any method such as zip, cp -r, tar, and cpio to compress the ORACLE_HOME.

If the `ORACLE_HOME` does not appear when you execute the `opatch lsinventory -detail` command, the `ORACLE_HOME` might be missing from the Central Inventory, or the Central Inventory itself could be missing or corrupted.

If the `ORACLE_HOME` is listed when you execute the `opatch lsinventory -detail` command, but the products and components within the `ORACLE_HOME` are not listed, the inventory within the `ORACLE_HOME` (local inventory) might be missing or corrupted.

If the local inventory is corrupted or lost for some reason, you can simply restore the `ORACLE_HOME/inventory` (on UNIX operating systems) or `ORACLE_HOME\inventory` (on Windows operating systems) if it was backed up. If a backup does not exist, you may have to reinstall the software.

2.3 OPatch in a Fusion Middleware Environment

This section describes the Oracle OPatch utility as it pertains to an Oracle Fusion Middleware environment. You should be familiar with the Oracle Fusion Middleware concepts introduced in the *Oracle Fusion Middleware Installation Planning Guide*, which is available at the following URL:

```
http://download.oracle.com/docs/cd/E15523_
01/install.1111/b32474/toc.htm
```

This section contains the following:

- Section 2.3.1, "A Typical Patching Scenario"

- Section 2.3.2, "Patching a Fusion Middleware Product"

- Section 2.3.3, "Patching in a Distributed Environment"

- Section 2.3.4, "Patching Artifacts Deployed Outside the Oracle Home"

2.3.1 A Typical Patching Scenario

Consider a common, non-distributed Fusion Middleware topology for Oracle SOA Suite and Oracle WebCenter, as show in Figure 2–1:

> **Note:** OPatch can be used to patch any Fusion Middleware product, even though only a few are shown in this example. OPatch can not be used to patch Oracle WebLogic Server.

Figure 2–1   Common Fusion Middleware Topology for Oracle SOA Suite and Oracle WebCenter
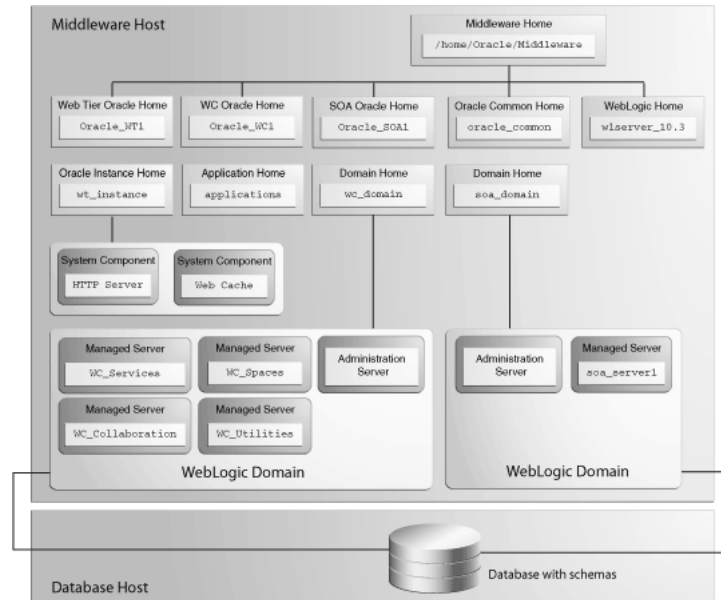
Suppose you have a problem in the SOA Domain. Below is a typical patching process:

Step 1. Contact Oracle Support

You can contact your Oracle support representative, or you can go to My Oracle Support (formerly OracleMeta*Link*):

```
http://support.oracle.com/
```

Step 2. Check for Existing Patches

If Oracle Support is not able to resolve the issue, they may ask to see if you have any patches already installed on your system. To determine this information, you should run the `opatch lsinventory` command.

To check if a particular patch is installed in the Oracle home (or the set of Oracle homes within a Middleware home) you use the `opatch checkInstalledOneOffs` command. See Section 2.4.7, "Listing Patches Applied to an Oracle Home or WebLogic Domain" for more information about this command.

Step 3. Obtain OPatch and the Necessary Patch

Upon determining that you are in need of a new patch and it has not already been installed on your system, you should do the following:

1. Make certain that you have the latest version of OPatch, as described in Section 2.2.1, "Getting OPatch".

2. Obtain the patch as described in Section 2.2.2, "Getting Patches".

Step 4. Determine the Oracle Home

Once you obtain the patch, determine the Oracle home directory to which you are going to apply the patch.

The most common type of patch available in a Fusion Middleware environment involves patching a specific Oracle home directory. Some patches (for example, a patch pertaining to JRF) may apply to multiple Oracle home directories within a specific

Middleware home. A third type of patch could involve client components in one Oracle home and server components in a different Oracle home (for example, Oracle WebCenter in the WebCenter Oracle home depends on BPEL Process Manager in the Oracle SOA Suite Oracle home).

If you do not know the name of your Oracle home, you should run the `opatch lshomes` command as described in Section 2.4.6, "Listing the Applicable Oracle Homes for a Patch" to obtain a list of Oracle homes that pertain to the domain. In this example, the Oracle home to which the patch should be applied is the SOA Oracle home.

After you determine your Oracle home, you should run the `opatch checkApplicable` command as described in Section 2.4.6, "Listing the Applicable Oracle Homes for a Patch" to make sure that the patch can actually be applied to the Oracle home.

As the Middleware home is the top-level entity in a Fusion Middleware topology, the location of your Middleware home will be required for many of the OPatch commands in a Fusion Middleware environment.

Step 5. Read the README File

Read the README file that accompanies the patch. This file contains important information and instructions that must be followed prior to applying your patch.

For example, the README file may instruct you apply the patch using the `-auto` option (described in Section 2.4.1.2, "Using the -auto Option"). The more common scenario is that the README will instruct you to use a series of OPatch commands, including `opatch stop` and `opatch start` (see Section 2.4.8, "Starting or Stopping a Runtime Instance").

Step 6. Apply the Patch

After you determine the Oracle home to which you need to apply the patch, you should apply the patch with the `opatch apply` command as described in Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers".

After Applying the Patch...

In most cases, after you apply the patch the instructions in the README file will tell you to run the `opatch start` command to re-start your servers.

After the patching is complete and your servers are restarted, you should check your product software to verify that the issue has been resolved.

If for some reason the result is not satisfactory, you can use the `opatch rollback` command to remove the patch from the Oracle home. See Section 2.4.2, "Rolling Back Patches and Deploying Patched Artifacts to WebLogic Servers" for more information, and consult the README file for specific instructions.

2.3.2 Patching a Fusion Middleware Product

Many Fusion Middleware artifacts are deployed to a runtime environment, where applications pick up these binaries for execution. A common example of this are J2EE artifacts (for example, `.ear`, `.war`, or `.rar` files) or J2EE shared libraries deployed to a Managed Server or cluster running within a domain. Patching in a Fusion Middleware environment involves updating and replacing these artifacts in the Oracle home. The servers to which the artifacts are deployed need to be restarted for the changes to take effect.

After the artifacts are deployed, there are various staging modes that affect how WebLogic Server treats these artifacts, which in turn determine how the applications are patched. All artifacts in Oracle Fusion Middleware 11*g* Release 1 (11.1.1) are deployed in NoStage Mode, which means that each Managed Server must access the archive files from a single source directory for deployment. If a J2EE application is deployed to three Managed Servers within a cluster, each Managed Server must be able to access the same application archive files from a shared or network-mounted directory in order to deploy the new J2EE application.

Take note of the following:

- If multiple Managed Servers on multiple machines are used, the path to the application bits must be the same on all machines because there is a single point of entry for the application in the domain configuration.

- Since the source location for the application bits is fixed and points back to its own *ORACLE_HOME* location, all domains that were created using a given *ORACLE_HOME* will pick up the patched bits once the *ORACLE_HOME* is patched.

- If you are using multiple Managed Servers on multiple machines and the product ORACLE_HOME is not shared or network-mounted on the target Managed Servers, then each machine must have the product installed on an ORACLE_HOME on the local file system from which the Managed Servers can access the application binaries. Therefore, the ORACLE_HOME on each local file system of each machine must be patched separately.

The steps that need to be performed for this scenario are as follows:

1. Stop all Managed Servers in the WebLogic Domain to which the application is deployed.

2. Use the opatch apply command to apply the bits to an Oracle home.

3. Restart all the Managed Servers in the same WebLogic Domain.

Steps 1 and 3 are performed by the Fusion Middleware capabilities in OPatch.

2.3.3 Patching in a Distributed Environment

The process to patch in a distributed environment depends on whether or not your Middleware home directory is shared or not shared.

2.3.3.1 Patching with a Local Middleware Home

Consider the environment shown in Figure 2–2. This is a distributed environment, where you have identical topologies on separate machines, each with its own local Middleware home and Fusion Middleware products inside the Middleware home:

Figure 2–2   Distributed Fusion Middleware Topology for Oracle SOA Suite and Oracle WebCenter
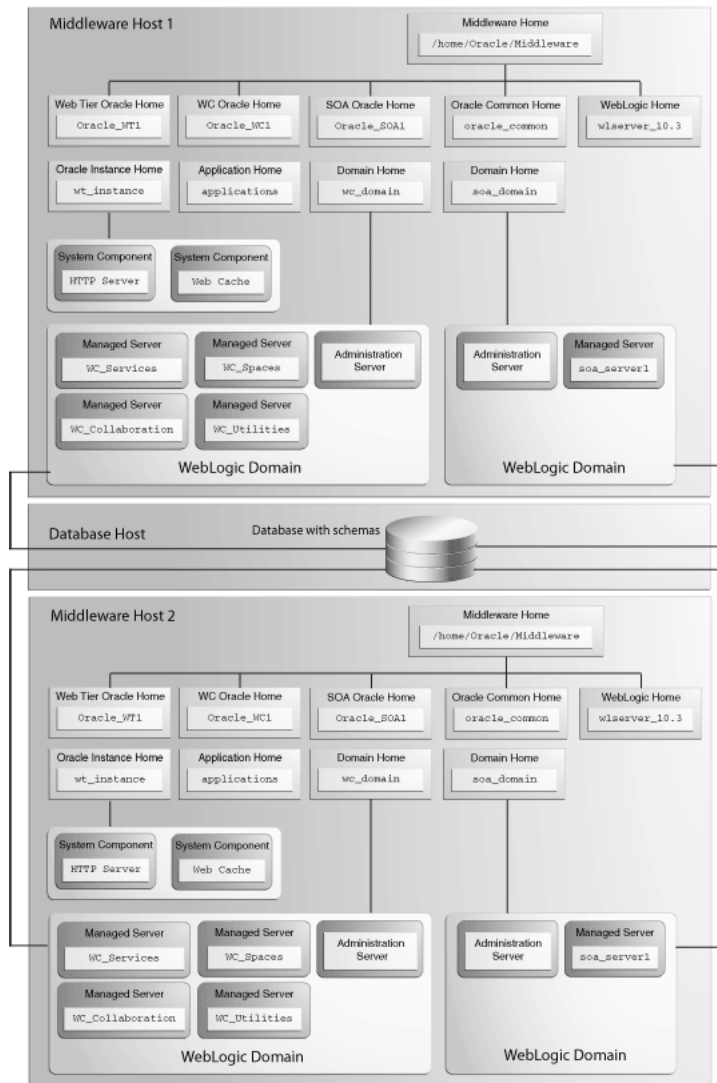
If you encountered a problem in the SOA domain, you would have to patch the corresponding Oracle home on each machine separately, according to the instructions in the README file. After you patch the SOA Oracle home on "Middleware Host 1," for example, you must then repeat the same procedure on "Middleware Host 2."

2.3.3.2 Patching with a Shared Middleware Home

Consider the environment shown in Figure 2–3. This is also a distributed environment, where you have identical topologies on separate machines, but the Middleware home on "Middleware Host 2" is shared or NFS mounted:

Figure 2–3   Distributed Fusion Middleware Topology for Oracle SOA Suite and Oracle WebCenter
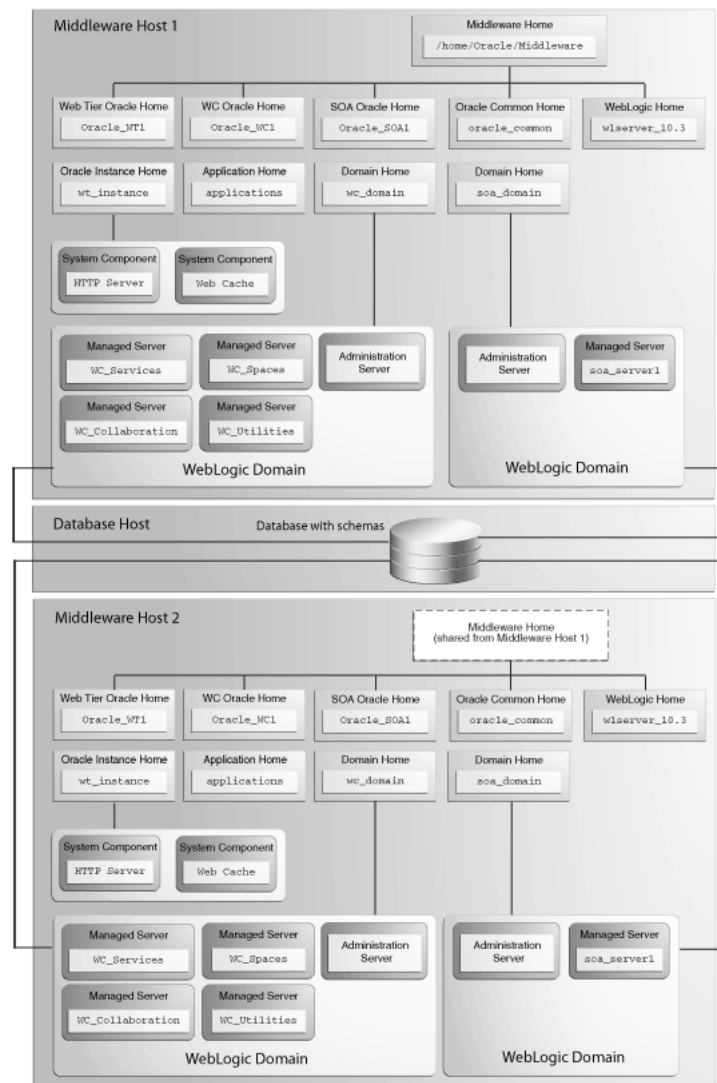
In this topology, if you encountered a problem in the SOA Domain, you would only need to patch the SOA Oracle home on either "Middleware Host 1" or "Middleware Host 2" in accordance with the instructions in the README file, and OPatch would automatically patch all of the matching Oracle homes that share the same Middleware home.

2.3.4 Patching Artifacts Deployed Outside the Oracle Home

Some applications, such as Oracle Enterprise Manager Fusion Middleware Control and Oracle Web Services Manager Policy Manager (WSM-PM), are deployed outside of the product Oracle home (in the Oracle Common Home or `oracle_common`) directory. OPatch can also apply patches to files that reference the `oracle_common` directory.

2.4 Running OPatch

The OPatch utility is located in the *ORACLE_HOME*/OPatch (on UNIX operating systems) or *ORACLE_HOME*\OPatch (on Windows operating systems) directory. Below is the syntax for the OPatch utility:

path_to_opatch/opatch *command -options*

Acceptable values for *command* are described in Table 2–2.

Valid *options* for each *command* are described in the sections that describe each *command*.

Table 2–2   Commands for the OPatch Utility in a Fusion Middleware Environment

Command	Description
apply	Apply the patch to an Oracle home and deploy the patch to a WebLogic domain.
	For details, see Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers".
rollback	Remove the patch from an Oracle home.
	For details, see Section 2.4.2, "Rolling Back Patches and Deploying Patched Artifacts to WebLogic Servers".
deploy	Deploy the patch to a WebLogic domain.
	For details, see Section 2.4.3, "Deploying Patched Artifacts to WebLogic Servers".
checkApplicable	List all Oracle homes to which a patch can be applied.
	For details, see Section 2.4.6, "Listing the Applicable Oracle Homes for a Patch".
lshomes	List the Oracle homes that have been used to create WebLogic Domains.
	For details, see Section 2.4.4, "Listing the Source Oracle Homes".
lsdomains	List all WebLogic domains created from the Middleware home or specific Oracle home.
	For details, see Section 2.4.5, "Listing the Domains Created from the Middleware Home or Oracle Home".
checkInstalledOneOffs	Check if certain patches are installed on any Oracle homes.
	For details, see Section 2.4.7, "Listing Patches Applied to an Oracle Home or WebLogic Domain".
start | stop	Start or Stop a WebLogic Administration Server, Managed Server, or Cluster.
	For details, see Section 2.4.8, "Starting or Stopping a Runtime Instance".

To view additional information for these Fusion Middleware options, use the following command:

path_to_OPatch/opatch -help -fmw

2.4.1 Applying Patches and Deploying Patched Artifacts to WebLogic Servers

The apply command in a Fusion Middleware environment applies the patch to the Oracle home on the local machine.

> **Note:** The option to apply a patch to a Middleware home (including all Oracle homes inside that Middleware home) is not yet available.

2.4.1.1 Using the OPatch Property File

Sensitive information such as Administration Server credentials, and other important information such as the Administration Server URL, domain location and applications directory location, are obtained by prompts from the console. In some cases, default values may be found and specified by OPatch; in these cases, press Enter to use these default values.

Automation applications such as Grid Control may invoke OPatch with the `-silent` option, which does not prompt for any input from the console. To supply the necessary Administration Server credentials and other information, a response file can be created and passed to OPatch as an argument with the `-property_file` option.

For Fusion Middleware components, `userConfigFile` and `userKeyFile` can be specified in the property file as keys with corresponding file names. The `userConfigFile` file contains an encrypted user name and password, while the `userKeyFile` contains a secret key that is used to encrypt and decrypt the user name and password. Similarly, the `AdminServerURL` (URL of the Administration Server), `DomainHome` (full path to the `domains` directory) and `ApplicationsDir` (full path to the `applications` directory) can also be specified in the properties file.

2.4.1.2 Using the -auto Option

Some patches are certified by Oracle Product Support as capable of being used with the `-auto` option, which can automate certain portions of your patching procedure. The `-auto` option applies the patch to the Oracle home; verifies that the patch is actually applied, then performs any necessary redeploy operations against the specified WebLogic Domain, including stopping and starting all the servers that are affected by the patch. If your patch is certified for use with the `-auto` option, you will be informed of such in the patch's README file.

2.4.1.2.1 Configuring Node Manager Beginning with OPatch release 11.1.0.8.2, the `-auto` option requires the Node Manager user name and password. In order for OPatch to be used properly:

- The Administration Server must be up and running.

- If the Managed Servers are up and running, OPatch will stop the servers, apply the patch, then restart the servers.

  If the Managed Servers are not running, OPatch will apply the patch but then you must manually start the servers in order to see the effects of the patch.

To configure Node Manager, refer to "General Node Manager Configuration" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

2.4.1.2.2 Using the -auto Option with the -domain Option The `-auto` option should be used in conjunction with the `-domain` option; the only exception is if only one WebLogic Domain was configured from the Oracle home. In such cases, OPatch will use that domain as the default domain. If multiple domains have been created and the `-domain` option is not used, then it is the user's responsibility to run `opatch deploy` to redeploy the patched artifacts to their respective domains, and also stop and start the affected servers in each of the domains.

2.4.1.3 Using the apply Command

The apply command (with the -auto option specified) performs the following:

1. Stops all affected target servers.

   This might involve stopping server instances on other nodes for:

   a. Staged mode applications.

   b. NoStage mode applications sharing the Oracle home.

2. Applies the patch to the Oracle home on the local machine.

3. Performs any required deploy operations for patched artifacts.

4. Restarts all affected servers.

The syntax for the apply command is shown below:

```
opatch apply
   [-auto [-domain domain_name]]
   [-mw_home MW_HOME]
   [-oh ORACLE_HOME]
   [-property_file path_to_property_file]
   [-report]]
```

A summary of the options for the apply command are described in Table 2–3.

Table 2–3   Options for the OPatch apply Command

Option	Description
-auto [-domain domain_name]	Optional - causes OPatch to automate the rollout of the patch to Oracle Fusion Middleware entities. If -auto is used then -domain must also be used to indicate the name of the domain in which the rollout should occur; the exception is when there is only one domain configured out of the Oracle home, in which case the -domain flag is optional.
	See Section 2.4.1.2, "Using the -auto Option" for more information.
-mw_home MW_HOME	Optional - The Middleware home to which the patch will be applied. The Middleware home specified here supersedes the MW_HOME environment variable. If neither is specified, then the Middleware home from where the command is run will be used.
-oh ORACLE_HOME	Optional - This option is used to specify the Oracle home to which the patch should be applied. This value supersedes the ORACLE_HOME environment variable. If neither is specified, OPatch will apply the updates to the Oracle home from which it was launched.
-property_file name	Optional - absolute path and name of the property file.
	See Section 2.4.1.1, "Using the OPatch Property File" for more information.
-report	Optional - print out the actions that will be taken by executing the command, but does not actually execute the command.

2.4.1.4 Sample Output for the apply Command

Below is a sample output from the opatch apply command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch apply
-auto /OracleFMW/Middleware_PS1_RC2/FMWPatches/9991008/
```

```
-oh /OracleFMW/Middleware_PS1_RC2/oracle_common/
-domain MySOAWebCenterDist
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
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Oracle Home       : /OracleFMW/Middleware_PS1_RC2/oracle_common
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/oracle_common//oui
Log file location : /OracleFMW/Middleware_PS1_RC2/oracle_
common/cfgtoollogs/opatch/opatch2009-12-06_09-44-02AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/oracle_
common/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Please enter the WebLogic Admin Server username:> weblogic
Please enter the WebLogic Admin Server password:>
Please enter the WebLogic Admin Server URL(t3://stadn41:7011):>
Please enter the WebLogic domain directory
location(/OracleFMW/MyDomains/domains/MySOAWebCenterDist):>
Please enter the WebLogic applications directory
location(/OracleFMW/MyDomains/applications/MySOAWebCenterDist):>
[FMW] Running apply '-auto' prerequisite checks...
   [FMW] ProductDriver::preReq_Product() succeeded
   [FMW] ProductDriver::preReq_Deploy() succeeded

All the applications affected by this patch are deployed in 'No Stage' mode.
Redeploy operation will not be performed for the affected applications.
Please refer to the log file for more details.

   [FMW] ProductDriver::preReq_LifeCycle() succeeded
[FMW] Apply '-auto' prerequisite checks succeeded...

ApplySession applying interim patch '9991008' to OH '/OracleFMW/Middleware_PS1_
RC2/oracle_common'

Running prerequisite checks...

You selected -local option, hence OPatch will patch the local system only.


Please shutdown Oracle instances running out of this ORACLE_HOME on the local
system.
(Oracle Home = '/OracleFMW/Middleware_PS1_RC2/oracle_common')


Is the local system ready for patching? [y|n]
y
User Responded with: Y
Backing up files and inventory (not for auto-rollback) for the Oracle Home
Backing up files affected by the patch '9991008' for restore. This might take a
while...
```

```
Backing up files affected by the patch '9991008' for rollback. This might take a
while...

Patching component oracle.jrf.j2ee, 11.1.1.2.0...
Copying file to "/OracleFMW/Middleware_PS1_RC2/oracle_common/modules/oracle.jrf_
11.1.1/jrf-api.jar"

Patching component oracle.jrf.dms, 11.1.1.2.0...
Copying file to "/OracleFMW/Middleware_PS1_RC2/oracle_common/modules/oracle.dms_
11.1.1/dms.war"
ApplySession adding interim patch '9991008' to inventory

Verifying the update...
Inventory check OK: Patch ID 9991008 is registered in Oracle Home inventory with
proper meta-data.
Files check OK: Files from Patch ID 9991008 are present in Oracle Home.

The local system has been patched and can be restarted.

[FMW] Ignoring Deploy operations as all patched artifacts are deployed in 'No
Stage' mode
[FMW] Performing Auto Post-Deploy Actions
[FMW] Performing Auto Post-Bounce Actions
-------------------------------------------------------------------------------
The following warnings have occurred during OPatch execution:
1) OUI-67851:
All the applications affected by this patch are deployed in 'No Stage' mode.
Redeploy operation will not be performed for the affected applications.
Please refer to the log file for more details.

-------------------------------------------------------------------------------
OPatch Session completed with warnings.

OPatch completed with warnings.
```

2.4.2 Rolling Back Patches and Deploying Patched Artifacts to WebLogic Servers

The rollback command allows you to remove an existing one-off patch by specifying the unique patch ID.

The rollback command (with the -auto option specified) performs the following:

1. Stops all affected target servers.

   This might involve stopping server instances on other nodes for:

   a. Staged mode applications.

   b. NoStage mode applications sharing the Oracle home.

2. Rolls back the patch on the Oracle home on the local machine.

3. Performs any required deploy operations for patched artifacts.

4. Restarts all affected servers.

The syntax for the rollback option is shown below:

```
opatch rollback -id patch_id
    [-auto [-domain domain_name]]
    [-mw_home MW_HOME]
    [-oh ORACLE_HOME]
    [-property_file path_to_property_file
    [-report]]
```

A summary of the options for the `rollback` command are described in Table 2–4.

Table 2–4   Options for the OPatch rollback Command

Option	Description
`-id` *patch_id*	Use the `-lsinventory` option to display all applied patch IDs. Each one-off patch is uniquely identified by an ID. To rollback to a previous patch version, that patch version's ID must be supplied.
`-auto [-domain` *domain_ name*]	Optional - causes OPatch to automate the rollout of the patch to Oracle Fusion Middleware entities. If `-auto` is used then `-domain` must also be used to indicate the name of the domain in which the rollout should occur; the exception is when there is only one domain configured out of the Oracle home, in which case the `-domain` flag is optional.

Refer to Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers" for more information. |
| `-mw_home` *MW_HOME* | Optional - The Middleware home to which the patch will be applied. The Middleware home specified here supersedes the *MW_HOME* environment variable. If neither is specified, then the Middleware home from where the command is run will be used. |
| `-oh` *ORACLE_HOME* | Optional - This option is used to specify the Oracle home to which the patch should be applied. This value supersedes the *ORACLE_HOME* environment variable. If neither is specified, OPatch will apply the updates to the Oracle home from which it was launched. |
| `-property_file` *name* | Optional - absolute path and name of the property file.

Refer to Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers" for more information. |
| `-report` | Optional - print out the actions that will be taken by executing the command, but does not actually execute the command. |

2.4.3 Deploying Patched Artifacts to WebLogic Servers

This operation deploys modified artifacts from the Fusion Middleware *ORACLE_ HOME* to the Fusion Middleware domain.

The location of the patch binaries must be specified using the `-ph` option. If the patch is installed in the current Oracle home (the Oracle home from which you are running this command) then the `-ph` option is not required.

If the patch is already applied to the Oracle home, the `-id` option can be used to specify the patch you want to use for deployment.

The syntax for the `deploy` command is shown below:

```
opatch deploy -id patch_id -ph patch_location
   [-auto [-domain domain_name]]
   [-mw_home MW_HOME]
   [-oh ORACLE_HOME]
   [-property_file path_to_property_file
   [-report]]
```

A summary of the options for the `deploy` command are described in Table 2–5.

Table 2–5   Options for the OPatch deploy Command

Option	Description
`-id patch_id`	The unique ID of the patch that is installed in the Oracle home.
`-ph patch_location`	The absolute path to the location of the patch. If none is specified, then the current directory is used.
`-auto [-domain domain_name]`	Optional - causes OPatch to automate the rollout of the patch to Oracle Fusion Middleware entities. If `-auto` is used then `-domain` must also be used to indicate the name of the domain in which the rollout should occur; the exception is when there is only one domain configured out of the Oracle home, in which case the `-domain` flag is optional.

Refer to Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers" for more information. |
| `-mw_home MW_HOME` | Optional - The Middleware home to which the patch will be applied. The Middleware home specified here supersedes the *MW_HOME* environment variable. If neither is specified, then the Middleware home from where the command is run will be used. |
| `-oh ORACLE_HOME` | Optional - This option is used to specify the Oracle home to which the patch should be applied. This value supersedes the *ORACLE_HOME* environment variable. If neither is specified, OPatch will apply the updates to the Oracle home from which it was launched. |
| `-property_file name` | Optional - absolute path and name of the property file.

Refer to Section 2.4.1, "Applying Patches and Deploying Patched Artifacts to WebLogic Servers" for more information. |
| `-report` | Optional - print out the actions that will be taken by executing the command, but does not actually execute the command. |

2.4.4 Listing the Source Oracle Homes

The `lshomes` command lists all the Oracle homes pertaining to logical entities such as Host or Domain. For a Host, the list of Oracle homes is obtained from the machine's central inventory. For a WebLogic domain, the list of homes is limited to product Oracle homes that are installed within a top-level Middleware home.

If the `-domain` or `-domaindir` option is used, the command lists the Oracle homes that have been used to create or extend the WebLogic domain. If not, all the homes registered with the machine's central inventory or the inventory location specified using `-invPtrLoc` are listed.

The Middleware home can be specified by using the `-mw_home` option or by setting the *MW_HOME* environment variable. When the Middleware home is specified and the `-domain` or `-domaindir` option is not specified, this command will list all the Oracle homes within the Middleware home that are registered with the machine's central inventory or the specified inventory location.

The syntax for the `lshomes` option is shown below:

```
opatch lshomes
    [-domain domain_name | -domain_dir domain_location]
    [-mw_home MW_HOME ]
    [-invPtrLoc path_to_oraInst.loc]
```

A summary of the options for the `lshomes` command are described in Table 2–6.

Table 2–6   Options for the OPatch lshomes Command

Option	Description
`-domain domain_name`	Optional - list the Oracle homes that have been used to create or extend this WebLogic Domain.
`-domain_dir domain_ location`	Optional - list the Oracle homes that have been used to create or extend the WebLogic Domain at this location. You must specify the absolute path to the WebLogic Domain.
`-mw_home MW_HOME`	Optional - list only the Oracle homes registered with the machine's central inventory that are located in this Middleware home. You must specify the absolute path to the Middleware home directory; this value supersedes the *MW_HOME* environment variable. If neither is available, the Middleware home from which the command is executed will be used.
`-invPtrLoc path_to_ oraInst.loc`	Optional - absolute path to the location of your `oraInst.loc` file; this option is needed if the installation was performed using the `-invPtrLoc` option.

Below is an example of the `opatch lshomes` command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch lshomes
-domain MySOAWebCenterDist
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
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UTIL session

Oracle Home       : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch2009-12-06_10-57-49AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "lshomes"
Home path = "/OracleFMW/Middleware_PS1_RC2/oracle_common"
Home path = "/OracleFMW/Middleware_PS1_RC2/Oracle_SOA1"
Home path = "/OracleFMW/Middleware_PS1_RC2/Oracle_WC1"
OPatch command 'lshomes' done.

OPatch succeeded.
```

2.4.5 Listing the Domains Created from the Middleware Home or Oracle Home

The `lsdomains` command lists all the WebLogic Domains that have been created from a certain Oracle home:

- If the Oracle home is specified, then only those domains created from the specified Oracle home are listed. If no Oracle home is specified, OPatch will list the domains created from the Oracle home as defined by the *ORACLE_HOME* environment variable. If neither is available, then OPatch will use the Oracle home directory from which the command is run.

- If a Middleware home is specified, all domains created from all Oracle homes within the specified Middleware home are listed.

- If neither is specified, and neither the *MW_HOME* or *ORACLE_HOME* environment variable is defined, then OPatch will run the command for the Middleware home from where the command was run.

The syntax for the lsdomains command is shown below:

```
opatch lsdomains
    [-oh ORACLE_HOME]
    [-mw_home MW_HOME]
    [-invPtrLoc path_to_oraInst.loc]
```

A summary of the options for the lsdomains command are described in Table 2–7.

Table 2–7   Options for the OPatch lsdomains Command

Option	Description
-oh *ORACLE_HOME*	Optional - absolute path to the Oracle home directory.
-mw_home *MW_HOME*	Optional - absolute path to the Middleware home directory.
-invPtrLoc *path_to_oraInst.loc*	Optional - absolute path to the location of your oraInst.loc file; this option is needed if the installation was performed using the -invPtrLoc option.

Below is an example of the opatch lsdomains command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch lsdomains
-oh /OracleFMW/Middleware_PS1_RC2/oracle_common
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
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UTIL session

Oracle Home       : /OracleFMW/Middleware_PS1_RC2/oracle_common
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/oracle_common/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/oracle_
common/cfgtoollogs/opatch/opatch2009-12-06_11-04-41AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/oracle_
common/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "lsdomains"
Domain Name = "MySOAWebCenterDist" Path =
```

```
"/OracleFMW/MyDomains/domains/MySOAWebCenterDist"
Domain Name = "MyWebCenterOnly" Path =
"/OracleFMW/MyDomains/domains/MyWebCenterOnly"
OPatch command 'lsdomains' done.

OPatch succeeded.
```

2.4.6 Listing the Applicable Oracle Homes for a Patch

This checkApplicable command produces a list of Oracle homes to which the patch can be applied. For Fusion Middleware, this command is limited in scope to the top-level Middleware home:

- If only the Middleware home is specified, OPatch will check to see whether or not this patch can be applied to all Oracle homes within the specified Middleware home.

- If an Oracle home is specified in addition to the Middleware home, OPatch will check to see if the patch can be applied to the specified Oracle home in the specified Middleware home.

- If neither is specified, and neither the *MW_HOME* or *ORACLE_HOME* environment variable is defined, then OPatch will run the command for the Middleware home from where the command was run.

The syntax for the checkApplicable command is shown below:

```
opatch checkApplicable
    [-ph patch_location]
    [-mw_home MW_HOME]
    [-oh ORACLE_HOME]
    [-invPtrLoc path_to_oraInst.loc]
```

A summary of the options for the checkApplicable command are described in Table 2–8.

Table 2–8   Options for the OPatch checkApplicable Command

Option	Description
-ph patch_location	Optional - location of the patch for which you want to run the checkApplicable command. If not specified, then the patch in the current directory is used.
-mw_home MW_HOME	Optional - absolute path to the Middleware home directory.
-oh ORACLE_HOME	Optional - absolute path to the Oracle home directory.
-invPtrLoc path_to_ oraInst.loc	Optional - absolute path to the location of your oraInst.loc file; this option is needed if the installation was performed using the -invPtrLoc option.

Below is an example of the opatch checkApplicable command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch checkapplicable
-ph /OracleFMW/Middleware_PS1_RC2/FMWPatches/9991008/
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
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UTIL session
```

```
Oracle Home       : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch2009-12-06_10-59-57AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "checkapplicable"

"checkApplicable" passed for Patch "9991008" and Oracle Home
"/OracleFMW/Middleware_PS1_RC2/oracle_common".
"checkApplicable" failed for Patch "9991008" and Oracle Home
"/OracleFMW/Middleware_PS1_RC2/Oracle_SOA1".
The details are:
Patch 9991008: Required component(s) missing : [ oracle.jrf.j2ee, 11.1.1.2.0 ] , [
oracle.jrf.dms, 11.1.1.2.0 ]
"checkApplicable" failed for Patch "9991008" and Oracle Home
"/OracleFMW/Middleware_PS1_RC2/Oracle_WC1".
The details are:
Patch 9991008: Required component(s) missing : [ oracle.jrf.j2ee, 11.1.1.2.0 ] , [
oracle.jrf.dms, 11.1.1.2.0 ]
Some of the Oracle Homes under the Middleware Home "/OracleFMW/Middleware_PS1_RC2"
have failed this check.

OPatch command 'checkApplicable' done.
--------------------------------------------------------------------------------
The following warnings have occurred during OPatch execution:
1) OUI-67124:Some of the Oracle Homes under the Middleware Home
"/OracleFMW/Middleware_PS1_RC2" have failed this check.
--------------------------------------------------------------------------------
OPatch Session completed with warnings.

OPatch completed with warnings.
```

2.4.7 Listing Patches Applied to an Oracle Home or WebLogic Domain

The checkInstalledOneOffs command checks to see if the specified patch or
patches have been applied to certain Oracle homes or WebLogic Domains:

- If a Middleware home is specified, OPatch checks all the Oracle homes within the
  specified Middleware home that are registered with the machine's central
  inventory. If not specified, then the *MW_HOME* environment variable is used.

- If an Oracle home is specified, OPatch checks the patch against the specified
  Oracle home only.

- If neither is specified, and neither the *MW_HOME* or *ORACLE_HOME*
  environment variable is defined, then OPatch will run the command for the
  Middleware home from where the command was run.

- If a WebLogic Domain is specified, OPatch checks against all the Oracle homes
  within the specified WebLogic Domain.

The syntax for the `checkInstalledOneOffs` command is shown below:

```
opatch checkInstalledOneOffs -id patch_IDs
    [-mw_home MW_HOME]
    [-oh ORACLE_HOME]
    [-domain domain_name]
    [-invPtrLoc path_to_oraInst.loc]
```

A summary of the options for the `checkInstalledOneOffs` command are described in Table 2–9.

Table 2–9   Options for the OPatch checkInstalledOneOffs Command

Option	Description
-id *patch_IDs*	ID of the patch or patches that you want to check. Separate multiple patch IDs with a comma (,) character.
-mw_home *MW_HOME*	Optional - absolute path to the Middleware home directory.
-oh *ORACLE_HOME*	Optional - absolute path to the Oracle home.
-domain *domain_name*	Optional - name of the WebLogic Domain.
-invPtrLoc *path_to_ oraInst.loc*	Optional - absolute path to the location of your `oraInst.loc` file; this option is needed if the installation was performed using the `-invPtrLoc` option.

Below is an example of the `opatch checkInstalledOneOffs` command on a UNIX operating system. In this example, patch 8965224 is installed in the SOA Oracle home and patch 9991008 is installed in the Oracle Common Home:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch checkinstalledoneoffs
-id 8965224,9991008
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
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UTIL session

Oracle Home       : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch2009-12-06_09-40-41AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "checkinstalledoneoffs"

"checkInstalledOneOffs" failed for Oracle Home "/OracleFMW/Middleware_PS1_
RC2/oracle_common".
Not Installed Patch IDs: [8965224]

"checkInstalledOneOffs" failed for Oracle Home "/OracleFMW/Middleware_PS1_
```

```
RC2/Oracle_SOA1".
Not Installed Patch IDs: [9991008]

"checkInstalledOneOffs" failed for Oracle Home "/OracleFMW/Middleware_PS1_
RC2/Oracle_WC1".
Not Installed Patch IDs: [8965224, 9991008]

Some of the Oracle Homes under the Middleware Home "/OracleFMW/Middleware_PS1_RC2"
have failed this check.
OPatch command 'checkInstalledOneOffs' done.
--------------------------------------------------------------------------------
The following warnings have occurred during OPatch execution:
1) OUI-67124:Some of the Oracle Homes under the Middleware Home
"/OracleFMW/Middleware_PS1_RC2" have failed this check.
--------------------------------------------------------------------------------
OPatch Session completed with warnings.

OPatch completed with warnings.
```

2.4.8 Starting or Stopping a Runtime Instance

The start and stop commands allow Fusion Middleware runtime entities to be started or stopped, respectively. Only entities of the same type can be started or stopped; if you need to start or stop entities of multiple types, you must run this command separately for each entity type.

In order to run this command:

- Node Manager must be configured and running on the target server machine.

- The *WebLogic_Home*/common/nodemanager/nodemanager.domains (on UNIX operating systems) or *WebLogic_Home*\common\nodemanager\nodemanager.domains (on Windows operating systems) must be populated.

- You must be able to connect to the Administration Server, which must be up and running.

The syntax for the start and stop commands is shown below:

```
opatch start|stop
    -domain domain_name
    -targets product_entity_name
    -target_type product_entity_type
    [-oh ORACLE_HOME]
```

A summary of the options for the start and stop commands are described in Table 2–10.

Table 2–10   Options for the OPatch start and stop Commands

Option	Description
-domain *domain_name*	The name of the domain in which the specified targets will be started or stopped.
-targets *product_entity_name*	The name of the WebLogic or Fusion Middleware entity you want to start or stop. Only entities of the same type can be specified; multiple entities should be separated by a comma.

Table 2–10   (Cont.) Options for the OPatch start and stop Commands

Option	Description
`-target_type` *target_type*	The type of WebLogic or Fusion Middleware entity you want to start. Valid values are:
	■ fmwApplication
	■ fmwServer
	■ fmwCluster
	■ fmwContainer
	The fmwContainer option starts or stops the container (for example, the WebLogic Server) hosting the application.
	The fmwServer option starts or stops the actual java process that is running (for example, a Managed Server).
`-oh` *ORACLE_HOME*	Optional - the absolute path to the Oracle home directory. If this is not specified, the value in the *ORACLE_HOME* environment variable is used. If neither is available, then the Oracle home from which the command is executed is used.

Below is an example of the `opatch start` command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch start
-targets soa_server1
-target_type fmwserver
-domain MySOAWebCenterDist

Invoking OPatch 11.1.0.6.9

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UTIL session

Oracle Home       : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch2009-12-06_12-30-31PM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "start"
Please enter the WebLogic Admin Server username:> weblogic
Please enter the WebLogic Admin Server password:>
Please enter the WebLogic Admin Server URL(t3://stadn41:7011):>
[FMW] Performing Start Actions
[FMW] Finished Start Actions
OPatch command 'start' done.

OPatch succeeded.
```

Below is an example of the `opatch stop` command on a UNIX operating system:

```
[aime@stadn41 Oracle_SOA1]$ ./OPatch/opatch stop -targets soa_server1 -target_type
fmwserver -domain MySOAWebCenterDist
Invoking OPatch 11.1.0.6.9

Oracle Interim Patch Installer version 11.1.0.6.9
Copyright (c) 2009, Oracle Corporation.  All rights reserved.

UTIL session

Oracle Home       : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1
Central Inventory : /ade/aime_dte6989/oracle/work/EM_SH_1/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.1.0.6.9
OUI version       : 11.1.0.7.0
OUI location      : /OracleFMW/Middleware_PS1_RC2/Oracle_SOA1/oui
Log file location : /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch2009-12-06_11-13-59AM.log

Patch history file: /OracleFMW/Middleware_PS1_RC2/Oracle_
SOA1/cfgtoollogs/opatch/opatch_history.txt


OPatch detects the Middleware Home as "/OracleFMW/Middleware_PS1_RC2"

Invoking utility "stop"
Please enter the WebLogic Admin Server username:> weblogic
Please enter the WebLogic Admin Server password:>
Please enter the WebLogic Admin Server URL(t3://stadn41:7011):>
[FMW] Performing Stop Actions
[FMW] Finished Stop Actions
OPatch command 'stop' done.

OPatch succeeded.
```

2.5 Troubleshooting OPatch in a Fusion Middleware Environment

This section describes common issues you may encounter when running the OPatch utility in a Fusion Middleware environment.

2.5.1 Notes About Patching the MDS Repository

For special information about patching the MDS repository, refer to "Understanding the MDS Repository" in the *Oracle Fusion Middleware Administrator's Guide*.

2.5.2 Setting the Machine Name and Listen Address

The machine name of the Administration Server and Managed Servers must be set to a valid value. It cannot be set to blank or None.

The listen address of the Administration and Managed Servers must be set to the real physical host's address (hostname, FQDN, or IP address). It cannot be set to blank or localhost.

These values need to be properly set only once; you will not need to reset them should you ever need to patch your software.

To set the machine name and listed address of the Managed Servers:

1. Open the Administration Console.

2. In the Domain Structure, navigate to *domain_name* > **Environments** > **Machines**.

3. If your WebLogic Server is running in Production Mode, click the **Lock & Edit** button on the left hand side. If your WebLogic Server is running in Development Mode, this step is not needed.

4. Click the **New** button to create a new machine. Specify a name and select the operating system.

5. Select the machine you just created, go to **Configuration > Node Manager** and change the Listen Address to the host on which the Node Manager is listening, then click the **Save** button.

6. In the Domain Structure, navigate to *domain_name* > **Environments > Servers**.

7. For each Managed Server, assign the machine you just created. In the Listen Address field, specify the name of the host on which the Node Manager is listening. Click **Save** when you are finished.

8. If your WebLogic Server is running in Production Mode, click the **Activate Changes** button on the left hand side. If your WebLogic Server is running in Development Mode, this step is not needed.

To set the machine name and listen address of the Administration Server:

1. Stop the Administration Server and all Managed Servers.

2. Back up the `config.xml` file in the domain.

   The default location of this file is the `config` directory inside your Domain home.

3. Modify the existing `config.xml` file as follows:

   a. Find the following line:

   ```
   <name>AdminServer</name>
   ```

   b. Add the following lines:

   ```
   <machine>host_name</machine>
   <listen-address>host_name</listen-address>
   ```

   c. Save the file.

4. Restart the Administration Server and all the Managed Servers.

   If you encounter any problems, revert back to the saved version of the `config.xml` file and contact Oracle Support.

3

Applying the Latest Oracle Fusion Middleware Patch Set

This chapter describes how to patch your existing Oracle Fusion Middleware software to the latest version, which is Release 11.1.1.5.0. The specific patching instructions you will need to follow will depend on the version of your current software. Instructions in this chapter are provided for software versions 11.1.1.2.0 and later.

> **Note:** If you have Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0), you must upgrade to Release 1 (11.1.1.2.0) before you can run the Patch Set Installer to update your software to Release 11.1.1.5.0. See Appendix B, "Using Patch Assistant to Migrate from 11g Release 1 (11.1.1.1.0) to Release 1 (11.1.1.2.0)" for instructions.

This chapter contains the following content:

- Section 3.1, "Summary of the Oracle Fusion Middleware Patching Process"

- Section 3.2, "Special Instructions for Patching Oracle WebCenter"

- Section 3.3, "Special Instructions for Patching Oracle Identity and Access Management Release 11.1.1.3.0"

- Section 3.4, "Perform General Pre-Patching Tasks"

- Section 3.5, "Download and Start the Product Installer or Patch Set Installer"

- Section 3.6, "Patch Set Installer Instructions"

- Section 3.7, "Update Your Schemas with Patch Set Assistant"

- Section 3.8, "Post-Patching Tasks"

- Section 3.9, "Start the Servers and Processes"

- Section 3.10, "Verify Your Patch Installation"

3.1 Summary of the Oracle Fusion Middleware Patching Process

Figure 3–1 shows the general patching procedures for Oracle Fusion Middleware.

Figure 3–1   Oracle Fusion Middleware Patching Process Overview and Roadmap
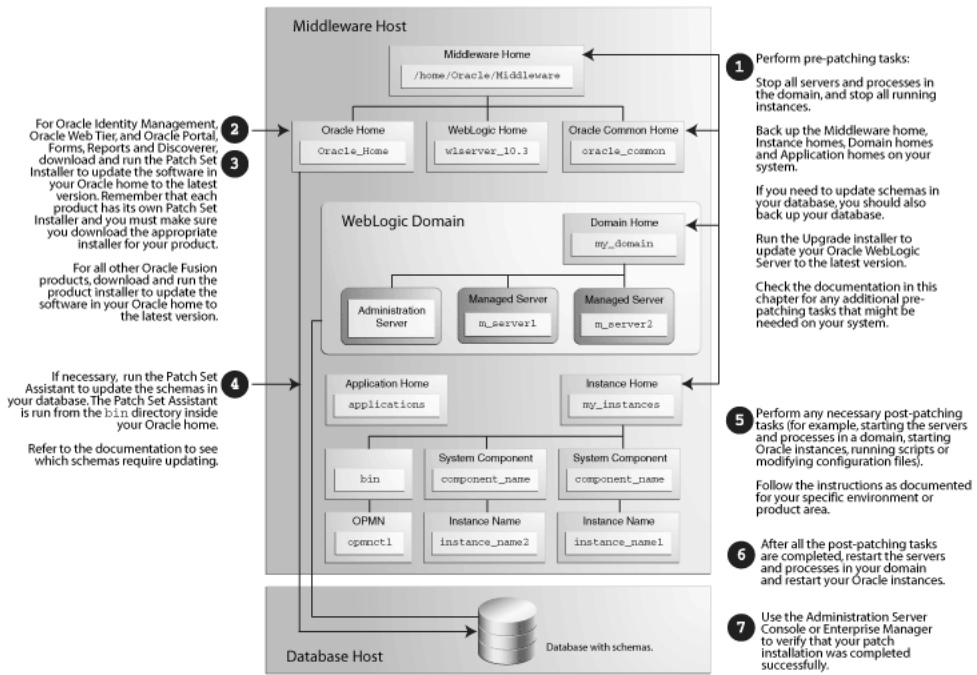
Table 3–1 provides links to additional information for each of the patching steps.

Table 3–1   Summary of Patching Procedures and Links to Documentation

Step	Description
1	Perform the following general pre-patching tasks: **1.** Section 3.4.1, "Stop the Servers and Processes" **2.** Section 3.4.2, "Back Up Your Middleware Home, Domain Home and Oracle Instances" **3.** Section 3.4.3, "Back Up Your Database and Database Schemas" **4.** Section 3.4.4, "Back Up Additional Configuration Information" Back up procedures exist for the following products: ■ Configurations and stores ■ Oracle Portal (OmniPortlet and WebClipping customizations) ■ Oracle B2B (XEngine customizations) ■ Oracle Business Intelligence Presentation Catalogs ■ Oracle Data Integrator (Standalone agent) ■ Oracle Identity Federation **5.** Section 3.4.5, "Patch Oracle WebLogic Server" If you are patching in silent mode, see Section 3.4.6, "Rename the emCCR File for Silent Patching".
2	Download and start the appropriate installer for your product: ■ If you are patching Oracle Identity Management, Oracle Web Tier, or Oracle Portal, Forms, Reports and Discoverer, download the Patch Set Installer for your product. ■ If you are patching any other Oracle Fusion Middleware product, download the product installer for your product. For details, see Section 3.5, "Download and Start the Product Installer or Patch Set Installer".
3	Update the software in your Oracle home with your product installer or the Patch Set Installer. ■ If you are patching Oracle Identity Management, Oracle Web Tier, or Oracle Portal, Forms, Reports and Discoverer, refer to the instructions in Section 3.6, "Patch Set Installer Instructions". ■ If you are patching any other Oracle Fusion Middleware product, refer to your product's installation guide for instructions on how to step through the installer screens. See Section 3.5.1.1, "Product Installers" for a list of installation guides.
4	If necessary, update your database schemas with the Patch Set Assistant. To see if you need to run the Patch Set Assistant, refer to Table 4–1, " Schemas That Require Updating for the Latest Release". For more information, see Section 3.7, "Update Your Schemas with Patch Set Assistant".
5	Perform any necessary post-patching tasks (for example, starting the servers and processes in a domain, starting Oracle instances, running scripts or modifying configuration files). The tasks that need to be performed will vary depending on the version of your existing software and components configured in your environment. Refer to the tables in the following sections for details: ■ Section 3.8.1, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.2.0" ■ Section 3.8.2, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.3.0" ■ Section 3.8.3, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0"
6	Start the servers and processes. For more information, see Section 3.9, "Start the Servers and Processes".
7	Verify that your patch installation is complete. For more information, see Section 3.10, "Verify Your Patch Installation".

If you are running your products in a distributed environment (for example, you have Managed Servers running in multiple domains on multiple systems) and you have set up a shared Middleware home on a shared network drive mounted to each machine that is part of your domain, then this need patching procedure only needs to be done once (see Section 2.3.3, "Patching in a Distributed Environment").

If your distributed environment has a separate Middleware home on each system, then this patching procedure must be repeated for each domain on each system.

More information about distributed topologies can be found in the Enterprise Deployment Guide for your specific product.

3.2 Special Instructions for Patching Oracle WebCenter

If your existing Oracle WebCenter software version is 11.1.1.2.0 or 11.1.1.3.0, follow the instructions in Chapter 5, "Patching Oracle WebCenter" to patch your software.

If your existing software version is 11.1.1.4.0, you only need to follow the instructions in Steps 1-4 in Table 3–1, " Summary of Patching Procedures and Links to Documentation".

3.3 Special Instructions for Patching Oracle Identity and Access Management Release 11.1.1.3.0

If you are patching your existing Oracle Identity and Access Management 11.1.1.3.0 installation to 11.1.1.5.0, follow the instructions in Chapter 6, "Patching Oracle Identity and Access Management".

3.4 Perform General Pre-Patching Tasks

This section describes tasks that should be completed before you patch your software:

- Section 3.4.1, "Stop the Servers and Processes"
- Section 3.4.2, "Back Up Your Middleware Home, Domain Home and Oracle Instances"
- Section 3.4.3, "Back Up Your Database and Database Schemas"
- Section 3.4.4, "Back Up Additional Configuration Information"
- Section 3.4.5, "Patch Oracle WebLogic Server"
- Section 3.4.6, "Rename the emCCR File for Silent Patching"

3.4.1 Stop the Servers and Processes

Before you run the product installer or Patch Set Installer to update your software, you should stop all servers and processes (including OPMN) on all machines which are part of any domain used from the Middleware home.

Instructions for stopping an Oracle Fusion Middleware environment are provided in "Stopping an Oracle Fusion Middleware Environment" in *Oracle Fusion Middleware Administrator's Guide*.

If your environment is running Oracle Process Manager and Notification Server (OPMN), you should also stop OPMN with the `opmnctl stopall` command.

If you are running Node Manager, you should also stop Node Manager. You can do this by closing the console window in which Node Manager is running, or by using the `stopNodeManager` WLST command.

> **Note:** In order for the `stopNodeManager` command to work, Node Manager must be configured with `QuitEnabled=true`.
>
> See "stopNodeManager" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference* for more information.

3.4.2 Back Up Your Middleware Home, Domain Home and Oracle Instances

After stopping the servers and processes, you should back up your Middleware home directory (including the Oracle home directories inside the Middleware home), your local Domain home directory, your local Oracle instances, and also the Domain home and Oracle instances on any remote systems that use the Middleware home. If your patch installation is unexpectedly interrupted, or if you choose to cancel out of the installation before it is complete, you may not be able to install the patch unless you restore your environment to the previous configuration before running the Patch Set Installer again. There is no deinstallation option with the Patch Set Installer.

3.4.3 Back Up Your Database and Database Schemas

If your database schemas require updating, you should also back up your database before you begin the patching procedure. Refer to your database documentation for instructions on how to do this.

If you run the Patch Set Assistant to upgrade an existing schema and it does not succeed, you must restore the original schema before you can try again. Make sure you backup your existing database schemas before you run the Patch Set Assistant.

To see if your schemas require updating, refer to Table 4–1, " Schemas That Require Updating for the Latest Release" in Chapter 4, "Updating Your Schemas with Patch Set Assistant".

3.4.4 Back Up Additional Configuration Information

Depending on your specific environment, you might also need to back up the following before performing any patching procedures:

- Back Up Configurations and Stores

  Each WebLogic Server domain must be upgraded using the `upgradeOpss()` WLST command. Before using this script, make sure that you backup the store to be upgraded. In case of a LDAP store, backup all data under the root node of the store (which is specified as a property of the store in the configuration file). In case of an upgrade failure, restore that node entirely.

  For more information, see "Upgrading Policies with upgradeOpss" in *Oracle Fusion Middleware Security Guide*.

- Save OmniPortlet and WebClipping Customizations for Oracle Portal

  If you are using OmniPortlet and WebClipping customizations, and they are being used with a file-based preferences store, you must save your customizations as described in Section 5.1.2, "Saving Your OmniPortlet and WebClipping Customizations".

After saving your customizations and patching your software, you must follow the instructions in Section 5.5.2, "Restoring Your OmniPortlet and WebClipping Customizations".

- Save XEngine Customizations for Oracle B2B

  This procedure is needed only if you use custom XEngine configurations in cases where B2B server is integrated with B2B EDI endpoints. In such cases, all B2B domains created from the same installation share the a single XEngine configuration stored within a single directory. This directory must be backed up prior to patching, and then restored after patching is complete.

  For more information, see Section 3.8.6.6, "Saving and Restoring XEngine Customizations for Oracle B2B".

- Back Up Existing Oracle BI Presentation Catalogs

  When updating your Oracle Business Intelligence (BI) software from Release 11.1.1.3.0 to 11.1.1.5.0, you must manually update your Oracle BI Presentation Catalogs. See Section 3.8.10.2, "Updating Oracle Business Intelligence Catalogs" for more information.

- Back Up Files for Oracle Data Integrator Java EE Standalone Agent

  Make sure the following files and directories are backed up (they should be if you backed up your Oracle home directory, as specified in Section 3.4.2, "Back Up Your Middleware Home, Domain Home and Oracle Instances"):

  1. Backup the *ODI_HOME*/oracledi/agent/bin/odiparams.sh (on UNIX operating systems) or *ODI_HOME*\oracledi\agent\bin\odiparams.bat (on Windows operating systems) file.

  2. Backup the *ODI_HOME*/oracledi/agent/drivers (on UNIX operating systems) or *ODI_HOME*\oracledi\agent\drivers (on Windows operating systems) directory.

  After Oracle Data Integrator is patched, follow the instructions in Section 3.8.11.3, "Reconfiguring the ODI Standalone Agent".

- Back up custom JSPs for Oracle Identity Federation

  If you are updating your Oracle Identity Federation to the latest release, you should back up any custom JSPs before patching to the latest version. The patching process will overwrite the JSPs included in the oif.ear file.

  After the patching process is complete, you should restore your custom JSPs.

3.4.5 Patch Oracle WebLogic Server

If Oracle WebLogic Server is already installed on your system, make sure you have patched Oracle WebLogic Server to the latest version (10.3.5) using the Upgrade installer. To do so:

1. Download the Upgrade installer from My Oracle Support.

   For instructions, see "Downloading an Upgrade Installer From My Oracle Support" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

2. Run the Upgrade installer in graphical mode to patch your WebLogic Server.

   For instructions, see "Running the Upgrade Installer in Graphical Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

If you want to run the Upgrade installer in silent mode (for example, you have an environment where you need to patch multiple instances of Oracle WebLogic Server), see the instructions in "Running the Installation Program in Silent Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

3.4.6 Rename the emCCR File for Silent Patching

If you are patching your software in silent mode, you may encounter the following error messages:

```
"SEVERE:Values for the following variables could not be obtained from the command
line or response file(s):
MYORACLESUPPORT_USERNAME(MyOracleSupportUsername)"
```

To work around this issue, rename the *ORACLE_HOME*/ccr/bin/emCCR (on UNIX operating systems) or *ORACLE_HOME*\ccr\bin\emCCR (on Windows operating systems) file.

For example, on a UNIX operating system:

```
cd ORACLE_HOME/ccr/bin
mv emCCR emCCR_LAST
```

On a Windows operating system:

```
cd ORACLE_HOME\ccr\bin
mv emCCR emCCR_LAST
```

See "Silent Oracle Fusion Middleware Installation and Deinstallation" in *Oracle Fusion Middleware Installation Planning Guide* for more details about silent installation.

3.5 Download and Start the Product Installer or Patch Set Installer

This section contains instructions on how to obtain the proper product installer or Patch Set Installer to patch your product.

3.5.1 About the Installers Used for Patching

Depending on the product you are patching, the installer you will need to download may affect the steps you need to follow to update your environment.

For more information about the types of installers available with Oracle Fusion Middleware, see "Understand the Types of Oracle Fusion Middleware Installers" in the *Oracle Fusion Middleware Download, Installation, and Configuration ReadMe*:

```
http://download.oracle.com/docs/html/E18749_01/download_readme.htm
```

This section contains the following:

- Section 3.5.1.1, "Product Installers"
- Section 3.5.1.2, "Patch Set Installers"

3.5.1.1 Product Installers

The product installers for Oracle SOA Suite, Oracle WebCenter, Oracle Application Developer, Oracle Enterprise Content Management Suite, Oracle Business Intelligence and Oracle Data Integrator can be used by existing customers to patch an existing Oracle Fusion Middleware installation, or they can be used to install a fresh Oracle

Fusion Middleware environment. For these products, you download the same software and run the same installer to perform both functions.

> **Note:** When using the Oracle Business Intelligence product installer to patch an existing Oracle Business Intelligence environment, make sure you select the **Software Only Install** option on the Select Installation Type screen.

If you are patching an existing environment, use the instructions in this guide.

If you are a new Oracle Fusion Middleware user, refer to the product installation guides for information about installing and configuring a new Oracle Fusion Middleware environment:

- *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite*

- *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*

- *Oracle Fusion Middleware Installation Guide for Application Developer*

- *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Content Management Suite*

- *Oracle Fusion Middleware Installation Guide for Oracle Business Intelligence*

- *Oracle Fusion Middleware Installation Guide for Oracle Data Integrator*

3.5.1.2 Patch Set Installers

If you are patching an existing Oracle Identity Management, Oracle Web Tier, or Oracle Portal, Forms, Reports and Discoverer environment, a separate Patch Set Installer must be downloaded and used to patch your environment.

The instructions for doing so are provided in this chapter in Section 3.5.2, "Download the Installer" and Section 3.6, "Patch Set Installer Instructions".

> **Note:** If you have multiple Fusion Middleware products installed on your system, you will have multiple Oracle home directories; one for each product. Each Patch Set Installer can be run against the Oracle home for its own product only; for example, you cannot run the Patch Set Installer for Oracle Web Tier to update the Oracle home for Oracle Identity Management.

3.5.2 Download the Installer

To download and start the product installer or Patch Set Installer:

1. Download the installer from the Oracle Technology Network, My Oracle Support, or Oracle E-Delivery.

    For more information, see "Obtain the Oracle Fusion Middleware Software" in *Oracle Fusion Middleware Installation Planning Guide*.

2. Unpack the downloaded archive that contains the installer and software that you want to install into a directory on the target computer.

3.5.3 Start the Installer

To start the installer you just downloaded:

1. Change directory to the `Disk1` folder inside the unpacked archive folder.

2. Start the product installer or Patch Set Installer:

    On UNIX operating systems:

    ```
    ./runInstaller
    ```

    On Windows operating systems:

    ```
    setup.exe
    ```

    Depending on your system environment and product you are updating, you may be prompted to provide the location of a JRE/JDK on your system when you start the installer. When you installed Oracle WebLogic Server, a JRE was installed in the `jdk160_21` directory inside the Middleware home; you can use this location to start the installer.

    If you do not have Oracle WebLogic Server installed on your system, you can use the JDK in the `jdk` directory inside the Oracle home.

    Make sure you specify the absolute path to your JRE/JDK location; relative paths are not supported.

    The Patch Set Installer can also be run in silent mode. See "Silent Oracle Fusion Middleware Installation and Deinstallation" in *Oracle Fusion Middleware Installation Planning Guide* for more details.

3.6 Patch Set Installer Instructions

The instructions in this section are only applicable if you are patching Oracle Identity Management, Oracle Web Tier, or Oracle Portal, Forms, Reports and Discoverer. If you have started the installer for any other Oracle Fusion Middleware product, you should refer to your product installation guide for instructions on how to navigate through the various installation screens.

After you have started the Patch Set Installer, follow the instructions in Table 3–2 to patch your components.

> **Note:** If your domain includes multiple systems, you must run the Patch Set Installer separately on each system to update the software on that system.

If you need additional help with any of the installation screens, refer to Appendix A, "Patch Set Installer Screens" or click **Help** to access the online help.

Table 3–2   Installation Flow for Patch Set Installer

No.	Screen	When Does This Screen Appear?	Description and Action Required
1	Welcome	Always.	Click **Next** to continue.
2	Specify Installation Location	Always.	Specify your existing Oracle Middleware home and product Oracle home locations.
			Click **Next** to continue.
3	Specify Security Updates	Only if you have not previously registered for security updates for your products.	Enter your E-mail address if you want to receive the latest product information and security updates. If you have a My Oracle account and wish to receive updates via this mechanism, select **I wish to receive security updates via My Oracle Support**, then enter your account password.
			If you do not wish to register for security updates, leave all the fields on this screen blank.
			Click **Next** to continue.
4	Installation Summary	Always.	Verify the installation about to be performed.
			Click **Install** to continue.
5	Installation Progress	Always.	This screen shows the progress of the installation.
			Click **Next** when the installation is 100% complete.
6	Installation Complete	Always.	Click **Finish** to dismiss the screen.

If you are a new Oracle Fusion Middleware user, your next step is to create and configure a WebLogic domain. Return to your product installation guides for domain configuration and creation information.

If you are an existing Oracle Fusion Middleware user, go to Section 3.7, "Update Your Schemas with Patch Set Assistant" and continue with this document.

3.7 Update Your Schemas with Patch Set Assistant

To see if your schema requires updating with the Patch Set Assistant, refer to Table 4–1, " Schemas That Require Updating for the Latest Release" in Section 4.1, "Which Schemas Need to be Updated with Patch Set Assistant?".

If the product you are patching uses one of the schemas listed in the table, follow the instructions in Chapter 4, "Updating Your Schemas with Patch Set Assistant" to update your schemas.

If the product you are patching does not use one of these schemas, you can skip this section and proceed to Section 3.8, "Post-Patching Tasks".

3.8 Post-Patching Tasks

This section contains information about manual tasks that must be performed after the patch installation is complete. Some of the tasks may not apply to your environment as you may not be using the products in question. However, if you are, then the manual steps must be performed in order for your domain to work correctly.

The following topics are covered:

- Section 3.8.1, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.2.0"

- Section 3.8.2, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.3.0"

- Section 3.8.3, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0"

- Section 3.8.4, "Post-Patching Tasks for System Components"

- Section 3.8.5, "Post-Patching Tasks for Your WebLogic Server Domain"

- Section 3.8.6, "Post-Patching Tasks for Oracle SOA Suite"

- Section 3.8.7, "Post-Patching Tasks for Oracle Enterprise Content Management Suite"

- Section 3.8.8, "Adding New OWSM Pre-Defined Policies"

- Section 3.8.9, "Oracle Service Bus Domain Configuration"

- Section 3.8.10, "Post-Patching Tasks for Oracle Business Intelligence"

- Section 3.8.11, "Post-Patching Tasks for Oracle Data Integrator"

3.8.1 Post-Patching Tasks If Your Starting Point is Release 11.1.1.2.0

Table 3–3 summarizes the post-patching tasks that may be required depending on your existing Release 11.1.1.2.0 environment. Located the applicable product area in the table, then refer to the documentation link for instructions.

Table 3–3 Post-Patching Tasks If Your Starting Point is Release 11.1.1.2.0

Product Area	Documentation
System Components	
Patch any system compoment(s) associated with a WebLogic Server domain.	Section 3.8.4.1, "Upgrading System Components"
Oracle Identity Federation.	Section 3.8.4.2, "Updating Configuration Properties in Oracle Identity Federation"
Oracle Configuration Manager for Oracle Identity Management or Oracle Portal, Forms, Reports and Discoverer (Windows operating system only).	Section 3.8.4.3, "Updating Oracle Configuration Manager (Windows Only)"
Oracle Reports and Oracle Portal.	Section 3.8.4.4, "Resolving JDBC Errors in Oracle Reports and Oracle Portal"
	Section 3.8.4.5, "Updating the Configuration in SSL-Enabled Oracle Portal Instances"
WebLogic Server Domain	
Shared Libraries.	Section 3.8.5.1, "Updating Fusion Middleware Shared Libraries"
Configurations and Stores.	Section 3.8.5.2, "Updating Configurations and Stores"
Web Services Atomic Transaction.	Section 3.8.5.3, "Enabling WS-AtomicTransaction"
Oracle SOA Suite	
SOA Composer and BPM Workspace.	Section 3.8.6.1, "Removing the tmp Folder for SOA Composer and BPM Workspace"
Policy Store and Shared Library.	Section 3.8.6.3, "Run soa-upgrade.py to Update the Policy Store and Deploy a Shared Library"
BAM-ODI Integration.	Section 3.8.6.4, "Updating the Oracle Data Integrator Clients if BAM-ODI Integration is Enabled"
SOA Composer.	Section 3.8.6.5, "Committing or Reverting Open Edit Sessions in SOA Composer"

Table 3–3 (Cont.) Post-Patching Tasks If Your Starting Point is Release 11.1.1.2.0

Product Area	Documentation
Oracle B2B.	Section 3.8.6.6, "Saving and Restoring XEngine Customizations for Oracle B2B"
Oracle Web Services Manager	
Oracle Web Services Manager.	Section 3.8.8, "Adding New OWSM Pre-Defined Policies"
Oracle Service Bus	
Oracle Service Bus.	Section 3.8.9, "Oracle Service Bus Domain Configuration"

3.8.2 Post-Patching Tasks If Your Starting Point is Release 11.1.1.3.0

Table 3–4 summarizes the post-patching tasks that may be required depending on your existing Release 11.1.1.3.0 environment. Located the applicable product area in the table, then refer to the documentation link for instructions.

Table 3–4 Post-Patching Tasks If Your Starting Point is Release 11.1.1.3.0

Product Area	Documentation
System Components	
Patch any system compoment(s) associated with a WebLogic Server domain.	Section 3.8.4.1, "Upgrading System Components"
Oracle Identity Federation.	Section 3.8.4.2, "Updating Configuration Properties in Oracle Identity Federation"
Oracle Configuration Manager for Oracle Identity Management or Oracle Portal, Forms, Reports and Discoverer (Windows operating system only).	Section 3.8.4.3, "Updating Oracle Configuration Manager (Windows Only)"
Oracle Reports and Oracle Portal.	Section 3.8.4.4, "Resolving JDBC Errors in Oracle Reports and Oracle Portal"
	Section 3.8.4.5, "Updating the Configuration in SSL-Enabled Oracle Portal Instances"
WebLogic Server Domain	
Shared Libraries.	Section 3.8.5.1, "Updating Fusion Middleware Shared Libraries"
Configurations and Stores.	Section 3.8.5.2, "Updating Configurations and Stores"
Oracle SOA Suite	
SOA Composer and BPM Workspace.	Section 3.8.6.1, "Removing the tmp Folder for SOA Composer and BPM Workspace"
Oracle SOA `soa-infra` application.	Section 3.8.6.2, "Updating the soa-infra Application in Warning State"
Policy Store and Shared Library.	Section 3.8.6.3, "Run soa-upgrade.py to Update the Policy Store and Deploy a Shared Library"
BAM-ODI Integration.	Section 3.8.6.4, "Updating the Oracle Data Integrator Clients if BAM-ODI Integration is Enabled"
SOA Composer.	Section 3.8.6.5, "Committing or Reverting Open Edit Sessions in SOA Composer"
Oracle B2B.	Section 3.8.6.6, "Saving and Restoring XEngine Customizations for Oracle B2B"
Oracle Enterprise Content Management Suite	

Table 3–4 (Cont.) Post-Patching Tasks If Your Starting Point is Release 11.1.1.3.0

Product Area	Documentation
Oracle Imaging and Process Management.	Section 3.8.7.1, "Updating Oracle I/PM in Oracle Enterprise Content Management Suite"
Oracle Enterprise Content Management Suite application adapters.	Section 3.8.7.2, "Updating Oracle Application Adapters for Oracle Enterprise Content Management Suite"
Oracle Information Rights Management.	Section 3.8.7.3, "Applying Patch 12369706 for Oracle Information Rights Management"
Oracle Web Services Manager	
Oracle Web Services Manager.	Section 3.8.8, "Adding New OWSM Pre-Defined Policies"
Oracle Service Bus	
Oracle Service Bus.	Section 3.8.9, "Oracle Service Bus Domain Configuration"
Oracle Business Intelligence	
Oracle Business Intelligence Code Grants.	Section 3.8.10.1, "Updating Oracle Business Intelligence Code Grants"
Oracle Business Intelligence Catalogs.	Section 3.8.10.2, "Updating Oracle Business Intelligence Catalogs"
Oracle Real-Time Decisions.	Section 3.8.10.3, "Updating Oracle Real-Time Decisions"
Oracle Data Integrator	
Oracle Data Integrator repository objects.	Section 3.8.11.1, "Finalizing Repository Patching"
Oracle Data Integrator Java EE Agent.	Section 3.8.11.2, "Reconfiguring the Java EE Agent"
Oracle Data Integrator Standalone Agent.	Section 3.8.11.3, "Reconfiguring the ODI Standalone Agent"
Oracle Enterprise Manager.	Section 3.8.11.4, "Reconfiguring Oracle Enterprise Manager Properties"

3.8.3 Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0

Table 3–5 summarizes the post-patching tasks that may be required depending on your existing Release 11.1.1.4.0 environment. Located the applicable product area in the table, then refer to the documentation link for instructions.

Table 3–5 Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0

Product Area	Documentation
System Components	
Patch any system compoment(s) associated with a WebLogic Server domain.	Section 3.8.4.1, "Upgrading System Components"
Oracle Configuration Manager for Oracle Identity Management (Windows operating system only).	Section 3.8.4.3, "Updating Oracle Configuration Manager (Windows Only)"
Oracle Reports and Oracle Portal.	Section 3.8.4.4, "Resolving JDBC Errors in Oracle Reports and Oracle Portal"
NOTE: although there is no release of Oracle Portal, Forms, Reports and Discoverer in Release 11.1.1.5.0, this step is still applicable for Oracle Portal, Forms, Reports and Discoverer Release 11.1.1.4.0 against Oracle WebLogic Server version 10.3.5. which is the version used with Oracle Fusion Middleware 11.1.1.5.0.	Section 3.8.4.5, "Updating the Configuration in SSL-Enabled Oracle Portal Instances"
Oracle SOA Suite	

Table 3–5 (Cont.) Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0

Product Area	Documentation
SOA Composer and BPM Workspace (this is only applicable if your Release 11.1.1.4.0 software is updated from Release 11.1.1.3.0. If you installed and configured Release 11.1.1.4.0 from scratch then you do not need to perform this task).	Section 3.8.6.1, "Removing the tmp Folder for SOA Composer and BPM Workspace"
Oracle SOA `soa-infra` application (this is only applicable if your Release 11.1.1.4.0 software is updated from Release 11.1.1.3.0. If you installed and configured Release 11.1.1.4.0 from scratch then you do not need to perform this task).	Section 3.8.6.2, "Updating the soa-infra Application in Warning State"
Policy Store and Shared Library (this is only applicable if your Release 11.1.1.4.0 software is updated from Release 11.1.1.3.0. If you installed and configured Release 11.1.1.4.0 from scratch then you do not need to perform this task).	Section 3.8.6.3, "Run soa-upgrade.py to Update the Policy Store and Deploy a Shared Library"
BAM-ODI Integration.	Section 3.8.6.4, "Updating the Oracle Data Integrator Clients if BAM-ODI Integration is Enabled"
SOA Composer.	Section 3.8.6.5, "Committing or Reverting Open Edit Sessions in SOA Composer"
Oracle B2B.	Section 3.8.6.6, "Saving and Restoring XEngine Customizations for Oracle B2B"
Oracle Enterprise Content Management Suite	
Oracle Imaging and Process Management.	Section 3.8.7.1, "Updating Oracle I/PM in Oracle Enterprise Content Management Suite"
Oracle Enterprise Content Management Suite application adapters.	Section 3.8.7.2, "Updating Oracle Application Adapters for Oracle Enterprise Content Management Suite"
Oracle Information Rights Management.	Section 3.8.7.3, "Applying Patch 12369706 for Oracle Information Rights Management"

3.8.4 Post-Patching Tasks for System Components

A system component is a manageable process that is not deployed as a Java application. Instead, a system component is managed by Oracle Process Manager and Notification (OPMN). For more information, see "Understanding Key Oracle Fusion Middleware Concepts" in *Oracle Fusion Middleware Administrator's Guide*.

Oracle Fusion Middleware system components include the following:

- Products included with Oracle Web Tier, including Oracle HTTP Server and Oracle Web Cache.

- Products included with Oracle Portal, Forms, Reports and Discoverer.

- Products included with Oracle Business Intelligence, including BI Server, BI Scheduler and BI Presentation Services.

- Products included with Oracle Data Integrator.

- Products included Oracle Identity Management, including Oracle Internet Directory, Oracle Directory Integration Platform, Oracle Virtual Directory, Oracle Directory Services Manager and Oracle Identity Federation.

If you have patched one or more of these components, the tasks in this section must be performed. For more information about system components, refer to "Understanding Key Oracle Fusion Middleware Concepts" in *Oracle Fusion Middleware Administrator's Guide*.

The following tasks must be performed:

- Section 3.8.4.1, "Upgrading System Components"

- Section 3.8.4.2, "Updating Configuration Properties in Oracle Identity Federation"

- Section 3.8.4.3, "Updating Oracle Configuration Manager (Windows Only)"

- Section 3.8.4.4, "Resolving JDBC Errors in Oracle Reports and Oracle Portal"

- Section 3.8.4.5, "Updating the Configuration in SSL-Enabled Oracle Portal Instances"

3.8.4.1 Upgrading System Components

This step is required for any system component that is associated with a WebLogic domain. In some cases (for example, Oracle WebTier and Oracle Internet Directory), you can choose to create system components that are not associated with any domain; in these cases, you do not have to perform this procedure.

After you have patched your system component software that is associated with a WebLogic domain, you must run the *ORACLE_HOME*/opmn/bin/upgradenonj2eeapp.sh (on UNIX operating systems) or *ORACLE_HOME*\opmn\bin\upgradenonj2eeapp.bat (on Windows operating systems) script to update your system components.

Before running this script, make sure:

1. The Administration Server is up and running.

2. The *ORACLE_HOME* environment variable has been set to your product's Oracle home directory.

3. The OPMN instance in the `bin` directory in the Instance home is up and running.

To run the script on UNIX operating systems:

```
cd ORACLE_HOME/opmn/bin
./upgradenonj2eeapp.sh
   -oracleInstance Instance_Home_Location
   -adminHost WebLogic_Server_Host_Name
   -adminPort administration_server_port_number
   -adminUsername administration_server_user
```

On Windows operating systems:

```
cd ORACLE_HOME\opmn\bin
upgradenonj2eeapp.bat
   -oracleInstance Instance_Home_Location
   -adminHost WebLogic_Server_Host_Name
   -adminPort administration_server_port_number
   -adminUsername administration_server_user
```

3.8.4.2 Updating Configuration Properties in Oracle Identity Federation

The 11*g* Release 1 (11.1.1.4.0) of Oracle Identity Federation contains several new configuration properties (for example, enabling XML schema validation for federation protocol messages) that were not available in 11*g* Release 1 (11.1.1.2.0). If you want to

take advantage of the functionality provided by these new properties, you must run the `oif-upgrade-11.1.1.2.0-11.1.1.4.0.py` WLST script as follows:

1. On Linux operating systems, enter the `bash` command:

   ```
   bash
   ```

2. Set the *DOMAIN_HOME* variable to your Oracle Identity Federation Domain home location.

3. Set the *ORACLE_HOME* variable to your Oracle Identity Federation Oracle home location.

4. Run the `setOIFEnv` script.

   On UNIX operating systems:

   ```
   bash
   export DOMAIN_HOME=full_path_to_domain_home_directory
   source ORACLE_HOME/fed/scripts/setOIFEnv.sh
   ```

   On Microsoft Windows operating systems:

   ```
   cd ORACLE_HOME\fed\scripts
   setOIFEnv.cmd
   ```

5. Run the `oif-upgrade-11.1.1.2.0-11.1.1.4.0.py` script.

   On UNIX operating systems:

   ```
   cd ORACLE_HOME/fed/scripts
   java weblogic.WLST oif-upgrade-11.1.1.2.0-11.1.1.4.0.py
   ```

   On Microsoft Windows operating systems:

   ```
   cd ORACLE_HOME\fed\scripts
   java weblogic.WLST oif-upgrade-11.1.1.2.0-11.1.1.4.0.py
   ```

   You will be prompted for the WebLogic Server Administrator credentials (user name and password) and the location of the Managed Server where Oracle Identity Federation is running. You only need to do this for one Managed Server even if you have multiple Managed Servers in your domain.

3.8.4.3 Updating Oracle Configuration Manager (Windows Only)

If you are patching Oracle Identity Manager or Oracle Portal, Forms, Reports and Discoverer on a Microsoft Windows operating system, you must run some `emCCR` commands after applying the latest patch set in order for the correct version to appear. `emCCR` is used by Oracle Configuration Manager, which is used to collect client configuration information and upload it to the Oracle repository:

If you are patching Oracle Identity Manager on a Microsoft Windows operating system, you must run some `emCCR` commands after applying the latest patch set in order for the correct version to appear. `emCCR` is used by Oracle Configuration Manager, which is used to collect client configuration information and upload it to the Oracle repository:

1. Go to the *ORACLE_HOME*\ccr\bin directory.

2. Set the *ORACLE_CONFIG_HOME* environment variable to the Instance home that contains Oracle Configuration Manager. For example:

   ```
   set ORACLE_CONFIG_HOME=C:\Oracle\Middleware\Instances\asinst_ocmoc
   ```

3. Run the following `emCCR` commands:

```
emccr stop
emccr start
emccr status
```

3.8.4.4 Resolving JDBC Errors in Oracle Reports and Oracle Portal

If you have Oracle Reports or Oracle Portal configured in a domain and you apply the latest patch set, you will see the following error if you try to change the invalidation password:

```
Error.  Check logs for details.  [OK].
```

The following errors are seen in the `portal_wls.log` and `wls_portal.out` log files:

```
<Date and time> <Warning> <RMI> <BEA-080003>
<RuntimeException thrown by rmi server:
javax.management.remote.rmi.RMIConnectionImpl.invoke
(Ljavax.management.ObjectName;Ljava.lang.String;Ljava.rmi.MarshalledObject;[Ljava.
lang.String;Ljavax.security.auth.Subject;)
javax.management.RuntimeErrorException:
oracle.jdbc.driver.T2CConnection.getLibraryVersionNumber()I.javax.management.Runti
meErrorException:
oracle.jdbc.driver.T2CConnection.getLibraryVersionNumber()I
at
oracle.as.jmx.framework.standardmbeans.spi.OracleStandardEmitterMBean.doInvoke(Ora
cleStandardEmitterMBean.java:991)
at
oracle.adf.mbean.share.AdfMBeanInterceptor.internalInvoke(AdfMBeanInterceptor.java
:104)
at
oracle.as.jmx.framework.generic.spi.interceptors.AbstractMBeanInterceptor.doInvoke
(AbstractMBeanInterceptor.java:252)
....

Caused By: java.lang.UnsatisfiedLinkError:
oracle.jdbc.driver.T2CConnection.getLibraryVersionNumber()I
at oracle.jdbc.driver.T2CConnection.getLibraryVersionNumber(Native
        Method)
at oracle.jdbc.driver.T2CConnection$1.run(T2CConnection.java:3537)
at java.security.AccessController.doPrivileged(Native Method)
at oracle.jdbc.driver.T2CConnection.loadNativeLibrary
        (T2CConnection.java:3532)
....
```

You must perform the following in order to avoid these JDBC error messages:

1. Go to the `bin` directory inside your *DOMAIN_HOME*.

2. Edit the `setDomainEnv.sh` (on UNIX operating systems) or `setDomainEnv.cmd` (on Windows operating systems) file and search for `EXT_PRE_CLASSPATH`.

3. Change the definition to match the following:

On UNIX operating systems:

```
EXT_PRE_CLASSPATH=$ORACLE_HOME/jdbc/lib/ojdbc6.jar
export EXT_PRE_CLASSPATH
```

On Windows operating systems:

```
EXT_PRE_CLASSPATH=%ORACLE_HOME%\jdbc\lib\ojdbc6.jar
```

4. Restart the Portal Managed Server.

3.8.4.5 Updating the Configuration in SSL-Enabled Oracle Portal Instances

Due to security changes in WebLogic Server, if you were running an SSL-enabled 11*g* version of Oracle Portal and patched it to Release 11.1.1.5.0, you will need to perform the steps mentioned in the "Enable the WebLogic Plug-In, and WLProxySSL and WLProxySSLPassThrough Parameters" section of the *Oracle Fusion Middleware Administrator's Guide for Oracle Portal* before your Oracle Portal instance will be functional again.

3.8.5 Post-Patching Tasks for Your WebLogic Server Domain

Your existing WebLogic Server Domain must be upgraded by performing the following tasks:

- Section 3.8.5.1, "Updating Fusion Middleware Shared Libraries"
- Section 3.8.5.2, "Updating Configurations and Stores"
- Section 3.8.5.3, "Enabling WS-AtomicTransaction"

3.8.5.1 Updating Fusion Middleware Shared Libraries

For each WebLogic Server domain, you must run the updateJRF() WLST command to update the shared libraries in your domain:

Note: If you are patching Oracle WebCenter, you do not need to run this command if you follow the directions in Chapter 5, "Patching Oracle WebCenter".

---

1. Stop all running instances, Managed Servers, Administration Server, and Node Manager in the domain. See "Starting and Stopping Oracle Fusion Middleware" in *Oracle Fusion Middleware Administrator's Guide* for more information.

2. Start WLST.

   On UNIX operating systems:

   ```
   cd oracle_common/common/bin
   ./wlst.sh
   ```

   On Windows operating systems:

   ```
   cd oracle_common\common\bin
   wlst.cmd
   ```

3. Run the upgradeJRF() command on the node or system where the Administration Server is located for each domain you want to update. Your domain location is passed as a parameter:

   ```
   wlst> upgradeJRF('/DOMAIN_HOME')
   ```

3.8.5.2 Updating Configurations and Stores

For each WebLogic Server domain, you must run the upgradeOpss() WLST command to update your configurations and stores from previous releases to Release

11.1.1.5.0 configurations and stores using a `system-jazn-data` file in Release 11.1.1.5.0.

> **Note:** If you are patching Oracle WebCenter, you do not need to run this script if you follow the directions in Chapter 5, "Patching Oracle WebCenter".

Before running this command, start WLST as shown below:

On UNIX operating systems:

```
cd MW_HOME/oracle_common/common/bin
./wlst.sh
```

On Windows operating systems:

```
cd MW_HOME\oracle_common\common\bin
wlst.cmd
```

After WLST is started, run the `upgradeOpss()` command. The syntax for the command is below:

```
upgradeOpss(jpsConfig="existing_jps_config_file", jaznData="system_jazn_data_
file")
```

- *`existing_jps_config_file`*

  Full path to the location of the existing `jps-config.xml` file, usually *DOMAIN_ HOME*`/config/fmwconfig/jps-config.xml` (on UNIX operating systems) or *DOMAIN_HOME*`\config\fmwconfig\jps-config.xml` (on Windows operating systems).

- *`system_jazn_data_file`*

  Full path to the location of the Release 11.1.1.5.0 `system-jazn-data.xml` file, usually *MW_HOME*`/oracle_common/modules/oracle.jps_11.1.1/domain_ config/system-jazn-data.xml` (on UNIX operating systems) or *MW_ HOME*`\oracle_common\modules\oracle.jps_11.1.1\domain_ config\system-jazn-data.xml` (on Windows operating systems).

For more information, see "Upgrading Policies with upgradeOpss" in *Oracle Fusion Middleware Security Guide*.

3.8.5.3 Enabling WS-AtomicTransaction

WS-AtomicTransaction is a web services feature which was introduced in Oracle Fusion Middleware Release 11.1.1.3.0 release. If you are upgrading a domain which is at the 11.1.1.2.0 release, then you need to perform the following steps to ensure that WS-AtomicTransactions are enabled:

1. Edit the following file.

   On UNIX operating systems:

   ```
   DOMAIN_HOME/config/fmwconfig/policy-accessor-config.xml
   ```

   On Windows operating systems:

   ```
   DOMAIN_HOME\config\fmwconfig\policy-accessor-config.xml
   ```

2. In the Interceptors section, add the following XML code:

```
<interceptor name="ClientWSATInterceptor"
   class="oracle.j2ee.ws.client.transaction.ClientWSATInterceptor"
   category="transaction" />
<interceptor name="ServerWSATInterceptor"
   class="oracle.j2ee.ws.server.transaction.ServerWSATInterceptor"
   category="transaction" />
```

3. In the Interceptor Chains section:

   - `<interceptor-ref name="ServerWSATInterceptor"/>` should be added in the existing entry of SOAPServiceBindingInterceptorChain between the Context and RM interceptors. For example:

   ```
   <interceptor-chain name="SOAPServiceBindingInterceptorChain"

   @ class="oracle.integration.platform.common.SOAPBindingInterceptorChain">
           <interceptor-ref name="MTOMInterceptor"/>
           <interceptor-ref name="BindingSecurityInterceptor"/>
           <interceptor-ref name="ServerAddressingInterceptor"/>
           <interceptor-ref name="MEXInterceptor"/>
           <interceptor-ref name="WSRMServerInterceptor"/>
   <interceptor-ref name="ServerWSATInterceptor"/>
           <interceptor-ref name="ContextInterceptor"/>
           <interceptor-ref name="BindingManagementInterceptor"/>
   </interceptor-chain>
   ```

   - `<interceptor-ref name="ClientWSATInterceptor"/>` should be added in the existing entry of SOAPReferenceBindingInterceptorChain between the Context and RM interceptors. For example:

   ```
   <interceptor-chain name="SOAPReferenceBindingInterceptorChain"

   @ class="oracle.integration.platform.common.SOAPBindingInterceptorChain">
           <interceptor-ref name="BindingManagementInterceptor"/>
           <interceptor-ref name="ContextInterceptor"/>
   <interceptor-ref name="ClientWSATInterceptor"/>
           <interceptor-ref name="WSRMClientInterceptor"/>
           <interceptor-ref name="ClientAddressingInterceptor"/>

           <interceptor-ref name="BindingSecurityInterceptor"/>
           <interceptor-ref name="MTOMInterceptor"/>
   </interceptor-chain>
   ```

3.8.6 Post-Patching Tasks for Oracle SOA Suite

This section contains the following topics:

- Section 3.8.6.1, "Removing the tmp Folder for SOA Composer and BPM Workspace"

- Section 3.8.6.2, "Updating the soa-infra Application in Warning State"

- Section 3.8.6.3, "Run soa-upgrade.py to Update the Policy Store and Deploy a Shared Library"

- Section 3.8.6.4, "Updating the Oracle Data Integrator Clients if BAM-ODI Integration is Enabled"

- Section 3.8.6.5, "Committing or Reverting Open Edit Sessions in SOA Composer"

- Section 3.8.6.6, "Saving and Restoring XEngine Customizations for Oracle B2B"

3.8.6.1 Removing the tmp Folder for SOA Composer and BPM Workspace

This manual step must be performed if:

- You are upgrading Oracle SOA Composer from Release 11.1.1.2.0 or 11.1.1.3.0; the SOA Composer login screen may appear blank after you patch to the latest version.

- You are upgrading Oracle BPM Workspace from Release 11.1.1.3.0; the Oracle BPM Workspace application will not start after you patch to the latest version.

To resolve these issues, do the following:

1. Stop all servers (Administration Server and all Managed Servers).

2. Remove the `tmp` directory in `DOMAIN_HOME`/servers/AdminServer (on UNIX operating systems) or `DOMAIN_HOME`\servers\AdminServer (on Windows operating systems).

3. Remove the `tmp` directory in `DOMAIN_HOME`/servers/soa_server1 (on UNIX operating systems) or `DOMAIN_HOME`\servers\soa_server1 (on Windows operating systems).

    If the name of your SOA Managed Server is not `soa_server1`, replace `soa_server1` with the name of your SOA Managed Server.

4. Start all the servers.

3.8.6.2 Updating the soa-infra Application in Warning State

If you have a Release 11.1.1.3.0 Oracle SOA Suite domain with only Oracle SOA configured (no Oracle BAM and no Oracle BPM), or only Oracle SOA and Oracle BAM configured (no Oracle BPM), the `soa-infra` application (The weblogic server EAR file which contains the underlying logic for the SOA Suite infrastructure) will have a deployment status of **Warning** which will be visible within the WebLogic Server Administration Console. This state will not cause any loss or degradation in service.

If you want to fix this issue, contact Oracle Support.

3.8.6.3 Run soa-upgrade.py to Update the Policy Store and Deploy a Shared Library

To update your policy store and deploy shared libraries, run the `soa-upgrade.py` WLST script, which does the following:

- Adds a new Role Grant and Policy grant within the `soa-infra` application stripe in the Policy Store.

- Deploys the `oracle.soa.worklist.webapp` shared library to the SOA domain.

The `soa-upgrade.py` script must be run from the `bin` directory inside your SOA Oracle home. The syntax for the `soa-upgrade.py` script is shown below.

Note: This script must be run as a WLST online script. Make sure the Administration Server and Managed Servers are up and running before running this script.

On a UNIX operating system:

```
cd SOA_ORACLE_HOME/bin
../common/bin/wlst.sh soa-upgrade.py
```

```
--username admin_username
--password admin_password
--wlsHost wls_host
--adminServerListenPort admin_port
--targetList list_of_SOA_servers_or_migratable_targets
```

On a Windows operating system, run `wlst.cmd` from the same directory.

Table 3–6 describes the command line parameters.

Table 3–6   Command Line Parameters for the soa-upgrade.py Script

Parameter	Description
username	Administrator username for your SOA domain.
password	Administrator password for your SOA domain.
wlsHost	Host name where your WebLogic Server/SOA domain are installed.
adminServerListenPort	Administration Server listen port number for your SOA domain.
targetList	Comma-separated list of SOA Managed Servers or SOA clusters in the SOA domain.

After running this command, stop and restart all the servers.

3.8.6.4 Updating the Oracle Data Integrator Clients if BAM-ODI Integration is Enabled

If you are currently using Oracle BAM and Oracle Data Integrator (ODI) integration, you must re-run an installation script to update your ODI clients after patching your software.

The Oracle BAM interface used by ODI has undergone some changes between releases which require an update by all ODI client endpoints. This manual step is only required for domains where a BAM-ODI integration has been configured.

For each such domain, you must run the *SOA_ORACLE_HOME*/bam/bin/bam_odi_ configuration.sh (on UNIX operating systems) or *SOA_ORACLE_ HOME*\bam\bin\bam_odi_configuration.bat (on Microsoft Windows operating systems) script. Use the PATCH command line parameter to copy the Oracle BAM artifacts. For details, see "Using Oracle Data Integrator With Oracle BAM" in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

If ODI and Oracle BAM Server are installed on hosts in different networks, or for any reason you cannot use the script in your environment, you must manually do the following to update your ODI clients:

1. Using the Middleware home directory under which Oracle BAM is installed, generate a `wlfullclient.jar` file by using the instructions in "Using the WebLogic JarBuilder Tool" in *Oracle Fusion Middleware Programming Stand-alone Clients for Oracle WebLogic Server*.

2. Copy `wlfullclient.jar` to the *ODI_ORACLE_HOME*/lib/weblogic (on UNIX operating systems) or *ODI_ORACLE_HOME*\lib\weblogic (on Windows operating systems) directory.

3. Copy the following Oracle BAM `.jar` files to the `lib` directory in the ODI Oracle home:

    On UNIX operating systems:

```
SOA_ORACLE_HOME/bam/modules/oracle.bam_11.1.1/oracle-bam-common.jar
SOA_ORACLE_HOME/bam/modules/oracle.bam_11.1.1/oracle-bam-etl.jar
SOA_ORACLE_HOME/bam/modules/oracle.bam_11.1.1/oracle-bam-adc-ejb.jar
SOA_ORACLE_HOME/bam/modules/oracle.bam.thirdparty_11.1.1/commons-codec-1.3.jar
SOA_ORACLE_HOME/bam/modules/oracle.bam.thirdparty_11.1.1/xstream-1.3.1.jar
oracle_common/modules/oracle.odl_11.1.1/ojdl.jar
oracle_common/modules/oracle.jps_11.1.1/jps-api.jar
oracle_common/modules/oracle.dms_11.1.1/dms.jar
oracle_common/modules/org.jaxen_1.1.1.jar
```

On Windows operating systems:

```
SOA_ORACLE_HOME\bam\modules\oracle.bam_11.1.1\oracle-bam-common.jar
SOA_ORACLE_HOME\bam\modules\oracle.bam_11.1.1\oracle-bam-etl.jar
SOA_ORACLE_HOME\bam\modules\oracle.bam_11.1.1\oracle-bam-adc-ejb.jar
SOA_ORACLE_HOME\bam\modules\oracle.bam.thirdparty_11.1.1\commons-codec-1.3.jar
SOA_ORACLE_HOME\bam\modules\oracle.bam.thirdparty_11.1.1\xstream-1.3.1.jar
oracle_common\modules\oracle.odl_11.1.1\ojdl.jar
oracle_common\modules\oracle.jps_11.1.1\jps-api.jar
oracle_common\modules\oracle.dms_11.1.1\dms.jar
oracle_common\modules\org.jaxen_1.1.1.jar
```

4. Copy the following Oracle BAM Knowledge Modules from the *SOA_ORACLE_HOME*/bam/ODI/knowledge_modules (on UNIX operating systems) or *SOA_ORACLE_HOME*\bam\ODI\knowledge_modules (on Windows operating systems) directory to the *ODI_HOME*/lib (on UNIX operating systems) or *ODI_HOME*\lib (on Windows operating systems) directory:

```
KM_CKM Get Oracle BAM Metadata.xml
KM_IKM SQL to Oracle BAM (delete).xml
KM_IKM SQL to Oracle BAM (insert).xml
KM_IKM SQL to Oracle BAM (looksert natural).xml
KM_IKM SQL to Oracle BAM (looksert surrogate).xml
KM_IKM SQL to Oracle BAM (update).xml
KM_IKM SQL to Oracle BAM (upsert).xml
KM_LKM Get Source Metadata.xml
KM_LKM Oracle BAM to SQL.xml
KM_RKM Oracle BAM.xml
```

5. Backup the following *ODI_HOME* configuration files.

On UNIX operating systems:

```
ODI_HOME/lib/bam_odi.logging.properties
ODI_HOME/lib/config/BAMODIConfig.xml
```

On Windows operating systems:

```
ODI_HOME\lib\bam_odi.logging.properties
ODI_HOME\lib\config\BAMODIConfig.xml
```

6. Copy the new version of the ODI configuration files from the *SOA_ORACLE_HOME*/bam/ODI (on UNIX operating systems) or *SOA_ORACLE_HOME*\bam\ODI (on Windows operating systems) directory to the *ODI_ORACLE_HOME* directory as follows.

> **Note:** If you made any changes to the ODI configuration files before you installed the patch set, then you must make those changes again after you copy the new configuration files from the SOA Oracle home.

On UNIX operating systems:

```
SOA_ORACLE_HOME/bam/ODI/config/bam_odi.logging.properties to ODI_HOME/lib/bam_
odi.logging.properties
SOA_ORACLE_HOME/bam/ODI/config/BAMODIConfig.xml to ODI_
HOME/lib/config/BAMODIConfig.xml
```

On Windows operating systems:

```
SOA_ORACLE_HOME\bam\ODI\config\bam_odi.logging.properties to ODI_HOME\lib\bam_
odi.logging.properties
SOA_ORACLE_HOME\bam\ODI\config\BAMODIConfig.xml to ODI_
HOME\lib\config\BAMODIConfig.xml
```

3.8.6.5 Committing or Reverting Open Edit Sessions in SOA Composer

Before upgrading from a previous release to 11.1.1.5.0, make sure all Edit sessions in SOA Composer are committed or reverted.

SOA Composer provides DT@RT functionality to edit rules dictionaries after deployment. After upgrading to the latest version, all uncommitted sessions in SOA Composer will lost or there can be issues accessing the edit sessions. This is because the MDS sandboxes (used for handling sessions) are not upgraded.

To commit or revert the sessions:

1. Log in to the SOA Composer (`/soa/composer`) as any user with active sessions.

2. Go to **Open > My Edits** to view all of your active sessions.

3. Open each documents listed in "My Edits" and do one of the following:

   a. Click **Commit** to commit the session changes.

   b. Select **Revert > Clear all session edits and saved changes** to abort the changes.

   Either step will result in the session being closed.

3.8.6.6 Saving and Restoring XEngine Customizations for Oracle B2B

The procedure in this section is needed only if you use custom XEngine configurations in cases where B2B server is integrated with B2B EDI endpoints.

In such cases, all B2B domains created from the same installation share the a single XEngine configuration stored within the following directory:

- On UNIX operating systems:

  ```
  MW_HOME/SOA_ORACLE_HOME/soa/thirdparty/edifecs/XEngine
  ```

- On Windows operating systems:

  ```
  MW_HOME\SOA_ORACLE_HOME\soa\thirdparty\edifecs\XEngine
  ```

To preserve your XEngine customizations:

1. Prior to patching Oracle SOA Suite, back up all contents in the following directory:

   ```
   MW_HOME/SOA_ORACLE_HOME/soa/thirdparty/edifecs/XEngine
   ```

   For example, on a UNIX operating system:

   ```
   cp -pr SOA_ORACLE_HOME/soa/thirdparty/edifecs/XEngine backup_location
   ```

2. Run the Patch Set Installer to update the software.

3. Unzip the XEngine ZIP file in the following directory:

```
MW_HOME/SOA_ORACLE_HOME/soa/thirdparty/edifecs/XEngine
```

For example, on a UNIX operating system:

```
cd SOA_ORACLE_HOME/soa/thirdparty/edifecs
gunzip XEngine.tar.gz
tar -xvf XEngine.tar
```

4. Restore only the customized configuration files from your backup location.

For example, if you made changes to the XERegistry.xml file on a UNIX operating system:

```
cp backup_location/config/XERegistry.xml
    SOA_ORACLE_HOME/soa/thirdparty/edifecs/XEngine/config
```

3.8.7 Post-Patching Tasks for Oracle Enterprise Content Management Suite

This section contains the following topics:

- Section 3.8.7.1, "Updating Oracle I/PM in Oracle Enterprise Content Management Suite"

- Section 3.8.7.2, "Updating Oracle Application Adapters for Oracle Enterprise Content Management Suite"

- Section 3.8.7.3, "Applying Patch 12369706 for Oracle Information Rights Management"

3.8.7.1 Updating Oracle I/PM in Oracle Enterprise Content Management Suite

After updating your Oracle Enterprise Content Management Suite software to Release 11.1.1.5.0 from 11.1.1.3.0, the manual steps in this section must be performed to target a newly distributed library to the Oracle Imaging and Process Management (Oracle I/PM) deployment. If these steps are not performed, the Oracle I/PM Managed Server (default of IPM_server1) will not start.

1. Start Oracle WebLogic Server and open the Console:

```
http://administration_server_host:administration_server_port/console
```

2. For production systems, go to the "Change Center" portion of the navigation panel on the left and click **Lock & Edit**.

3. Targeting the Oracle Application Core Stub file:

a. In the "Domain Structure" portion of the navigation panel on the left, click **Deployments**.

b. Above the "Deployments" table, click the **Install** button.

c. In the "Path" field, browse to the directory containing the Oracle Application Core Stub file.

The default location is MW_HOME/oracle_common/atgpf/modules/oracle.applcore.model_11.1.1 (on UNIX operating systems) or MW_HOME\oracle_common\atgpf\modules\oracle.applcore.model_11.1.1 (on Windows operating systems).

d. Select the oracle.applcore.model.stub.ear file and click **Next**.

  e. Select **Install this deployment as a library** and click **Next**.

  f. Select `IPM_server1` as the deployment target and click **Next**.

  g. Click **Finish**.

4. Targeting the Oracle SOA Libraries file for BPM:

> **Note:** If `oracle.soa.workflow.wc.jar` is already installed due
> to Oracle SOA Suite being a part of the domain, you should skip the
> following Steps a-f. Instead, navigate to `oracle.soa.workflow.wc`
> in deployments, then go into its "Targets" tab and target `IPM_`
> `server1`.

  a. In the "Domain Structure" portion of the navigation panel on the left, click
   Deployments.

  b. Above the "Deployments" table, click the **Install** button.

  c. In the "Path" field, browse to the directory containing the Oracle SOA
   Libraries file.

   The default location is *ECM_ORACLE_*
   HOME`/soa/modules/oracle.soa.workflow_11.1.1` (on UNIX
   operating systems) or *ECM_ORACLE_*
   HOME`\soa\modules\oracle.soa.workflow_11.1.1` (on Windows
   operating systems).

  d. Select the `oracle.soa.workflow.wc.jar` file and click **Next**.

   A message indicating errors while parsing the deployment will appear in the
   "Messages" box at the top of the screen. The configuration will treat this as a
   library deployment. This is expected.

  e. Select `IPM_server1` as the deployment target and click **Next**.

  f. Click **Finish**.

5. For production systems, go to the "Change Center" portion of the navigation panel
 on the left and click **Accept Changes**.

6. Any instances of the IPM Managed Server must be restarted for this change to take
 effect.

7. Redeploy the *ECM_ORACLE_HOME*`/ipm/lib/imaging.ear` (on UNIX operating
 systems) or *ECM_ORACLE_HOME*`\ipm\lib\imaging.ear` (on Windows
 operating systems) file.

 To redeploy this file:

```
java weblogic.Deployer -redeploy -name appName
```

 Where *appName* is the name of the application as defined in the `config.xml` file.

 You can also redeploy using WLST using the `redeploy()` command:

```
redeploy("appName")
```

3.8.7.2 Updating Oracle Application Adapters for Oracle Enterprise Content Management Suite

The Oracle Enterprise Content Management Suite application adapters as described in
Oracle Fusion Middleware Administrator's Guide for Oracle Application Adapters for Oracle

Enterprise Content Management contain manual steps for installing the adapters to their respective ERP system (EBS and PeopleSoft). In order to update to from Release 11.1.1.3.0 to Release 11.1.1.5.0, these adapters must be reinstalled.

To reinstall the EBS adapter:

1. Follow the instructions in "Compiling Oracle E-Business Suite Forms" in *Oracle Fusion Middleware Administrator's Guide for Oracle Application Adapters for Oracle Enterprise Content Management* to update the `AXF_CUSTOM.PLL` module.

2. Follow the instructions in "Configuring the Integration for SSL" in *Oracle Fusion Middleware Administrator's Guide for Oracle Application Adapters for Oracle Enterprise Content Management*.

To re-import the PeopleSoft project, follow the instructions (steps 1-6) in "Importing the Oracle PeopleSoft Project" in *Oracle Fusion Middleware Administrator's Guide for Oracle Application Adapters for Oracle Enterprise Content Management*.

3.8.7.3 Applying Patch 12369706 for Oracle Information Rights Management

The 11.1.1.5.0 Oracle IRM Server Management Console has an issue that requires a patch to be applied to the installed or upgraded system. When rights are being selected for a context, the **Properties**, **Edit**, and **Remove** buttons are always disabled and cannot be used. Selecting one or more rights will not enable the buttons. Patch 12369706 fixes this issue.

To download and apply the patch to Oracle IRM:

1. Log in to My Oracle Support:

   `https://support.oracle.com/`

2. Click the **Patches & Updates** tab.

3. Enter the patch number, `12369706`, in the **Patch Name or Number** field, under **Patch Search**.

4. Click **Search**.

5. Follow the installation instructions provided with the patch.

3.8.8 Adding New OWSM Pre-Defined Policies

Each new patchset of Oracle Web Services Manager (OWSM) can contain new pre-defined web services policies. If your existing domain was created or extended with the **Oracle WSM Policy Manager** template in the Configuration Wizard, you must do the following to take advantage of these new policies for your domain:

1. Use `connect()` to connect to the server running the `owsm-pm` application.

2. Run the `upgradeWSMPolicyRepository()` WLST command as described in "Upgrading the Oracle WSM Policies in the MDS Repository" in the *Oracle Fusion Middleware Security and Administrator's Guide for Web Services*.

3.8.9 Oracle Service Bus Domain Configuration

Follow the instructions in this section to update your Oracle Service Bus Release 11.1.1.2.0 or 11.1.1.3.0 domain configuration information to Release 11.1.1.5.0, after you have patched your Oracle Service Bus software to Release 11.1.1.5.0:

- Section 3.8.9.1, "Updating an Oracle Service Bus Domain After Applying the Latest Patch Set"

■ Section 3.8.9.2, "Additional Post-Update Tasks for Oracle Service Bus"

> **Note:** If you have installed the Oracle Service Bus schemas in a Microsoft SQL Server database, then you must also update the Oracle Service Bus schema. For more information, see Section 4.3, "Special Instructions for Oracle Service Bus Schemas Installed in a Microsoft SQL Server Database".

3.8.9.1 Updating an Oracle Service Bus Domain After Applying the Latest Patch Set

To update your Oracle Service Bus domain configuration information:

1. Make sure you have backed up and shut down all domains to be updated.

2. Under each Oracle Service Bus domain to be updated, open a command window and run the `DOMAIN_HOME`/bin/setDomainEnv.sh (on UNIX operating systems) or `DOMAIN_HOME`\bin\setDomainEnv.cmd (on Windows operating systems) command.

3. In the command window, switch to the directory in which the update scripts resides:

   `OSB_ORACLE_HOME`/common/lib/upgrade

4. On the command line, run the appropriate script for your operating system:

   On UNIX operating systems:

   ```
   java weblogic.WLST ./domainUpgrade.py
   ```

   On Windows operating systems:

   ```
   java weblogic.WLST domainUpgrade.py
   ```

3.8.9.2 Additional Post-Update Tasks for Oracle Service Bus

This section describes the required tasks after updating your Oracle Service Bus software to the latest version.

3.8.9.2.1 Deleting Oracle WebLogic Server 11g Release 1 (10.3.3) You need to create a new Server pointing to Weblogic Server 11*g* Release 1 (10.3.5) to successfully publish the Oracle Service Bus configuration to the server. In order to do this, you need to delete Oracle WebLogic Server 11*g* Release 1 (10.3.3).

To delete Oracle WebLogic Server 11*g* Release 1 (10.3.3), use the following steps:

1. Select Oracle WebLogic Server 11*g* Release 1 (10.3.3), right click and select **Delete** option.

2. Uncheck **Stop server(s) before deleting** and click **OK**.

3.8.9.2.2 Creating Servers You can deploy (publish) and test your Oracle Service Bus configuration on a running server in Eclipse. When connected to a running server in development, you can also connect to resources in the run-time environment such as JNDI resources and remote EJBs.

If you have an existing Oracle WebLogic Server you want to connect to, the server creation process simply involves you pointing at the existing server domain. If you want to create a new server, the new server wizard lets you create one using the Oracle Fusion Middleware Configuration Wizard.

To Create a Server in Eclipse, use the following steps:

1. In the Oracle Service Bus perspective, select **File** > **New** > **Server**. The New Server wizard appears.

2. Select the server type/version you want to create or connect to.

3. For **Server's host name**, enter **localhost** for a local server or enter the name or IP address of the remote system hosting an existing server.

4. The **Server name** is for display purposes in Eclipse.

5. Click **Next**.

6. For **WebLogic home**, click **Browse** and select the *WebLogic_Server_HOME* in the Oracle Fusion Middleware installation where the server domain is to reside (or already resides). For example, if you are creating a new server in *MW_HOME_1*, select the *MW_HOME_1/WebLogic_Server_HOME*; or if you are connecting to an existing server domain in *MW_HOME_2*, select the *MW_HOME_2/WebLogic_Server_HOME*.

    > **Note:** You cannot reference a *WebLogic_Server_HOME* that is outside of the server's installation *MW_HOME*, even if the external *MW_HOME* is the same product version.

7. The **Java home** should be populated automatically. If you want to use a different JRE, such as the default Oracle JRockit JRE, click **Browse** and select the JRE under the same *MW_HOME* as the server.

8. Click **Next**.

9. Select whether the server is **Local** or **Remote**. Remote implies an existing remote server.

    -   If **Local**, either select an existing server in the Domain Directory field or click the link to create a new domain. After creating a new domain, select it in the Domain Directory field.

        Set other options as desired, such as automatic publishing and debug mode.

        For information on creating a new Oracle Service Bus domain, see "Configuring Oracle Service Bus" in the *Oracle Fusion Middleware Installation Guide for Oracle Service Bus Installation Guide*.

    -   If **Remote**, enter the connection settings to an existing remote server.

10. Click **Next.**

11. Move any Oracle Service Bus configuration(s) you want to publish on the server to the Configured pane. You can modify this targeting after you create the server by right-clicking the server and selecting **Add and Remove**.

12. Click **Finish**. The new server appears in the Servers view in Eclipse, where you can start, stop, and publish to the server.

3.8.10 Post-Patching Tasks for Oracle Business Intelligence

This section contains instructions for post-patching tasks for Oracle Business Intelligence. It contains the following topics:

-   Section 3.8.10.1, "Updating Oracle Business Intelligence Code Grants"

-   Section 3.8.10.2, "Updating Oracle Business Intelligence Catalogs"

■ Section 3.8.10.3, "Updating Oracle Real-Time Decisions"

> **Note:** Before you continue, make sure you have performed the tasks in Section 3.8.4, "Post-Patching Tasks for System Components" to update your Oracle Business Intelligence system components.

3.8.10.1 Updating Oracle Business Intelligence Code Grants

If you are updating to the latest version of Oracle Business Intelligence (BI) from Release 11.1.1.3.0, you must run the `bi-upgrade.py` script in each Oracle BI domain. This script configures the code grants necessary to ensure that SSL works correctly for Oracle BI, and must be run even if SSL is not used.

To run the script on UNIX operating systems:

```
cd MW_HOME/oracle_common/common/bin
./wlst.sh BI_ORACLE_HOME/bin/bi-upgrade.py --bioraclehome BI_ORACLE_HOME
--domainhome bi_domain_home
```

To run the script on Windows operating systems:

```
cd MW_HOME\oracle_common\common\bin
wlst.cmd BI_ORACLE_HOME\bin\bi-upgrade.py --bioraclehome BI_ORACLE_HOME
--domainhome bi_domain_home
```

Replace `BI_ORACLE_HOME` with the full path to your Business Intelligence Oracle home location, and replace `bi_domain_home` with the full path to your Business Intelligence domain home location.

3.8.10.2 Updating Oracle Business Intelligence Catalogs

When updating your Oracle Business Intelligence (BI) software from Release 11.1.1.3.0 to 11.1.1.5.0, you must manually update your Oracle BI Presentation Catalogs. Instructions are provided below:

1. Shut down Oracle BI Presentation Services using Oracle Enterprise Manager.

   For details, see "Using Fusion Middleware Control to Start and Stop Oracle Business Intelligence System Components and Java Components" in *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

2. Back up your Release 11.1.1.3.0 catalogs by using the 7-Zip utility to create a compressed file for it.

3. Create a backup copy of the `instanceconfig.xml` file.

   The `instanceconfig.xml` file is located in the *ORACLE_INSTANCE*/config/OracleBIPresentationServicesComponent/coreapplication_obips*n* (on UNIX operating systems) or *ORACLE_INSTANCE*\config\OracleBIPresentationServicesComponent\coreapplication_obips*n* (on Windows operating systems) directory.

4. Change the `upgradeAndExit` option to `true` in the `instanceconfig.xml` file.

   Find the following code:

   ```
   <ps:Catalog xmlns:ps="oracle.bi.presentation.services/config/v1.1">
      <ps:UpgradeAndExit>false</ps:UpgradeAndExit>
   </ps:Catalog>
   ```

   Change it to the following:

```
<ps:Catalog xmlns:ps="oracle.bi.presentation.services/config/v1.1">
   <ps:UpgradeAndExit>true</ps:UpgradeAndExit>
</ps:Catalog>
```

5. Start Oracle BI Presentation Services using the following OPMN command the update the catalogs:

```
opmnctl startproc ias-component=coreapplication_obipsn
```

For example, on a UNIX operating system:

```
cd ORACLE_INSTANCE/bin
./opmnctl startproc ias-component=coreapplication_obips1
```

On a Windows operating system:

```
cd ORACLE_INSTANCE\bin
opmnctl startproc ias-component=coreapplication_obips1
```

6. After the catalogs are updated, edit the `instanceconfig.xml` file again and change the `upgradeAndExit` option back to `false`.

7. Restart Oracle BI Presentation Services using Fusion Middleware Control.

3.8.10.3 Updating Oracle Real-Time Decisions

This section describes how to upgrade Oracle Real-Time Decisions (RTD). The following steps are required:

- Section 3.8.10.3.1, "Update the rtd_ils Resource Type Using WLST"
- Section 3.8.10.3.2, "Add Permissions to the BIAdministrator Principle Using EM"
- Section 3.8.10.3.3, "Removing JMS"

3.8.10.3.1 Update the rtd_ils Resource Type Using WLST Perform the following to add actions to the `rtd_ils` resource type:

1. Navigate to the `MW_HOME`/oracle_common/common/bin (on UNIX operating systems) or `MW_HOME`\oracle_common\common\bin (on Windows operating systems) directory.

2. Launch the WebLogic Scripting Tool (WLST).

   On UNIX operating systems:

   ```
   ./wlst.sh
   ```

   On Windows operating systems:

   ```
   wlst.cmd
   ```

3. Connect to the WebLogic Server using the `connect()` command:

   ```
   connect('adminuser', 'adminuser_password', 't3://admin_server_host:admin_
   server_port')
   ```

   Replace `adminuser` and `adminuser_password` with the name and password of the Administrator you provided during the Oracle BI installation. Replace `admin_server_host` and `admin_server_port` with the host name and port number of the system where Oracle WebLogic Server is running. Below is a sample command:

   ```
   connect('exampleuser', 'examplepassword', 't3://examplehost:7001')
   ```

4. List all resources of the resource type "rtd_ils" using the following command:

```
listResources(appStripe="obi", type="rtd_ils")
```

This will list all ILS's deployed to the RTD server. For example, if the sample ILS CrossSell was deployed to your RTD server, you would see the following:

```
[Name: CrossSell Type: rtd_ils DisplayName: CrossSell Description: CrossSell ]
```

5. Delete all resources of resource type "rtd_ils" using the following command:

```
deleteResource(appStripe="obi", name=resource_name, type="rtd_ils")
```

For example, the following command would delete the CrossSell resource:

```
deleteResource(appStripe="obi", name="CrossSell", type="rtd_ils")
```

6. Run the `listResources()` command again to ensure all the resources have been deleted:

```
listResources(appStripe="obi", type="rtd_ils")
```

There should be no resources listed.

7. Delete the resource type "rtd_ils":

```
deleteResourceType(appStripe="obi", resourceTypeName="rtd_ils")
```

8. Create a resource type "rtd_ils" using the following `createResourceType()` command:

```
createResourceType(appStripe="obi",
resourceTypeName="rtd_ils",
displayName="ILS",
description="Inline Service name",
matcher="oracle.security.jps.ResourcePermission",
allowedActions="choice_editor,decision_service:stress,open_
service:write,decision_service:normal,open_service:read,deploy_
service,download_service,clear_choice_history,clear_statistics,clear_
study,clear_all_operational_data,delete_service,unlock_service,clear_model",
delimiter=",")
```

9. Disconnect from Oracle WebLogic Server:

```
disconnect()
```

10. Exit from the WebLogic Scripting Tool:

```
exit()
```

3.8.10.3.2 Add Permissions to the BIAdministrator Principle Using EM The steps in this section need to be performed if you are using the BIAdministrator principle included with the product, of if you have replaced the BIAdministrator principle included with the product with your own principle:

1. Using a browser, connect to Fusion Middleware Control:

```
http://admin_server_host:admin_server_port/em
```

2. In the left tree view, select Weblogic Domain / bifoundation_domain.

3. In the content pane, select **Security/Application Policies** from the drop down "WebLogic Domain".

4. Check **Select Application Stripe to Search**, and select "obi" from its drop down list.

5. Leave the Principal and Permissions blank.

6. Click the **Search** button next to the Permission field.

7. From the search result, click on the Principal "BIAdministrator" (or the name of your own principle if you are not using "BIAdministrator").

8. Click the **Edit** button.

9. In the Edit Application Grant pane, go to the Permissions section and click the **Add** button.

10. In the Add Permission dialog, under the Customize section, add the following entries:

```
Permission Class: oracle.security.jps.ResourcePermission
Resource Name: resourceType=rtd_ils,resourceName=_all_
Permission Actions: clear_choice_history,clear_statistics,clear_study,clear_
all_operational_data,delete_service,unlock_service,clear_model
```

11. Click **OK** in the Add Permission dialog.

12. Click **OK** button in the Edit Application Grant pane.

3.8.10.3.3 Removing JMS In earlier releases, Oracle RTD relied on JMS for its intra-member cluster communication. In the latest release, JMS is replaced with JRF web services. This is an optional step and no functionality will be affected if you choose not to perform this step.

To remove JMS for Oracle RTD:

1. Using a browser, connect to the Administration Server Console:

   ```
   http://admin_server_host:admin_server_port/console
   ```

2. Click **Lock & Edit**.

3. Under Domain Structure, expand **Services > Messaging**.

4. Click **JMS Modules**.

5. On JMS Modules table in the right pane, select RTDJMSMODULE.

6. Click the **Delete** button, then click the **Yes** button to confirm.

7. On the left pane, click **JMS Servers** (under Services > Messaging).

8. On the JMS Servers table on the right pane, select RTDJmsServer.

9. Click the **Delete** button, then click the **Yes** button to confirm.

10. Click the **Activate Changes** button.

3.8.11 Post-Patching Tasks for Oracle Data Integrator

This section contains instructions for post-patching tasks for Oracle Data Integrator. It contains the following topics:

- Section 3.8.11.1, "Finalizing Repository Patching"
- Section 3.8.11.2, "Reconfiguring the Java EE Agent"
- Section 3.8.11.3, "Reconfiguring the ODI Standalone Agent"

- Section 3.8.11.4, "Reconfiguring Oracle Enterprise Manager Properties"

3.8.11.1 Finalizing Repository Patching

After you have patched the Oracle Data Integrator schemas in your database (Chapter 4, "Updating Your Schemas with Patch Set Assistant"), you must update the following repository objects (technologies, profiles, knowledge modules), which are not updated with Patch Set Assistant:

- Technology Changes

  - Added: ComplexFile and Groovy

  - Changed: Oracle

    * Natural keyword join was added

    * Join capability was extended to BOTH

    * Default table name prefixes were added

  - Changed: Teradata

  - Changed: PostgreSQL

  - Changed: Netezza

  - Changed: OracleBI

  - Changed: Hypersonic In-Memory Engine

  - Changed: PostgreSQL supports SQL for retrieving sequences

- Language Changes: Groovy was added

- Profile Changes

  Changes were made to LoadPlan support in the following profiles:

  - [NG] DESIGNER

  - [NG] REPOSITORY EXPLORER

  - [NG] VERSION ADMIN

  - OPERATOR

  - SECURITY_ADMIN

- Knowledge Modules

  LKM File to Oracle (SQLLDR) works after removing 'import javaos' from KM step 'call sqlldr'. The old LKM no longer works with an upgraded Jython version.

For more information about how to update these repository objects, see "Oracle Data Integrator Post-Upgrade Tasks" in *Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator*.

3.8.11.2 Reconfiguring the Java EE Agent

By default, ODI ships a static Java EE Agent deployment template. To reconfigure the Java EE agent:

1. Make sure the Administrator Server and ODI Managed Servers are up and running.

2. Add the WebLogic Server classes to the *CLASSPATH* environment variable and the *WebLogic_Home*/server/bin (on UNIX operating systems) or *WebLogic_*

Home\server\bin (on Windows operating systems) directory to the *PATH* environment variable.

This can be accomplished by running the setWLSEnv script located in the *WebLogic_Home*/server/bin (on UNIX operating systems) or *WebLogic_ Home*\server\bin (on Windows operating systems) directory.

3. Undeploy the version 11.1.1.3.0 Java EE agent from your domain using the following command:

```
java weblogic.Deployer -url admin_server_url -username admin_server_username
-password admin_server_password -targets odi_server_name -name odi_agent_name
-undeploy
```

For example:

```
java weblogic.Deployer -url http://examplehost.com:7001 -username exampleuser
-password examplepassword -targets odi_server1 -name oraclediagent -undeploy
```

For more information, see "Managing Deployed Applications" in *Oracle Fusion Middleware Deploying Applications to Oracle WebLogic Server*.

4. Run the Configuration Wizard. On the Select Domain Source screen, select the **Oracle Data Integrator – Agent – 11.1.1.0** template.

For more information, see "Configure a WebLogic Domain" in *Oracle Fusion Middleware Installation Guide for Oracle Data Integrator*.

ODI also enables you to generate a Java EE agent deployment template from ODI Studio. You can customize the Java EE agent with additional data sources and libraries. To do so:

1. Undeploy the version 11.1.1.3.0 Java EE agent from your domain.

For more information, see "Managing Deployed Applications" in *Oracle Fusion Middleware Deploying Applications to Oracle WebLogic Server*.

2. Using ODI Studio version 11.1.1.5.0 or the command line script to generate equivalent Java EE agent template with required data sources and additional libraries.

For more information on data source declaration, deployment and template generation in ODI Studio, see "Java EE Agent" in the *Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator*.

3. Run the Configuration Wizard. On the Select Domain Source screen, select **Oracle Data Integrator – Agent Libraries– 11.1.1.0** to deploy the template.

4. Run the Configuration Wizard a second time, and on the Select Domain Source screen, deploy the generated version 11.1.1.5.0 ODI Java EE agent template to the domain.

3.8.11.3 Reconfiguring the ODI Standalone Agent

To reconfigure the ODI standalone agent:

1. Make sure you have backed up the necessary files and directories as described in "Back Up Files for Oracle Data Integrator Java EE Standalone Agent" in Section 3.4.4, "Back Up Additional Configuration Information".

2. Run the Oracle Data Integrator installer.

On the Configure Repositories Install screen, choose **Skip Repository Creation**.

3. After the installation is complete:

- Restore the *ODI_HOME*/oracledi/agent/bin/odiparams.sh (on UNIX operating systems) or *ODI_HOME*\oracledi\agent\bin\odiparams.bat (on Windows operating systems) file.

- Restore the *ODI_HOME*/oracledi/agent/drivers (on UNIX operating systems) or *ODI_HOME*\oracledi\agent\drivers (on Windows operating systems) directory.

For more information, see "Stopping a Standalone Agent" and "Manually Configure the Standalone Agent" in *Oracle Fusion Middleware Installation Guide for Oracle Data Integrator*.

3.8.11.4 Reconfiguring Oracle Enterprise Manager Properties

After you have patched Oracle Data Integrator, some of the properties in Oracle Enterprise Manager are lost. To restore these properties, set the following property before starting the Managed Server on which the Oracle Data Integrator Console is deployed:

```
set JAVA_OPTIONS="-Doracle.odi.repex.view.main.init.skipem=false"
```

3.9 Start the Servers and Processes

After you have finished patching your software and performing any necessary post-patching tasks, you are ready to start the servers and processes.

Instructions for starting an Oracle Fusion Middleware environment are provided in "Starting an Oracle Fusion Middleware Environment" in *Oracle Fusion Middleware Administrator's Guide*.

You can start Node Manager as described in "Starting Node Manager" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

3.10 Verify Your Patch Installation

To verify the installation, start your browser and enter the following URLs:

- To access the Administration Server console:

  ```
  http://host:admin_server_port/console
  ```

- If you configured your Administration Server to accept SSL connection, use the following URL to access the Administration Server console in secure mode:

  ```
  https://host:secure_admin_server_port/console
  ```

- To access Enterprise Manager:

  ```
  http://host:admin_server_port/em
  ```

You should receive a login screen. Enter your Administration Server user name and password to access the site.

For more information about the Administration Console, see "Getting Started Using Oracle WebLogic Server Administration Console" in *Oracle Fusion Middleware Administrator's Guide*.

For more information about Enterprise Manager, see "Getting Started Using Oracle Enterprise Manager Fusion Middleware Control" in *Oracle Fusion Middleware Administrator's Guide*.

4

Updating Your Schemas with Patch Set Assistant

The Patch Set Assistant is used in patch set releases only to update the database schema of an Oracle Fusion Middleware component. This tool updates 11*g* Release 1 schema versions 11.1.1.2.0, 11.1.1.3.0, and in some cases, 11.1.1.4.0 to version 11.1.1.5.0. See Table 4–1 for specific information.

If your existing schema version is earlier than 11.1.1.2.0, you must migrate to version 11.1.1.2.0 before you can run the Patch Set Assistant. See Appendix B, "Using Patch Assistant to Migrate from 11g Release 1 (11.1.1.1.0) to Release 1 (11.1.1.2.0)" for more information.

If you are interested in creating new schemas or dropping existing schemas, you must use the Repository Creation Utility (RCU). Information is provided in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

This chapter contains the following topics:

- Section 4.1, "Which Schemas Need to be Updated with Patch Set Assistant?"
- Section 4.2, "Special Instructions for Standalone Oracle Portal Repository Schemas"
- Section 4.3, "Special Instructions for Oracle Service Bus Schemas Installed in a Microsoft SQL Server Database"
- Section 4.4, "Before You Begin Using the Patch Set Assistant"
- Section 4.5, "Running the Patch Set Assistant"
- Section 4.6, "Patch Set Assistant Log Files"

4.1 Which Schemas Need to be Updated with Patch Set Assistant?

The component schemas in Table 4–1 (default names shown) must be updated with the Patch Set Assistant in order to update them to 11*g* Release 1 (11.1.1.5.0). Remember to also update the dependent schemas in addition to the component schemas for your own product.

> **Note:** Some products, such as Oracle Portal, are not released in 11.1.1.5.0. If you run the Patch Set Assistant for those products, you would be updating them to the latest available version, not 11.1.1.5.0.

Table 4–1 Schemas That Require Updating for the Latest Release

Component	Schema(s)	Dependencies	Required For
Common Schemas	*prefix*_IAU	None.	11.1.1.2.0 to 11.1.1.5.0
			11.1.1.3.0 to 11.1.1.5.0
	*prefix*_MDS	None.	11.1.1.2.0 to 11.1.1.5.0
			11.1.1.3.0 to 11.1.1.5.0
			11.1.1.4.0 to 11.1.1.5.0
Oracle Portal	*prefix*_PORTAL	None.	11.1.1.2.0 to 11.1.1.4.0
			11.1.1.3.0 to 11.1.1.4.0
Oracle Internet Directory	ODS **NOTE:** The Oracle Internet Directory schema (ODS) cannot be prepended with a custom prefix.	None.	11.1.1.2.0 to 11.1.1.5.0 11.1.1.3.0 to 11.1.1.5.0 11.1.1.4.0 to 11.1.1.5.0
Oracle Identity Management	*prefix*_OIM	The *prefix*_MDS and *prefix*_SOAINFRA schemas must be updated first.	11.1.1.3.0 to 11.1.1.5.0
Oracle Adaptive Access Manager	*prefix*_OAAM	The *prefix*_MDS schema must be updated first.	11.1.1.3.0 to 11.1.1.5.0
Oracle Adaptive Access Manager (Partition Support)	*prefix*_OAAM_PARTN	The *prefix*_MDS schema must be updated first.	11.1.1.3.0 to 11.1.1.5.0
Oracle Business Intelligence	*prefix*_BIPLATFORM	The *prefix*_MDS schema must be updated first.	11.1.1.3.0 to 11.1.1.5.0
Oracle Data Integrator (Master and Work Repository)	*prefix*_ODI_REPO	None.	11.1.1.3.0 to 11.1.1.5.0
Oracle SOA Suite	*prefix*_SOAINFRA	The *prefix*_MDS schema must be updated first.	11.1.1.2.0 to 11.1.1.5.0 11.1.1.3.0 to 11.1.1.5.0
Oracle WebCenter Schemas	*prefix*_WEBCENTER	The *prefix*_MDS schema must be updated first.	11.1.1.2.0 to 11.1.1.5.0 11.1.1.3.0 to 11.1.1.5.0
	*prefix*_DISCUSSIONS *prefix*_DISCUSSIONS_CRAWLER	None.	11.1.1.2.0 to 11.1.1.5.0 11.1.1.3.0 to 11.1.1.5.0

> **Note:** The WebCenter schemas must be updated in the following order: MDS first, followed by WEBCENTER, then DISCUSSIONS, then DISCUSSIONS_CRAWLER.
>
> If the Discussions Crawler schema has not previously been installed using RCU, then migrating Discussions will automatically install the Discussions Crawler schema, assigning the same password as the Discussions schema. If you then attempt to update the Discussions Crawler schema individually, the Patch Set Assistant will warn that the schema has already been updated.

If you attempt to patch a schema that is not in this list, you will see the following error message:

```
"UPGAST-02001: unsupported schema for patching: PREFIX_SCHEMANAME "
```

4.2 Special Instructions for Standalone Oracle Portal Repository Schemas

If you are using an Oracle Portal repository stored outside of the OracleAS Metadata Repository, then do not use the Patch Set Assistant to update the Portal schemas in the repository. Instead, refer to "Upgrading an Oracle Portal Repository in a Customer Database" in *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer*.

4.3 Special Instructions for Oracle Service Bus Schemas Installed in a Microsoft SQL Server Database

The instructions in this section are applicable only if you have Oracle Service Bus version 11.1.1.3.0 installed and configured on your system.

If you have installed the Oracle Service Bus schema in a Microsoft SQL Server database, then you must upgrade the schema when you apply the latest patch set to your Oracle Service Bus 11.1.1.3.0 environment.

Refer to the following special instructions for more information:

- If you have installed Oracle Service Bus as part of an existing Oracle SOA Suite domain, use the instructions in this chapter to run the Patch Set Assistant that is installed in the Oracle SOA Suite Oracle home after you install the latest patch set.

  The Patch Set Assistant utility installed in the Oracle SOA Suite Oracle home also updates the Oracle Service Bus schema that is installed in your Microsoft SQL Server database.

- If you are have installed Oracle Service Bus in its own Oracle WebLogic Server domain (without Oracle SOA Suite), then use the following instructions to upgrade the Oracle Service Bus schema in the Microsoft SQL Server database to the latest version:

  1. Locate the Oracle Service Bus schema upgrade script in the following location in the Oracle Service Bus Oracle home:

     OSB_ORACLE_HOME/dbscripts/mssql/upgrade_osb_111130_111140_sqlserver.sql

  2. Edit the script to replace the following string with the database user for the Oracle Service Bus schema:

     ```
     $(SCHEMA_USER)
     ```

  3. Connect to the SQL Server database and run the script to upgrade the schema.

4.4 Before You Begin Using the Patch Set Assistant

This section contains information about things you should check before you run the Patch Set Assistant:

- Section 4.4.1, "Back Up Your Database and Database Schemas"
- Section 4.4.2, "Check Your Database and Schemas"

■ Section 4.4.3, "Shut Down All Components Using the Schemas You Want to Update"

■ Section 4.4.4, "Check the aq_tm_processes Value for Oracle Portal"

4.4.1 Back Up Your Database and Database Schemas

Make sure you have backed up your existing database and database schemas before you run the Patch Set Assistant, as instructed in Section 3.4.3, "Back Up Your Database and Database Schemas".

4.4.2 Check Your Database and Schemas

Before running Patch Set Assistant, you should check to make sure that your database is up and running and that the schemas you want to update exist in the database. For example, on Oracle databases, use SQL*Plus to login as user *prefix_schemaname* to verify that the schema exists.

If you are using an Oracle database, you should recompile database objects after running the Patch Set Assistant by connecting to the database as SYS and running the following from SQL*Plus:

```
@?/rdbms/admin/utlrp.sql
```

4.4.3 Shut Down All Components Using the Schemas You Want to Update

Before running Patch Set Assistant, shut down any Oracle Fusion Middleware components (including the Managed Server and Oracle instances) that may be using the schemas you want to update.

4.4.4 Check the aq_tm_processes Value for Oracle Portal

If you are running the Patch Set Assistant for the Oracle Portal schema on an Oracle database, make user that the aq_tm_processes value in your database is greater than 0. To check, use the following command after connecting to the database:

```
show parameter aq_tm_processes;
```

If the value returned is 0, use the following command to change the value to 1:

```
alter system set aq_tm_processes=1 scope=both;
```

4.5 Running the Patch Set Assistant

The following sections describe how to run the Patch Set Assistant when you are installing the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.5.0) patch set:

■ Section 4.5.1, "General Information about the Patch Set Assistant"

■ Section 4.5.2, "Starting the Patch Set Assistant"

■ Section 4.5.3, "Command Line Syntax"

■ Section 4.5.4, "Additional Database Connection Information for Oracle Data Integrator"

■ Section 4.5.5, "Sample Commands"

■ Section 4.5.6, "Verifying the Schema Version Number After Update"

■ Section 4.5.7, "Checking for Invalid Database Objects"

■ Section 4.5.8, "Loading the Oracle SOA Suite Purge Scripts"

4.5.1 General Information about the Patch Set Assistant

The Patch Set Assistant is installed into the `bin` directory in your Oracle home by the Patch Set Installer (see Chapter 3, "Applying the Latest Oracle Fusion Middleware Patch Set").

You can only use the Patch Set Assistant to patch a component schema if the schema matches the product type in the Oracle home from which the Patch Set Assistant started. In other words, if you run the Patch Set Assistant from an Oracle home containing Oracle SOA Suite, you cannot patch your existing Oracle Portal schema; you would have to run the Patch Set Assistant from an Oracle home that contained Oracle Portal.

Below is the error message you would see if you tried to update the Oracle Portal schema from an Oracle home that did not contain Oracle Portal:

```
UPGAST-02002: unsupported Oracle home type for patching component PORTAL
The command failed to complete successfully
```

> **Note:** In an environment where no products other than Application Developer have been installed in an Oracle home, you can update the Metadata Services (*prefix*_MDS) schema from the `bin` directory in the Oracle Common Oracle home.

4.5.2 Starting the Patch Set Assistant

To start Patch Set Assistant, go to the `bin` directory in the Oracle home for the product schema you want to patch, then run the following command:

On UNIX operating systems:

```
cd ORACLE_HOME/bin
./psa
```

On Windows operating systems:

```
CD ORACLE_HOME\bin
psa.bat
```

4.5.3 Command Line Syntax

The full command line syntax for the Patch Set Assistant is shown below:

```
./psa (or psa.bat)
   [-dbType database_type]
   -dbConnectString 'database_connection_URL'
   (NOTE: single quote characters are only required for Microsoft SQL Server  and
IBM DB2 databases on UNIX operating systems)
   -dbaUserName dba_user_name
   -schemaUserName schema_user_name
   [-logLevel log_level]
   [-odi]
   [-invPtrLoc inventory_location]
```

See Table 4–2 for descriptions for these parameters.

Table 4–2   Patch Set Assistant Command Line Parameters

Parameter	Required or Optional Parameter?	Description
-dbType	Optional if database is Oracle; mandatory if database is non-Oracle.	Database type. Specify "Oracle", "Microsoft", or "IBM". If no database type is specified, the default is "Oracle." Oracle Data Integrator supports additional database types. See Section 4.5.4, "Additional Database Connection Information for Oracle Data Integrator" for more information.

-dbConnectString	Required.	Database connection URL.
		
		For Oracle databases on Windows and UNIX operating systems:
		
		`//host:port/service_name`
		
		For Microsoft SQL Server and IBM DB2 databases on Windows operating systems:
		
		`//host:port;DatabaseName=dbname`
		
		For Microsoft SQL Server and IBM DB2 databases on UNIX operating systems:
		
		`'//host:port;DatabaseName=dbname'`
		
		NOTE: For all non-Oracle databases on UNIX operating systems, the connection URL must be enclosed by a single quote (') character because of the way the UNIX shell treats the embedded semicolon (;) character.
		
		For Oracle RAC databases, you only need to specify the connection URL for a single instance.

-dbaUserName	Required.	Schema name of the database administrator user: ■ For Oracle databases, enter `SYS` or any user with DBA role. ■ For Microsoft SQL Server databases, enter `sa` or any user with db_owner role. ■ For IBM DB2 databases, enter `db2admin` or any user with DBA role. ■ For Hypersonic databases, enter `sa`. ■ For Sybase databases, enter `sa`. **NOTE**: If you are running the Patch Set Assistant against the Oracle Internet Directory (`ODS`) schema on Oracle databases, you must use the user `SYS`. You will be prompted for the database administrator password from the command line.

Table 4–2 (Cont.) Patch Set Assistant Command Line Parameters

Parameter	Required or Optional Parameter?	Description
-schemaUserName	Required.	User name of the schema being upgraded (for example, PORTAL, ODS, SOAINFRA, WEBCENTER, or IAU). ODS is the default schema name for Oracle Internet Directory.
		This name must match one of the existing schema names in the schema version registry, and it must be one of the schemas that is valid for upgrade (one of the schemas listed in Section 4.1, "Which Schemas Need to be Updated with Patch Set Assistant?").
		If the schema name does not match one of the schemas in the schema version registry, you will get the following error message:
		`UPGAST-02003: schema is not registered in schema version registry: "PREFIX_SCHEMANAME"`
		In addition, you must specify the schema user name in all CAPS for Microsoft SQL Server databases; this is because Microsoft SQL Server is case-sensitive and RCU creates schema names using all CAPS.
-logLevel	Optional.	Logging level. One of the following:
		■ TRACE
		■ NOTIFICATION
		■ WARNING
		■ ERROR
		■ INCIDENT_ERROR
		The default logging level is NOTIFICATION.
-odi	Required for Oracle Data Integrator to upgrade any ODI schemas not created by RCU.	This parameter is only needed for ODI schemas that were not created by RCU (for example, schemas created by the ODI Studio application). RCU only creates ODI schemas on Oracle, Microsoft SQL Server, and IBM DB2 databases.
		You will be prompted for the database administrator password and ODI 11*g* Master Repository schema password.
		The Oracle Data Integrator schema is supported on a variety of databases. For important information, see Section 4.5.4, "Additional Database Connection Information for Oracle Data Integrator" before running the Patch Set Assistant for your ODI schemas.
-invPtrLoc	Optional.	Alternate Oracle inventory location (UNIX operating systems only).
-help	Optional.	View all of the command line options.

4.5.4 Additional Database Connection Information for Oracle Data Integrator

Table 4–3 lists the additional connection information available for ODI. Specify the value in the **Database** column with the -dbType parameter, and specify the value in the **JDBC URL** column with the -dbConnectString parameter when running Patch Set Assistant.

> **Note:** If your ODI schemas are located on a Hypersonic SQL (HSQL) database version 1.7.3, you must upgrade your HSQL database version to version 2.0 before upgrading to ODI 11.1.1.5.0. For instructions on how to do this, see "Schema Cloning Process for Hypersonic SQL 1.7.3.3" in *Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator*.

Table 4–3   Available Database Connection Details For ODI

JDBC Driver	JDBC URL	Database
Oracle JDBC Driver	`jdbc:oracle:thin:@host:port:service_name`	Oracle
Sybase Direct JDBC Driver	`jdbc:weblogic:sybase://host:port[;property=value[;...]]`	Sybase
MySQL DataDirect JDBC Driver	`jdbc:weblogic:sqlserver://host:port[;property=value[;...]]`	Microsoft
DB2 DataDirect JDBC Driver	`jdbc:weblogic:db2://host:port[;property=value[;...]]`	IBM
Hypersonic 2.0 JDBC Driver	`jdbc:hsqldb:hsql://host[:port][/alias][;property=value...]`	Hypersonic

To see the specific database versions that are certified for your installation, refer to the "Oracle Fusion Middleware Supported System Configurations" document on the following page:

```
http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certi
fication-100350.html
```

4.5.5 Sample Commands

Below is an example command that will update the DEV_PORTAL schema in an Oracle database on a UNIX operating system:

```
./psa -dbType Oracle -dbConnectString //ExampleOracleDB:1521/orcl.us.oracle.com
-dbaUserName sys -schemaUserName DEV_PORTAL
```

Below is an example command that will update the ODS schema in an Oracle database on a UNIX operating system:

```
./psa -dbType Oracle -dbConnectString //ExampleOracleDB:1522/orcl2.us.oracle.com
-dbaUserName sys -schemaUserName ODS
```

Below is an example command that will update the DEV_SOAINFRA schema in a Microsoft SQL Server database on a Microsoft Windows operating system:

```
psa.bat -dbType Microsoft -dbConnectString
//ExampleSQLServerDB:1433;DatabaseName=ExampleSQLServerDB -dbaUserName sa
-schemaUserName DEV_SOAINFRA
```

Below is an example command that will update the DEV_WC schema in an IBM DB2 database on a UNIX operating system:

```
./psa -dbType IBM -dbConnectString 'ExampleDB2DB:50000;DatabaseName=ExampleDB2DB'
-dbaUserName db2admin -schemaUserName DEV_WC
```

4.5.6 Verifying the Schema Version Number After Update

You can use the SQL command below to verify that the schema version in schema_version_registry has been properly updated:

```
SELECT VERSION, STATUS, UPGRADED FROM SCHEMA_VERSION_REGISTRY WHERE OWNER='schema_
```

```
name';
```

Replace *schema_name* with the value supplied in the `-schemaUserName` parameter from the command line. The value UPGRADED flag='Y' indicates that schema has been upgraded to 11.1.1.5.0.

> **Note:** Unlike major releases which use Upgrade Assistant to upgrade one or more schemas at a time, Patch Set Assistant only updates a single schema (the one passed by `-schemaUserName`). In particular, the RUU component (Schema Version Registry) is not modified by Patch Set Assistant so its version number will remain at 11.1.1.3.0.

If the status appears as "INVALID" then the schema update failed. You should examine the logs files to determine the reason for the failure. For more information, see Section 4.6, "Patch Set Assistant Log Files".

4.5.7 Checking for Invalid Database Objects

If you are using an Oracle database, you should recompile database objects after running the Patch Set Assistant by connecting to the database as SYS and running the following from SQL*Plus:

```
SQL> @?/rdbms/admin/utlrp.sql
```

This will compile the database objects that were updated by Patch Set Assistant.

Then issue to following query to ensure there are no longer any invalid database objects:

```
SELECT owner, object_name FROM all_objects WHERE status='INVALID';
```

None of the database objects for the updated schema should be invalid at this point. If there are any, run the `utlrp.sql` command again and check again.

4.5.8 Loading the Oracle SOA Suite Purge Scripts

When the amount of data in Oracle Fusion Middleware databases grows very large, maintaining the databases can become difficult and can affect performance. Oracle Fusion Middleware 11*g* Release 1 (11.1.1.4.0) and later provide a set of tools that can help you purge the Oracle Fusion Middleware of unneeded data.

When a new Oracle Fusion Middleware user installs the latest Oracle SOA Suite schemas using the Repository Creation Utility (RCU), stored procedures required by the Oracle SOA Suite purge scripts are automatically installed in the database.

However, if you are running Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) or Release 1 (11.1.1.3.0), these stored procedures are not installed automatically. As a result, after you run the Patch Set Assistant to update your Oracle SOA Suite schemas to the latest version, you must manually install the necessary database objects using the following procedure. This procedure is necessary if you want to use the purging capabilities provided by Oracle SOA Suite 11*g* Release 1 (11.1.1.4.0) or later:

1. Locate, download, and unpack the latest Oracle Fusion Middleware 11*g* Repository Creation Utility (RCU) software archive.

   For more information, see "Obtaining RCU" in the *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

The directory where you unpack the RCU software is referred to as the *RCU_HOME* directory.

2. Using SQLPlus, connect to the database where the Oracle SOA Suite schemas are installed using the database user that owns the SOAINFRA schema.

3. Run the following script to load the database objects required for purging Oracle SOA Suite data:

   RCU_HOME/rcu/integration/soainfra/sql/soa_purge/soa_purge_scripts.sql

4. Run the following script to load the database objects required for verifying the Oracle SOA Suite data in the database:

   RCU_HOME/rcu/integration/soainfra/sql/verify/soa_verify_scripts.sql

After you load the database objects using the provided SQL scripts, refer to "Managing Database Growth" in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite* for more information.

4.6 Patch Set Assistant Log Files

The Patch Set Assistant writes log files to the following locations:

On UNIX operating systems:

ORACLE_HOME/upgrade/logs/psa*timestamp*.log

On Windows operating systems:

ORACLE_HOME\upgrade\logs\psa*timestamp*.log

Some components will create a second log file called psa*timestamp*.out, also in the same location.

The *timestamp* will reflect the actual date and time that Patch Set Assistant was run.

Should any failures occur when running Patch Set Assistant, these log files will be needed to help diagnose and correct the problem; do not delete them. You can alter the contents of your log files by specifying a different -logLevel from the command line.

Some of the operations performed by the Patch Set Assistant may take longer to complete than others. If you want to see the progress of these long operations, you can see this information in the log file, or you can use the following query:

SELECT VERSION, STATUS, UPGRADED FROM SCHEMA_VERSION_REGISTRY WHERE OWNER='*schema_ name*';

In the query results, the STATUS field will be either "UPGRADING" or "UPGRADED" during the schema patching operation, and will become "VALID" when the operating is finished.

5

Patching Oracle WebCenter

This chapter provides instructions for Oracle WebCenter users who want to apply the 11.1.1.5.0 patch set to their existing Oracle WebCenter 11.1.1.2.0 or 11.1.1.3.0 installations.

If your existing software version is 11.1.1.4.0, you do not need to follow the instructions in this chapter. To patch your existing release 11.1.1.4.0 software, follow the instructions in Section 3.8.3, "Post-Patching Tasks If Your Starting Point is Release 11.1.1.4.0".

The following topics are covered:

- Preparing for Applying the Oracle WebCenter Patch Set
- Upgrading Oracle Universal Content Management 10g
- Removing the LD_LIBRARY_PATH Entry from the setDomainEnv Script
- Updating Oracle WebCenter to 11.1.1.5.0
- Performing Oracle WebCenter Post-Patching Tasks
- Adding New Features to Oracle WebCenter

For additional information about installing and patching Oracle WebCenter, refer to *Oracle WebCenter Installation and Configuration Roadmap*.

5.1 Preparing for Applying the Oracle WebCenter Patch Set

Before you perform the steps in this chapter, make sure you have performed the steps outlined in Section 3.4, "Perform General Pre-Patching Tasks". In addition, some WebCenter products require additional pre-patching attention:

- Section 5.1.2, "Saving Your OmniPortlet and WebClipping Customizations"
- Section 5.1.3, "Purging Old Documents in MDS for WebCenter Spaces"

5.1.1 Performing General Oracle Fusion Middleware Pre-Patching Steps

Before you begin patching your Oracle WebCenter environment, perform the steps outlined in Section 3.4, "Perform General Pre-Patching Tasks".

5.1.2 Saving Your OmniPortlet and WebClipping Customizations

This procedures in this section are needed only if you are using OmniPortlet and WebClipping customizations, and they are being used with a file-based preferences store. By default, in Oracle WebCenter and Portal, file-based preferences store is not

used. Such stores are only used by default for 11*g* Release 1 (11.1.1) Portal environments that were upgraded from their 10*g* versions.

When you apply the latest Oracle Fusion Middleware patch set, both the Omniportlet and WebClipping applications are re-deployed and all configuration data stored within file-based preference stores are lost. Therefore, before running Patch Set Installer, you must save the OmniPortlet and WebClipping configuration and customizations to ensure that customizations are not lost after applying the patch set.

To save and backup your customizations, you must first find the following directories on UNIX operating systems:

- `path_to_war_directory`/WEB-INF/providers/omniPortlet
- `path_to_war_directory`/WEB-INF/providers/webclipping/

On Windows operating systems:

- `path_to_war_directory`\WEB-INF\providers\omniPortlet
- `path_to_war_directory`\WEB-INF\providers\webclipping\

The `path_to_war_directory` refers to the following path on a UNIX operating system:

```
DOMAIN_HOME/servers/WLS_PORTAL/tmp/_WL_user/portalTools_version/randomly_
generated_directory/war
```

On a Windows operating system:

```
DOMAIN_HOME\servers\WLS_PORTAL\tmp\_WL_user\portalTools_version\randomly_
generated_directory\war
```

`DOMAIN_HOME` is the domain home locations for your Oracle Portal or Oracle WebCenter domain, as specified on the "Specify Domain Name and Location" screen in the Configuration Wizard.

After you locate the `omniportlet` directory, you can use the following command on UNIX operating systems to back up the directory:

```
cp -fr path_to_war_directory/WEB-INF/providers/omniPortlet backup_location
```

On Windows operating systems:

```
xcopy /y/e path_to_war_directory\WEB-INF\providers\omniPortlet backup_location
```

Then, after you patch your software, follow the instructions in Section 5.5.2, "Restoring Your OmniPortlet and WebClipping Customizations".

5.1.3 Purging Old Documents in MDS for WebCenter Spaces

If you are using WebCenter Spaces, you should run the purgeMetadata() WLST command to remove older versions of documents in MDS which will allow the patching process to run on a smaller set of data and thus decrease the time required to upgrade.

To purge metadata for WebCenter Spaces:

1. Start your Administration Server and Spaces Managed Server (`WLS_Spaces`) as the `purgeMetadata()` command is an online command.

2. Start WLST from your WebCenter Oracle home.

   On UNIX operating systems:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh
```

On Windows operating systems:

```
cd WebCenter_ORACLE_HOME\common\bin
wlst.cmd
```

3. Connect to the Administration Server using the WLST `connect()` command.

4. Run the `purgeMetadata()` WLST command. For example:

   ```
   purgeMetadata('webcenter', 'WLS_Spaces', 3060)
   ```

   See "purgeMetadata" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference* for more details.

5. Re-collect the database statistics. For example, you can connect to the WebCenter `MDS` schema using SQLPlus:

   ```
   execute dbms_stats.gather_schema_stats(ownname=>null, options=>'GATHER AUTO');
   ```

For more information, see "Metadata Services (MDS) Custom WLST Commands" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

5.2 Upgrading Oracle Universal Content Management 10*g*

If you have Oracle Universal Content Management 10*g* installed, it is recommended that you upgrade to Release 11*g* before you patch Oracle WebCenter to the latest version in order to take advantage of the full set of features. If you choose not to upgrade, you will only have access to a subset of features (see Table 5–1 for a comparison of available features).

Table 5–1   Oracle WebCenter Features Supported by Oracle Content Server 10.1.3.5.1 and 11g

Feature	Description	Support Available in OCS 10.1.3.5.1?	Support Available in OCS 11g?
Spaces/Group Spaces	Support available for Space folder creation and role mapping.	No	Yes
Home Space/Personal space	Support available for automatic creation of Home Space folders.	No	Yes
IFRAME Support	Support to show Oracle Content Server UI directly in WebCenter applications. Support also available for creating content profiles and editing advanced properties of items.	No	Yes, if OHS installed and `webContextRoot` set in your connection, and IFRAME is enabled.
Wiki Document	Support for creating a wiki document. The **New Wiki Document** option is available for creating a new wiki document.	No	Yes
Advanced metadata edit	Support for editing advanced metadata details, such as the user access list and web site object. If the properties are editable, an Edit button is displayed in the Properties pane.	No	Yes, if IFRAME is enabled.

Table 5–1   (Cont.) Oracle WebCenter Features Supported by Oracle Content Server 10.1.3.5.1 and 11g

Feature	Description	Support Available in OCS 10.1.3.5.1?	Support Available in OCS 11g?
Thumbnails	When viewing a document, in the Properties pane, a thumbnail is rendered at the top. If there are multiple versions of the document, a thumbnail is rendered for each version.	No	Yes
Upload profiles	When uploading a document, you can choose the profile to use.	No	Yes, if IFRAME feature is available.
Document Previewer - Web rendition	When viewing a document, if there is a web rendition, it is displayed. The web rendition is the native file of the web viewable (html, image or PDF), or in the case of OCS, the IBR has created one (PDF rendition only in this case).	No When clicking on a document, if it is not a file type which can be rendered without slide previewer/renditions (image, .html, .txt) properties are shown instead.	Yes When OCS setup is not set up to have web renditions, it shows file properties.
Document Previewer - Slide Previewer	When viewing a document, a slide preview of the document is rendered.	No	Yes, if IFRAME and DynamicConverter are enabled, and Dynamic Converter templates have been created.
Item Level Security	An item gets security from its own settings; it does not inherit the security from the Space in which it resides.	No	Yes, if: ■ `UseEntitySecurity =true` ■ Document or folder security group included in `SpecialAuthGro ups` ■ `RoleEntityACL` component is enabled
AutoVue	Support for document review and collaboration feature available in Oracle AutoVue	No	Yes
Wiki and blogs page styles	Wiki and Blog page styles available for creating a page	No	Yes, in a Space or Home Space in which the Documents service is enabled.
Site Studio content creation and editing	Ability to create and edit Site Studio content from within the Content Presenter wizard, and from the content contribution mode of Content Presenter.	No	Yes, if Site Studio components have been installed on Oracle Content Server.
Site Studio region templates	Ability to use Site Studio region templates to render Site Studio content.	No	Yes, if Site Studio components have been installed on Oracle Content Server, and region templates have been created for the selected content.
Content edit	Ability to edit non-Site Studio content from within the Content Presenter wizard.	No	Yes

If you choose to stay with Oracle Content Management 10*g*, you must install the latest `UpdateBundle` and `Folders_g` components. You can obtain these from My Oracle Support (formerly OracleMetaLink: `https://support.oracle.com`).

Oracle Universal Content Management 11*g* is included as part of Oracle Enterprise Content Management. See *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Content Management Suite* for installation instructions.

For instructions on upgrading to Oracle Universal Content Management 11*g*, see *Oracle Fusion Middleware Upgrade Guide for Enterprise Content Management*.

If Oracle WebCenter and Oracle Content Server are installed in the same domain, no additional configuration is required for using an external LDAP authentication provider. Authentication provider configuration is applicable to an entire domain.

5.3 Removing the LD_LIBRARY_PATH Entry from the setDomainEnv Script

Before patching Oracle WebCenter, you must remove the following entry in the *DOMAIN_HOME*/bin/setDomainEnv.sh (on UNIX operating systems) or *DOMAIN_HOME*\bin\setDomainEnv.cmd (on Windows operating systems) file:

```
LD_LIBRARY_PATH="${WL_HOME}/server/native/linux/i686${CLASSPATHSEP}${LD_LIBRARY_PATH}"
export LD_LIBRARY_PATH
```

5.4 Updating Oracle WebCenter to 11.1.1.5.0

There are two main methods for updating Oracle WebCenter to 11.1.1.5.0. Use the information in the following sections to determine which method to use and to perform the update:

- Section 5.4.1, "Choosing Your Oracle WebCenter Update Method"
- Section 5.4.2, "Updating Oracle WebCenter Using WLST Commands"
- Section 5.4.3, "Updating Oracle WebCenter Using Node Manager and Automated Script"

5.4.1 Choosing Your Oracle WebCenter Update Method

Patching your Oracle WebCenter middle tier involves additional steps not required by other Fusion Middleware products.

You must choose one of the following update options:

- Section 5.4.2, "Updating Oracle WebCenter Using WLST Commands"
- Section 5.4.3, "Updating Oracle WebCenter Using Node Manager and Automated Script"

If you have Oracle WebCenter installed on multiple machines, you can only update your software by using WLST commands (Section 5.4.2, "Updating Oracle WebCenter Using WLST Commands"). Make sure that the WebCenter Oracle home directory on each machine is updated.

5.4.2 Updating Oracle WebCenter Using WLST Commands

If you choose not to configure the Node Manager, you can update your middle tier by using WebLogic Scripting Tool (WLST) commands. Before you do so, first do the following:

1. Run the Oracle WebCenter installer to update your Oracle WebCenter software.

    For more information, see Section 3.5.2, "Download the Installer" and Section 3.5.3, "Start the Installer".

2. Update your database schemas.

    For more information, see Section 3.7, "Update Your Schemas with Patch Set Assistant".

After you have patched your Oracle WebCenter software and database schemas, you must run the WLST commands in this section to complete the middle tier update. You must run these commands from the same machine on which the Administration Server is running.

Follow the instructions below to complete the upgrade of your Oracle WebCenter domain:

1. Stop all Managed Servers, including the Administration Server.

2. Start WLST from the WebCenter Oracle home.

    On UNIX operating systems:

    ```
    cd WebCenter_ORACLE_HOME/common/bin
    ./wlst.sh
    ```

    On Windows operating systems:

    ```
    cd WebCenter_ORACLE_HOME\common\bin
    wlst.cmd
    ```

3. Make sure the external LDAP server is up and running, then run the `upgradeOpss` command in offline mode (without connecting to any server):

    On UNIX operating systems:

    ```
    upgradeOpss(jpsConfig='DOMAIN_HOME/config/fmwconfig/jps-config.xml',
    jaznData='MW_HOME/oracle_common/modules/oracle.jps_11.1.1/domain_
    config/system-jazn-data.xml')
    ```

    On Windows operating systems:

    ```
    upgradeOpss(jpsConfig='DOMAIN_HOME\config\fmwconfig\jps-config.xml',
    jaznData='MW_HOME\oracle_common\modules\oracle.jps_11.1.1\domain_
    config\system-jazn-data.xml')
    ```

    Note: If you need to re-run the `upgradeOpss()` command, you must exit the current WLST session and start a new session before re-running `upgradeOpss()`.

    ---

4. Run the `upgradeWebCenterDomain` command in offline mode:

    ```
    upgradeWebCenterDomain(domainDirName='DOMAIN_HOME', oracleHome='WebCenter_
    ORACLE_HOME', upgradeCustomSpaces=[1|0])
    ```

- domainDirName - Replace *DOMAIN_HOME* with the full path to your Domain home directory.

- oracleHome - Replace *WebCenter_ORACLE_HOME* with the full path to your WebCenter Oracle home directory.

- upgradeCustomSpaces - Set to 1 if you used the custom.webcenter.spaces shared library to customize WebCenter Spaces and you want to migrate your customizations to the upgraded instance. For information about how to user your extensions in WebCenter Spaces (11.1.1.5.0), refer to:

  http://www.oracle.com/technetwork/middleware/webcenter/owc s-ps4-wcs-ext-samples-wp-406559.pdf

  ---

  WARNING: **If you upgrade your WebCenter domain with** upgradeCustomSpaces **set to** 0**, none of your previous customizations will be available in the upgraded WebCenter Spaces instance and there is no facility to migrate WebCenter Spaces customizations after the upgrade process.**

For example:

```
upgradeWebCenterDomain(domainDirName='/home/Oracle/Domains/wc_domain',
oracleHome='/home/Oracle/Middleware/Oracle_WC1', upgradeCustomSpaces=1)
```

Note: You may see error messages when you run the upgradeWebCenterDomain command. These errors can be safely ignored so long as there is some text indicating that your operation was completed successfully. For more information about the error messages, refer to *Oracle Fusion Middleware Release Notes*.

---

5. Start the Administration Server.

6. Connect to the Administration Server.

```
connect()
```

7. In the domain that is running the WebCenter Spaces Managed Server, run the upgradeWebCenterPermissions command.

```
upgradeWebCenterPermissions()
```

Note: You may see error messages when you run the upgradeWebCenterPermissions command. These errors can be safely ignored so long as there is some text indicating that your operation was completed successfully. For more information about the error messages, refer to the *Oracle Fusion Middleware Release Notes*.

---

8. All of the instructions to this point have been for a single node. If your domain has servers running on more than one machine, you will need to pack and unpack your domain to replicate the changes to other nodes in your cluster.

To pack and unpack your updated domain:

a. Pack the Administration Server:

```
cd WebCenter_ORACLE_HOME/common/bin
./pack.sh -managed=true -domain=DOMAIN_HOME -template=wcdomaintemplate.jar
-template_name=wc_domain_template
```

b. Copy `wcdomaintemplate.jar` to the `WebCenter_ORACLE_HOME`/common/bin on the other machines.

c. Remove or move the old domain directories (`DOMAIN_HOME` and `APPLICATION_HOME`) on the other machines.

d. Unpack the domain on each of the other machines:

```
cd WebCenter_ORACLE_HOME/common/bin
./unpack.sh -domain=DOMAIN_HOME -template=wcdomaintemplate.jar
```

9. Start the WebCenter Managed Servers:

- `WC_Spaces` (WebCenter Spaces)

- `WC_Portlet` (Oracle Portlet Producers)

- `WC_Collaboration` (Oracle WebCenter Discussion Server)

Make sure the `WC_Spaces` server is up and running before moving on to the next step.

10. Disconnect from the Administration Server and connect to the `WC_Spaces` server as an Oracle WebCenter administrator that is defined in the external LDAP server and is defined as an administration user in the embedded Oracle WebLogic Server.

It is important to note that the administration user must be defined both as a user in the external LDAP directory and as a user with administration privileges in the embedded Oracle WebLogic Server LDAP directory.

If necessary, you can add a user to the Administration Group of the embedded Oracle WebLogic Server LDAP server, as follows:

1. Log in to the WebLogic Server console.

2. Click **Security Realms** and select the "myrealm" link.

3. Click the **Roles/Policies** tab.

4. Expand **Global Roles**, then expand **Roles**, then click "View Role Conditions" for the **Admin** role.

5. Click **Add Condition**, then select **User** from the "Predicate List" field, then click **Next**.

6. Enter the user name in the "User Argument Name" field, then click **Add**.

7. Click **Finish**. The user you just entered should now be listed along with the administrators.

8. Save your changes and exit.

11. In the domain that is running the WebCenter Spaces managed server, run the `upgradeWebCenterApplication` command.

```
upgradeWebCenterApplication(appName='webcenter')
```

If you have a cluster environment where there are multiple servers with WebCenter Spaces deployed, you must specify the server name. For example:

```
upgradeWebCenterApplication(appName='webcenter', server="server_name")
```

12. Copy the Trust Store file from the Oracle home directory to the Oracle WebLogic Server domain directory.

For example:

```
cp MW_HOME/oracle_common/modules/oracle.jps_11.1.1/jps-wls-trustprovider.jar
        DOMAIN_HOME/lib/mbeantypes/jps-wls-trustprovider.jar
```

13. Update your OWSM policies, as described in Section 3.8.8, "Adding New OWSM Pre-Defined Policies". This step is required if your upgraded domain has Oracle Web Services Manager (OWSM) installed.

14. Restart the Administration Server and the Managed Servers in the domain.

5.4.3 Updating Oracle WebCenter Using Node Manager and Automated Script

The Oracle WebCenter patch includes a script called `upgrade.py`. This script will shut down all the Managed Servers and the Administration Server at the beginning of the update process, and then start all the servers during the update process.

You can only use this script if you have set up Node Manager correctly (see Section 5.4.3.1, "Configuring Node Manager") and verified that is been configured correctly (see Section 5.4.3.2, "Verifying Your Node Manager Configuration"). If you have not configured Node Manager correctly, you must use the WLST commands instead of this script (Section 5.4.2, "Updating Oracle WebCenter Using WLST Commands").

To use the script, you must perform all of the tasks below:

- Section 5.4.3.1, "Configuring Node Manager"

- Section 5.4.3.2, "Verifying Your Node Manager Configuration"

- Section 5.4.3.3, "Updating Your Oracle WebCenter Software and Database Schemas"

- Section 5.4.3.4, "Running the Oracle WebCenter Automated Script"

- Section 5.4.3.5, "Completing Your Update"

5.4.3.1 Configuring Node Manager

In order to use the `upgrade.py` script, you must configure Node Manager as follows:

1. Make sure that all the servers in the domain (including the Administration Server) are associated with a machine which is configured to use your Node Manager. See "Configure a Machine to Use Node Manager" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

2. If you are using demo certificates (the certificates that ship with Oracle WebLogic Server) then disable host name verification for all the servers. For more information, see "Disable host name verification" at the following URL:

```
http://download.oracle.com/docs/cd/E12839_
01/apirefs.1111/e13952/taskhelp/security/DisableHostNameVerificatio
n.html
```

3. Make sure the `StartScriptEnabled` property for the Node Manager is set to `true` in the `nodemanager.properties` file so that Managed Servers can receive proper classpath and command arguments.

Refer to *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server* for more information.

4. Make sure the `nmConnect` command can be used to connect to the Node Manager in WLST. If you are in a production environment, you will need to follow the instructions in "Using nmConnect in a Production Environment" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

5. Make sure the `nmStart` command can be used to start the Administration Server in WLST. If you are in a production environment, a user name and password may be required to start the Administration Server, so you will need to ensure that Node Manager has the credentials.

   For more information, refer to "nmstart" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*, and also "How Node Manager Starts an Administration Server" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

5.4.3.2 Verifying Your Node Manager Configuration

To verify that Node Manager has been configured correctly, do the following:

1. Stop all the servers in your domain.

2. Start WLST and connect to the Node Manager using `nmConnect`. For example, on a UNIX operating system:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh
nmConnect(username  = 'weblogic', password  = 'examplepassword', host =
'localhost', port = '5556', domainDir = 'DOMAIN_HOME', nmType = 'ssl')
```

3. Start the Administration Server using `nmStart`. For example:

```
nmStart('AdminServer')
```

4. Connect to the Administration Server in WLST and start a Managed Server. For example:

```
connect()
start('WLS_Spaces')
```

5. Check that the Managed Server is running and the applications are running. For example, try to access the following URL and log in:

```
http://localhost:8888/webcenter
```

5.4.3.3 Updating Your Oracle WebCenter Software and Database Schemas

After you have verified your Node Manager configuration, update your Oracle WebCenter software and database schemas:

1. Run the Oracle WebCenter installer to update your software. See Section 3.5.2, "Download the Installer" and Section 3.5.3, "Start the Installer".

2. Run the Patch Set Assistant to update your database schemas. See Section 3.7, "Update Your Schemas with Patch Set Assistant".

5.4.3.4 Running the Oracle WebCenter Automated Script

The `upgrade.py` script must be run on the same machine as the Administration Server, and is located in the *WebCenter_ORACLE_HOME*/webcenter/scripts/upgrade_11.1.1.4 (on UNIX operating systems) or

WebCenter_ORACLE_HOME\webcenter\scripts\upgrade_11.1.1.4 (on Windows operating systems) directory.

The script takes the following optional command line parameters:

- The path to the upgrade properties file.

  See Section 5.4.3.4.5, "Properties That can be Set in the Upgrade Properties File" and Section 5.4.3.4.6, "Formatting Your Properties File" for more information about the properties file.

- The password for the Administration Server administrator user.

- The password for the Node Manager.

Below is the command line syntax:

```
upgrade.py path_to_upgrade_properties_file administrator_password node_manager_
password
```

Refer to the following sections for examples of how to run the Oracle WebCenter script:

5.4.3.4.1   Example 1: No Optional Parameters Specified If no optional parameters are specified, the script will use the default values for all the properties with the exception of the domain.directory and the passwords; you will be prompted for these values. Below is an example:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh WebCenter_ORACLE_HOME/webcenter/scripts/upgrade_11.1.1.4/upgrade.py
```

5.4.3.4.2   Example 2: Specifying a Properties File and Setting the Value of user.config.file If you specify a properties file and that properties file sets the value of the user.config.file property, then the script will override the default values of the properties with the values specified in the properties file and connect to the Administration Server and Node Manager with the credentials stored in the user configuration file. Below is an example:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh WebCenter_ORACLE_HOME/webcenter/scripts/upgrade_11.1.1.4/upgrade.py
~/upgrade.properties
```

If you specify a properties file and that properties file does not set the value of the user.config.file property and you do not pass either password as a command line argument, then it will override the default values of the properties with the values specified in the properties file and prompt for the passwords.

5.4.3.4.3   Example 3: Specifying a Properties File and Administrator Password If you specify a properties file and *administrator_password*, then it will override the default values of the properties with the values specified in the properties file and will use the password specified to connect to the Administration Server. You will be prompted for the Node Manager password even if the Node Manager user name is the same as the Administrator user name. Below is an example:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh WebCenter_ORACLE_HOME/webcenter/scripts/upgrade_11.1.1.4/upgrade.py
~/upgrade.properties example_admin_password
```

5.4.3.4.4   Example 4: Specifying a Properties File, Administrator Password, and Node Manager Password If you specify a properties file, *administrator_password* and *node_manager_ password*, then it will override the default values of the properties with the values

specified in the properties file and will use the passwords specified to connect to the Administration Server and Node Manager. Below is an example:

```
cd WebCenter_ORACLE_HOME/common/bin
./wlst.sh WebCenter_ORACLE_HOME/webcenter/scripts/upgrade_11.1.1.4/upgrade.py
~/upgrade.properties example_admin_password example_nm_password
```

5.4.3.4.5 Properties That can be Set in the Upgrade Properties File Table 5–2 lists the properties that can be set in the upgrade properties file.

Table 5–2   Upgrade Properties File

Property	Description
domain.directory	The path to the domain directory (Domain Home).
oracle.home	The path to the WebCenter Oracle home directory.
admin.user	The name of a user that is part of the LDAP wired to WebCenter Spaces and has Administrator privileges in the WLS embedded LDAP. To give a user Administrator privileged in WLS embedded LDAP: 1. Log in to the WebLogic Server console. 2. Click **Security Realms** and select the security realm. 3. Click the **Roles/Policies** tab. 4. Expand **Global Roles** and **Roles**, then click "ViewRole Conditions" for the **Admin** role. 5. Select the **User** role from the drop-down list, enter the user ID, then click **Add**. 6. Save your changes and exit.
admin.url	The URL used to connect to the Administration Server.
admin.server	The name of the Administration Server.
nodemanager.user	The user name for the Node Manager.
nodemanager.host	The host name for the Node Manager server.
nodemanager.port	The port number for the Node Manager server.
nodemanager.type	The connection type for the Node Manager server.
upgrade.custom.spaces	Indicates whether previous WebCenter Spaces customizations using the custom.webcenter.spaces shared library (if any) are migrated to the upgraded instance. Set this property to true to migrate your customizations. **Warning**: If you upgrade your WebCenter domain with upgrade.custom.spaces set to FALSE, none of your previous customizations will be available in the upgraded WebCenter Spaces instance, and there is no facility to migrate WebCenter Spaces customizations after the upgrade process. For information about how to user your extensions in WebCenter Spaces (11.1.1.5.0), refer to: http://www.oracle.com/technetwork/middleware/webcenter/owcs-ps4-wcs-ext-samples-wp-406559.pdf

Table 5–2   (Cont.) Upgrade Properties File

Property	Description
`user.config.file`	Name and location of a user configuration file which contains an encrypted username and password. When you create a user configuration file, the `storeUserConfig` command uses a key file to encrypt the username and password. Only the key file that encrypts a user configuration file can decrypt the username and password.
	NOTE: if you set this property then you will not need to pass a password and it will not use the `admin.user` and `admin.url` properties.
	See `help('storeUserConfig')` in WLST for details on how to create a user configuration file.
`user.key.file`	Name and location of the key file that is associated with the specified user configuration file and is used to decrypt it.
	NOTE: you only need to set this property if you set the `user.config.file` property.
	See `help('storeUserConfig')` in WLST for details on how to create a user configuration file.

A sample upgrade properties (`upgrade.properties`) file is available in the *WebCenter_ORACLE_HOME*`/webcenter/scripts/upgrade_11.1.1.4` directory.

5.4.3.4.6   Formatting Your Properties File You must make sure you escape values correctly in your properties file. This is particularly import to when entering Windows paths because all backslashes must be escaped with backslashes (in other words, a single backslash is represented by two backslashes in a Java properties file).

Refer to the following URL for details:

```
http://java.sun.com/javase/6/docs/api/java/util/Properties.html#load%28
java.io.Reader%29
```

Below is a sample properties file on a Windows operating system:

```
domain.directory=C:\\Middleware\\domains\\domain_name
oracle.home=C:\\Middleware\\Oracle_WC1
admin.user=weblogic
admin.url=t3://examplehost:7001
admin.server=AdminServer
nodemanager.user=node_manager_user
nodemanager.host=localhost
nodemanager.port=5556
nodemanager.type=ssl
upgrade.custom.spaces=false
```

Below is a sample properties file on a UNIX operating system:

```
domain.directory=/home/Middleware/domains/domain_name
oracle.home=/home/Middleware/Oracle_WC1
admin.user=weblogic
admin.url=t3://examplehost:7001
admin.server=AdminServer
nodemanager.user=node_manager_user
nodemanager.host=localhost
nodemanager.port=5556
nodemanager.type=ssl
upgrade.custom.spaces=false
```

5.4.3.5 Completing Your Update

After you have run the automated script, do the following to complete your Oracle WebCenter update:

1. Copy the Trust Store file from the Oracle home directory to the Oracle WebLogic Server domain directory.

   For example:

   ```
   cp MW_HOME/oracle_common/modules/oracle.jps_11.1.1/jps-wls-trustprovider.jar
   DOMAIN_HOME/lib/mbeantypes/jps-wls-trustprovider.jar
   ```

2. Start the node manager, Administration Server, and the Managed Servers in the domain.

3. Update your OWSM policies, as described in Section 3.8.8, "Adding New OWSM Pre-Defined Policies".

5.5 Performing Oracle WebCenter Post-Patching Tasks

Depending on your system environment, patching Oracle WebCenter may require one or more of the following:

- Section 5.5.1, "Migrating Your Oracle Wiki Pages and Blogs"
- Section 5.5.2, "Restoring Your OmniPortlet and WebClipping Customizations"
- Section 5.5.3, "Upgrading Oracle WebCenter Custom Portal Managed Servers"
- Section 5.5.4, "Migrating Content Presenter Custom Templates"
- Section 5.5.5, "Updating Oracle WebCenter Portal Schemas"
- Section 5.5.6, "Updating Your Configuration for WebCenter REST APIs"
- Section 5.5.7, "Updating Multi Calendar Layouts"
- Section 5.5.8, "Extending a Domain to Install Oracle WSM Policy Manager"
- Section 5.5.9, "Setting the Web Context Root on the UCM Connection"
- Section 5.5.10, "Performing Post-Patching Tasks for WebCenter Spaces"
- Section 5.5.11, "Performing Post-Patching Tasks for Security Features"

5.5.1 Migrating Your Oracle Wiki Pages and Blogs

This section contains the following sections to help you migrate your existing Wiki pages and blogs for use in the newly patched Oracle WebCenter domain:

- Section 5.5.1.1, "Procedure for Migrating Oracle Wiki Pages and Blogs"
- Section 5.5.1.2, "Troubleshooting Problems During Wiki Migration"

5.5.1.1 Procedure for Migrating Oracle Wiki Pages and Blogs

If you have installed Oracle Wiki, you must run the Wiki Migrator utility, which is available in the following directory in the Oracle WebCenter Oracle home:

```
WEBCENTER_ORACLE_HOME/webcenter/archives/wiki-upgrade.jar
```

This utility migrates your wiki pages and blogs into group space-specific folders in UCM. Existing WebCenter Spaces pages for wikis and blogs will be migrated, accordingly.

This process also migrates attachments and provide links to them in your wiki pages as appropriate. Links to other wiki pages within your wiki page content will be updated to point to the new locations, provided that the URL in each link has the same WebCenter Spaces root that is provided in the migration parameters.

The migration process will not migrate comments, discussion threads, templates, nor will it alter any other wiki or blog content.

Any errors during this process can be found in the output log, which is located in the same directory as the `wiki-upgrade.jar` file. For more information, see Section 5.5.1.2, "Troubleshooting Problems During Wiki Migration".

Before performing wiki migration, make sure you do the following:

1. Make sure Oracle Universal Content Management (UCM) is upgraded to Release 11*g* (see Section 5.2, "Upgrading Oracle Universal Content Management 10g").

2. Verify that the root folder `PersonalSpaces` exists in UCM; this is the folder in which all personal folders get created. Wiki migration may fail if the `PersonalSpaces` folder does not exist in UCM. The `PersonalSpaces` folder is created when the WebCenter Spaces server is started. Therefore, it is recommended that you start the WebCenter Spaces server prior to performing wiki migration.

3. Update the folder limit in UCM as follows:

   a. Log in to the UCM user interface, go to **Administration > Folder Configuration** and change the "Maximum Folders Per Virtual Folder" and "Maximum Content Per Virtual Folder" to 1000.

   b. Create a temporary folder that the Wiki migration utility will use to store the orphan data (for example, the data that does not have a corresponding group space). This does NOT have to be a root folder; it can be created as the Administrator user under the PersonalSpaces or Group Space root folder. If a root folder is preferred, the service using the URL `IdcService=COLLECTION_ADD` will need to be used. For example:

   ```
   http://host:port/idc/idcplg?IdcService=COLLECTION_
   ADD&dParentCollectionID=-1&hasParentCollectionID=true&force=true%20&xForceF
   olderSecurity=FALSE&ignoreMaxFolderLimit=true&hasMark=true&dCollectionName=
   PS3WikiMigration_Orphans&mark=PS3WikiMigration_
   Orphans&dDocAccount=PUBLIC&idcToken=1290338486670:A17C2CCCCE0C2FD2544E0A1B2
   F03DB67
   ```

   Note the `idcToken` can be retrieved via the browser's Page Source from a logged in session to UCM. Alternatively, the attribute `DisableAuthorizationTokenCheck` can be disabled by selecting **Administration > Content Server > General Configuration > Additional Configuration Variables -> DisableAuthorizationTokenCheck=true** and then restarting the server.

After these tasks are finished, choose one of the following ways to run the `wiki-upgrade.jar` file:

- Do not pass any arguments from the command line, as follows:

  ```
  > cd WEBCENTER_ORACLE_HOME/webcenter/archives
  > MW_HOME/jdk160_21/bin/java -jar wiki-upgrade.jar
  ```

  You will be prompted for each of the required arguments listed in Table 5–3.

- Pass a properties file (`WikiMigrator.properties`) as an argument:

```
MW_HOME/jdk160_21/bin/java
   -jar WebCenter_ORACLE_HOME/webcenter/archives/wiki-upgrade.jar
   WikiMigrator.properties
```

The `WikiMigrator.properties` must reside in the same directory as
`wiki-upgrade.jar`. Below are the contents of a sample file:

```
MDSConn       = jdbc:oracle:thin:@exampleDB:1521:exampleSID
MDSUser       = dbuser_example_mds
UCMConn       = idc://examplehost:9444
UCMUser       = sysadmin
UCMConnName   = example_connection_name
UCMTempFolderPath = /RootFolder/.../TempFolder
wikiConn      = jdbc:oracle:thin:@exampleDB:1521:exampleSID
wikiUser      = example_wiki
SpacesRootURL = http://examplehost:port/webcenter
```

You will be prompted for the following from the command line:

- Enter MDS Password:

- Enter UCM Password:

- Enter Wiki Password:

■ Pass all arguments from the command line:

```
MW_HOME/jdk160_21/bin/java -jar wiki-upgrade.jar
  MDSConn MDSUser MDSPswd UCMConn UCMTempFolderPath UCMUser UCMPswd UCMConnName
  wikiConn wikiUser wikiPswd SpacesRootURL
```

For example:

```
java -jar WikiMigrator.jar
   jdbc:oracle:thin:@exampleDB:1521:exampleSID
   dbuser_example_mds
   example_mds_password
   idc://examplehost:9444
   sysadmin
   example_ucm_password
   example_ucm_connection_name
   example_path_to_ucm_temporary_folder
   jdbc:oracle:thin:@example:1521:exampleSID
   example_wiki
   example_wiki_password
   http://examplehost:port/webcenter
```

Table 5–3   Descriptions and Examples of the Wiki Migration Utility Arguments

Argument	Description or Example
MDS Spaces Data Source Connection	For example: `jdbc:oracle:thin:@host:port:SID`
MDS Spaces Data Source User	This is the name of the database user that is used to connect to the MDS data source.
MDS Spaces Data Source Password	This is the password to the database user that is used to connect to the MDS data source.
UCM Connection	For example: `idc://host:port`
UCM User	Use `sysadmin` as the UCM user; the user `weblogic` does not get administrator privileges with socket connections.
UCM Password	The password for the UCM user account.

Table 5–3   (Cont.) Descriptions and Examples of the Wiki Migration Utility Arguments

Argument	Description or Example
UCM Connection Name	This is the name used in Enterprise Manager or WLST to create the connection to UCM.
UCM Temporary Folder	For example: `/RootFolder/.../TempFolder`
Wiki Data Source Connection	For example: `jdbc:oracle:thin:@host:port:SID`
Wiki Data Source User	The name of the database user that is used to connect to the Wiki data source.
Wiki Data Source Password	The password for the database user that is used to connect to the Wiki data source.
Spaces Root URL	For example: `http://host:port/context_root`

Special Note for 10*g* Users

If you are migrating from a 10*g* release or Release 1 (11.1.1.1.0) version of Wiki, you must also perform the following after migration:

1. Log in to UCM and go to the **MigrationTemp** folder under `sysadmin` (or the UCM user running the migration program). Move the Wiki and Blog folders to the correct group space folder.

2. Log in to the group space and create a new page with Wiki or Blog page style. The name of the page must match the name of the wiki/blog folder in order for the page to properly display the wiki/blog content.

5.5.1.2 Troubleshooting Problems During Wiki Migration

During wiki migration, you may see some error messages in the output log. Descriptions and available workarounds are described below.

```
[INFO] PROCESSING Domain: domain_name
[INFO] migrating to temp folder - there is no webcenter page information stored on
the domain: domain_name
```

This message indicates that there is no data specified in the domain to connect it with a group space page (the wcURL on the domain is missing).

> **Note:**   The last part of the migration program will find any remaining unmigrated group space pages that still point to `owc_wiki` and will try to gather domain information from the page's source URL to be matched against a `jzwiki` domain. If the proper information is found, it will move the folder and content out of migration `temp` and into the proper group space folder.

```
[INFO] PROCESSING Domain: domain_name
[INFO] migrating to temp folder - invalid group space that corresponds to the
guid: group_space_guid
```

This message indicates that there is either no group space information specified in the domain, or the group space guid specified is not valid (the group space guid specified in the wcURL is not valid).

```
[INFO] PROCESSING Domain: domain_name
[INFO] migrating to temp folder - no group space that corresponds to the guid:
```

```
group_space_guid
```

This message indicates that the domain's group space information points to a group space that no longer exists. Doing a lookup with the group space guid does not find a corresponding group space name. Most likely the group space has been deleted.

```
[INFO] PROCESSING Domain: domain_name
[ERROR] migrating to temp folder - no UCM folder for the groupspace exists: page_
name, gsname: group_space_name
```

This message indicates that the spaces page has been migrated already, but the UCM folder for that group space does not exist.

To correct this, create the group space folder (by provisioning the Document service in the group space), and then move the folder (with the same name as the domain) from migration temp to the group space folder. Then rename the domain folder to have the same name as the page.

```
[INFO] PROCESSING Domain: domain_name
[ERROR] migrating to temp folder - could not get UCM folder for the wiki domain,
page: page_name, gsname: group_space_name
```

This message indicates that the spaces page has been migrated already, but the UCM folder for domain could not be created in the group space folder.

To correct this, move the folder (with the same name as the domain) from migration temp to the group space folder. Then rename the domain folder to have the same name as the page.

```
[INFO] PROCESSING Domain: domain_name
[ERROR] migrating to temp folder - no UCM folder exists for the user: user_name,
page: page_name
```

This message indicates that the spaces page has been migrated already, but the UCM folder for the user does not exist.

To correct this, create the user's personal folder (this folder is created when the user accesses Documents from the home space), and then move the folder (with the same name as the domain) from migration temp to the personal folder. Then rename the domain folder to have the same name as the page.

```
[INFO] PROCESSING Domain: domain_name
[ERROR] migrating to temp folder - could not get personal UCM folder for the user:
user_name, page: page_name
```

This message indicates that the spaces page has been migrated already, but the UCM folder for the domain could not be created in the user's personal folder.

To correct this, move the folder (with the same name as the domain) from migration temp to the user's personal folder. Then rename the domain folder to have the same name as the page.

```
[INFO] PROCESSING Domain: domain_name
[INFO] migrating to temp folder - default scope, but no user specified on page:
page_name
```

This message indicates that this is a personal wiki or blog, but the information stored on the domain (the wcURL passed in from the spaces page) does not indicate a user.

```
[INFO] PROCESSING Domain: domain_name
[INFO] sourceUrl: source_url
[INFO] migrating to temp folder - the page source url is not pointing to the
```

```
correct domain, page: page_name, wcURL: wcURL
```

This message indicates that there is more than one domain pointing to the same group space and page information, and the current domain being processed does not match the domain indicated in the source URL.

```
[INFO] PROCESSING User Blog: blog_name
[INFO] migrating to temp folder - could not get user UCM folder for the user:
user_name
```

This is a jzwiki user blog that is not connected with a domain. The message indicates that the UCM folder for the user does not exist, so the content could not be migrated there.

```
[INFO] PROCESSING User Blog: blog_name
[INFO] migrating to temp folder - could not get UCM folder for the user: user_name
```

This is a jzwiki user blog that is not connected with a domain. The message indicates that the "Blogs" UCM folder for the user does not exist and could not be created, so the content could not be migrated there.

5.5.2 Restoring Your OmniPortlet and WebClipping Customizations

After you have saved your customizations (Section 5.1.2, "Saving Your OmniPortlet and WebClipping Customizations") and successfully patched your software, you can restore OmniPortlet and WebClipping configuration and customizations as follows:

1. Find out the path to the following directories:

   On UNIX operating systems:

   - *path_to_war_directory*/WEB-INF/providers/omniPortlet

   - *path_to_war_directory*/WEB-INF/providers/webclipping/

   On Windows operating systems:

   - *path_to_war_directory*\WEB-INF\providers\omniPortlet

   - *path_to_war_directory*\WEB-INF\providers\webclipping/

   The *path_to_war_directory* refers to the following path on a UNIX operating system:

   DOMAIN_HOME/servers/WLS_PORTAL/tmp/_WL_user/portalTools_*version*/*randomly_generated_directory*/war

   On a Windows operating system:

   DOMAIN_HOME\servers\WLS_PORTAL\tmp_WL_user\portalTools_*version**randomly_generated_directory*\war

   DOMAIN_HOME is the domain home locations for your Oracle Portal or Oracle WebCenter domain, as specified on the "Specify Domain Name and Location" screen in the Configuration Wizard.

   > **Note:** Since the Patch Set Installer re-deployed the OmniPortlet and WebClipping applications, the new path may be different than the path from where you backed up customizations.

2. Replace these directories with their backed up copies.

For example, to restore the `omniportlet` directory, you can use the following command on a UNIX operating system:

```
cp -fr backup_location path_to_war_directory/WEB-INF/providers/omniPortlet
```

On a Windows operating system:

```
xcopy /y/e backup_location path_to_war_directory\WEB-INF\providers\omniPortlet
```

3. In the Oracle Portal domain, restart the Managed Server `WLS_PORTAL`.

4. In the Oracle WebCenter domain, restart the Managed Server `WC_Portlet`.

5.5.3 Upgrading Oracle WebCenter Custom Portal Managed Servers

If you have custom Managed Servers in your domain, then it may not have the correct libraries targeted to it after updating your software.

Follow the procedure below to resolve this issue:

1. Remove the old custom Managed Server.

   Managed Servers can be removed on the "Configure Managed Servers" screen when running the Oracle Fusion Middleware Configuration Wizard. See *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* for more information.

2. Run the Configuration Wizard to extend your existing domain and apply custom templates.

   On the "Select Extension Source" screen, select **Extend my domain using an existing extension template**. Navigate to the *WebCenter_ORACLE_HOME*/common/templates/applications (on UNIX operating systems) or *WebCenter_ORACLE_HOME*\common\templates\applications (on Windows operating systems) directory and find the following templates:

   - `oracle.wc_custom_portal_template_11.1.1.jar` (for WebCenter Custom Applications)
   - `oracle.wc_custom_services_producer_template_11.1.1.jar` (for WebCenter Custom Producer)

3. Select the desired template and complete the domain extension process.

4. Re-deploy your custom applications using the new custom Managed Servers.

   Oracle recommends that you open your projects in Oracle JDeveloper and migrate your applications to the latest version before deploying to the new Managed Server.

5.5.4 Migrating Content Presenter Custom Templates

If you have developed custom templates in your Release 11.1.1.3.0 applications, you must follow the steps below to register those templates in your Release 11.1.1.4.0 applications:

1. Open a Release 11.1.1.4.0 JDeveloper project.

2. Copy the Release 11.1.1.3.0 `.jsff` files to the Web Content `oracle/webcenter/portalapp` folder.

3. Right-click to create the site resource and specify the properties for the template that match how the template was previously registered in your Release 11.1.1.3.0 application:

a. If this template was used in WebCenter Spaces, right-click again after creating the site resource and export the file.

b. Log in to WebCenter Spaces and navigate to the Administration section.

c. Select **Resources > Content Presenter** and upload your template.

5.5.5 Updating Oracle WebCenter Portal Schemas

In Release 11.1.1.2.0 and 11.1.1.3.0, the *MW_HOME*/jdeveloper/jdev/extensions/oracle.webcenter.install/sql/oracle/wc_schema.sql (on UNIX Operating systems) or *MW_HOME*\jdeveloper\jdev\extensions\oracle.webcenter.install\sql\oracle\wc_schema.sql (on Windows Operating systems) could be used to created schemas used by custom WebCenter applications deployed to the custom Managed Servers. Since these schemas would not be registered in the schema version registry, Patch Set Assistant cannot be used to update them.

To update these schemas, use the *MW_HOME*/jdeveloper/jdev/extensions/oracle.webcenter.install/sql/oracle/11.1.1.4.0RR/wc_objects.sql (on UNIX operating systems) or *MW_HOME*\jdeveloper\jdev\extensions\oracle.webcenter.install\sql\oracle\11.1.1.4.0RR\wc_objects.sql (on Windows operating systems) script. For example:

```
sqlplus "exampleuser/examplepassword/@examplehost as sysdba" MW_
HOME/jdeveloper/jdev/extensions/oracle.webcenter.install/sql/oracle/11.1.1.4.0RR/w
c_objects.sql schemaname
```

5.5.6 Updating Your Configuration for WebCenter REST APIs

Before you can use the WebCenter Representational State Transfer (REST) APIs, you must perform the server-side configurations described in this section. You must perform two separate configurations:

- Section 5.5.6.1, "Configuring an Identity Asserter"
- Section 5.5.6.2, "Configuring the Credential Store"

You must configure an identity asserter and you must seed required entries in the credential store, which enables the REST security tokens to function properly.

> **Note:** This configuration is not required for the navigation REST APIs or for the CMIS REST APIs.

For more information about security tokens, see "Security Considerations for CMIS REST APIs" in *Oracle Fusion Middleware Developer's Guide for Oracle WebCenter*.

5.5.6.1 Configuring an Identity Asserter

You must configure an identity asserter before using the REST APIs. For detailed instructions, see "Configuring the REST Service" in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

5.5.6.2 Configuring the Credential Store

Run the following WLST commands to configure the credential store. Execute these commands while the server is running. You do not have to restart the server after executing these commands.

```
createCred(map="o.webcenter.jf.csf.map", key="keygen.algorithm",
    user="keygen.algorithm", password="AES")
createCred(map="o.webcenter.jf.csf.map", key="cipher.transformation",
    user="cipher.transformation", password="AES/CBC/PKCS5Padding")
```

5.5.7 Updating Multi Calendar Layouts

In Release 11.1.1.3.0, the Calendar Overlay Style "FULL" could be used to enable multiple calendars for some events task flow and add multiple space calendars in one events task flow. After upgrading to Release 11.1.1.4.0, the events task flow no longer displays multiple calendars (only the current space calendar is displayed).

To work around this issue, go to the page editor, find the Calendar Overlay Style parameter and select "Full" from the list of available options.

5.5.8 Extending a Domain to Install Oracle WSM Policy Manager

When you upgrade Oracle WebCenter, existing WSM-PM applications and associated datasource are re-targeted to the `WC_Collaboration` managed server. If your upgraded WebCenter domain has Oracle WebCenter Discussions Server installed, you must extend the domain to install Oracle WSM Policy Manager if not already installed.

To extend a WebCenter domain to install Oracle WSM Policy Manager:

1. Stop the Admin server and all managed servers.

2. Start the Configuration Wizard on the machine running the Admin server.

    On UNIX, run *WebCenter_ORACLE_HOME*/common/bin/config.sh.

    On Windows, run *WebCenter_ORACLE_HOME*\common\bin\config.cmd.

3. Select **Extend an existing WebLogic domain** and click **Next**.

4. Select your domain and click **Next**.

5. Select the checkbox for **Oracle WSM Policy Manager** and click **Next**.

6. Enter the connection details for **OWSM MDS Schema** and click **Next**.

7. Click **Next** on the remaining screens until you get the Configuration Summary screen, then click **Extend**.

    > **Note:** If your domain is running on multiple machines, you must pack the domain on the machine running the Administration Server and unpack on the other machines. For information, see Section 5.4.2, "Updating Oracle WebCenter Using WLST Commands."

5.5.9 Setting the Web Context Root on the UCM Connection

Assuming that the Universal Content Management (UCM) and WebCenter instances are configured for access through a common Oracle HTTP server, the Web Server Context Root property (`WebContextRoot`) on the existing UCM connection can be set either through Fusion Middleware Control or WLST using the `setJCRContentServerConnection` command to make UCM features available in the WebCenter application via an iFrame:

- To use Fusion Middleware Control, see "Setting Connection Properties for the WebCenter Spaces Content Repository Using Fusion Middleware Control" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

■ To use WLST, see "Setting Connection Properties for the WebCenter Spaces Content Repository Using WLST" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

5.5.10 Performing Post-Patching Tasks for WebCenter Spaces

This section contains the following topics:

■ Section 5.5.10.1, "Configuring Group Space Workflows"

■ Section 5.5.10.2, "Allowing Group Spaces to Have a Default Template Set"

■ Section 5.5.10.3, "Updating the Timezone Attribute in WebCenter Spaces"

■ Section 5.5.10.4, "Updating the Group Spaces Display Mode"

■ Section 5.5.10.5, "Migrating WebCenter Spaces Custom Library"

■ Section 5.5.10.6, "Starting Oracle BPM to Login to WebCenter Spaces"

5.5.10.1 Configuring Group Space Workflows

After updating your Oracle WebCenter environment to Release 11.1.1.4.0, if you have Group Space Workflows previously configured, you will need to do the following in order for Group Space Workflows to work properly:

1. Log in as administrator.

2. Deploy the Release 11.1.1.4.0 version of `WebcenterWorklistDetailApp.ear`.

3. Deploy the Release 11.1.1.4.0 version of `sca_CommunityWorkflows.jar`.

Refer to "Deploying WebCenter Applications" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter* for instructions on how to deploy WebCenter applications.

5.5.10.2 Allowing Group Spaces to Have a Default Template Set

Prior to Release 11.1.1.4.0, the WebCenter Spaces administrator had the ability to set default page template for personal spaces as well as group spaces. In Release 11.1.1.4.0, the latter option of setting a default page for group spaces is no longer available.

To set a default page for group spaces in Release 11.1.1.4.0:

1. As administrator, export the document:

   a. Start the WebLogic Scripting Tool (WLST).

   On UNIX operating systems:

   ```
   cd WebCenter_ORACLE_HOME/common/bin
   ./wlst.sh
   ```

   On Windows operating systems:

   ```
   cd WebCenter_ORACLE_HOME\common\bin
   ./wlst.cmd
   ```

   For more information, see "Running Oracle WebLogic Scripting Tool (WLST) Commands" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

   b. Run the `exportMetadata` WLST command:

   ```
   exportMetadata(application, server, toLocation, docs, [restrictCustTo],
   [excludeAllCust], [excludeBaseDocs], [excludeExtendedMetadata],
   ```

[*fromLabel*], [*toLabel*], [*applicationVersion*])

For example:

```
exportMetadata(application='webcenter', server='WC_Spaces',
toLocation='/tmp/myrepos',
docs='/oracle/webcenter/webcenterapp/metadata/mdssys/cust/site/webcenter/we
bcenter-config.xml.xml')
```

For more information see "exportMetadata" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

2. Edit the `webcenter-config.xml` file from the exported directory (for example, `/tmp/repos` on a UNIX operating system or `C:\TEMP\repos` on a Windows operating system), remove the `<defaultGSSiteTemplateId>` parameter, then save the file.

3. As administrator, import the document.

   a. Start the WebLogic Scripting Tool (WLST).

   On UNIX operating systems:

   ```
   cd WebCenter_ORACLE_HOME/common/bin
   ./wlst.sh
   ```

   On Windows operating systems:

   ```
   cd WebCenter_ORACLE_HOME\common\bin
   ./wlst.cmd
   ```

   For more information, see "Running Oracle WebLogic Scripting Tool (WLST) Commands" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

   b. Run the `importMetadata` WLST command:

   ```
   importMetadata(application, server, fromLocation, docs, [restrictCustTo],
   [excludeAllCust], [excludeBaseDocs], [excludeExtendedMetadata],
   [cancelOnException], [applicationVersion])
   ```

   For example:

   ```
   importMetadata(application='webcenter', server='WC_Spaces',
   fromLocation='/tmp/myrepos', docs='/**')
   ```

   For more information see "importMetadata" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

4. Verify that 'System Default' is now honouring the page template at the administration level for group spaces.

Note: WebCenter Spaces 11.1.1.4.0 supports the built-in skins, `Fusion FX` and `WebCenter Spaces FX`. Prior to Release 11.1.1.4.0, WebCenter Spaces supported various other built-in skins such as `Mist`, `DeepSea`, and `MistFX`. You can still use the old skins with your upgraded personal spaces and group spaces by using the format `#{'old family name'}` in EL expressions. However, you cannot use the old skins with any new Space or Home Space created in WebCenter Spaces 11.1.1.4.0.

5.5.10.3 Updating the Timezone Attribute in WebCenter Spaces

In Release 11.1.1.2.0, the Timezone attribute in WebCenter spaces is a free-form text field. In Release 11.1.1.4.0, this attribute is changed to a drop-down list.

If you are upgrading WebCenter Spaces from Release 11.1.1.2.0 to Release 11.1.1.4.0, the Timezone attribute is not carried over, and you must manually select the appropriate timezone from the drop-down list.

5.5.10.4 Updating the Group Spaces Display Mode

If you are upgrading WebCenter group spaces from Release 11.1.1.2.0 or 11.1.1.3.0, you must update the metadata of your group spaces to ensure that they display correctly.

To update a group space to display correctly:

1. Export the group space. For information, see the "Exporting Spaces" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

2. At a command prompt, go to the directory where you saved the export archive.

3. Extract the metadata from the export archive.

   For example, the following code extracts the export archive named `export.ear`, which contains `transport.mar`. The code further extracts `transport.mar` in a directory named `mar`.

   a. `jar xvf export.ear transport.mar`

   b. `mkdir mar`

   c. `cd mar`

   d. `jar xvf ../transport.mar`

   The `transport.mar` file contains `space.xml` that you must edit to update the group space's display mode.

4. Open the `space.xml` file from the following path:

   `oracle/webcenter/space/metadata/spaces/`*spaceName*`/space.xml`

   Where, *spaceName* refers to the name of the group space whose display mode you are updating.

5. Delete the entire `<shell-chrome-type>` entry from `space.xml`.

6. Update the export archive.

   For example, the following code updates the `space.xml` file in `transport.mar`, and then updates `transport.mar` in `export.ear`.

   a. `jar uvfM ../transport.mar`
      `oracle/webcenter/space/metadata/spaces/`*spaceName*`/space.xml`

   b. `cd ..`

   c. `jar uvfM export.ear transport.mar`

7. Import the group space. For information, see the "Importing Spaces" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

5.5.10.5 Migrating WebCenter Spaces Custom Library

If you have migrated WebCenter Spaces, check the following to see if any of the scenarios apply to your environment:

- By default, when you log in to WebCenter Spaces, the page you see when you log in is the page that was last accessed. This behavior can be overridden by setting the `oracle.webcenter.spaces.disableLastAccessPageBehavior` system property to `false` in the `setDomainEnv` domain startup script.

  If you have overridden the default behavior, you must re-apply this change when you migrate WebCenter Spaces.

- For page styles that are deployed through extending spaces (`custom.webcenter.spaces.war`):

  For each and every pageStyle, find the following:

  ```
  <af:pageTemplate
  ```

  And replace it with the following:

  ```
  <af:pageTemplate
  value="#{bindings.shellTemplateBinding.templateModel}" id="T"
  ```

  For each and every pageDef, find the following:

  ```
  <page>
  ```

  And replace it with the following:

  ```
  <page
  viewId="#{WCAppContext.application.siteTemplateManager.currentSiteTemplateViewI
  d}" id="shellTemplateBinding" Refresh="ifNeeded" />
  ```

5.5.10.6 Starting Oracle BPM to Login to WebCenter Spaces

If your WebCenter domain has been extended using the Oracle BPM Spaces template, and Process Spaces has been installed, any attempt to log in to WebCenter Spaces throws exceptions if the Oracle BPM server is down.

5.5.11 Performing Post-Patching Tasks for Security Features

This section contains the following topics:

- Section 5.5.11.1, "Configuring Web Services Security for Discussions"
- Section 5.5.11.2, "Adding Oracle Single Sign-On Authentication Provider to the List of Authentication Providers"

5.5.11.1 Configuring Web Services Security for Discussions

In Release 11.1.1.4.0, Oracle Discussions is shipped with no message protection for Web Service interaction between Discussions and Spaces; this allows you to use Discussions without further configuration. If you have a previous version of Oracle Discussions and the WebService call was protected with WS-Security, you will need to reapply this configuration after upgrading to Release 11.1.1.4.0.

In order to do so:

1. Configure the domain keystore.

   For more information, see "Configuring WS-Security" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

2. Setup WS-Security on the Discussions Server:

   a. Using the Enterprise Manager console, access the `owc_discussions` application and navigate to the WebServices section.

    b. Select the `OWCDiscussionsServiceAuthenticated` end point and attach the `oracle/wss11_saml_token_with_message_protection_service_policy` policy.

    c. Select the `OWCDiscussionsServicePublic` end point and attach the `oracle/ wss11_message_protection_service_policy` policy.

    d. Restart the `WC_Collaboration` Managed Server.

3. Secure the Spaces ForumConnection:

Using WLST:

    a. Connect to the domain server.

    b. Set the policy and recipient key alias. For example:

```
setDiscussionForumConnection('webcenter', name='forum-con-name',
policyURIForAuthAccess='oracle/wss11_saml_token_with_message_protection_
client_policy',
policyURIForPublicAccess='oracle/ wss11_message_protection_client_policy',
recipientKeyAlias='orakey')
```

    c. Restart the `WC_Spaces` Managed Server.

If you want to do this using Enterprise Manager, locate the forum connection and specify the policy and recipient key aliases as defined above.

5.5.11.2 Adding Oracle Single Sign-On Authentication Provider to the List of Authentication Providers

After upgrade, Oracle Single Sign-on (OSSO) Identity Asserter does not appear in the list of Authentication Providers. If you continue to use OSSO 10*g* even after upgrading to Oracle WebCenter 11.1.1.4.0, then you must replace the following entry in the *DOMAIN_HOME*/bin/setDomainEnv.sh (on UNIX operating systems) or *DOMAIN_HOME*\bin\setDomainEnv.cmd (on Windows operating systems) file:

```
ALT_TYPES_DIR="${ORACLE_HOME}/modules/oracle.ossoiap_11.1.1,${ORACLE_HOME}/mod
ules/oracle.oamprovider_11.1.1
```

Replace the entry with:

```
ALT_TYPES_DIR="${COMMON_COMPONENTS_HOME}/modules/oracle.ossoiap_11.1.1,${COMMO
N_COMPONENTS_HOME}/modules/oracle.oamprovider_11.1.1
```

Note: After making this change, you must restart the Administration Server.

5.6 Adding New Features to Oracle WebCenter

This section includes the following subsections:

- Section 5.6.1, "Enabling Process Spaces in a Patched Domain"

- Section 5.6.2, "Extending a WebCenter Domain to Add Oracle WebCenter Analytics Collector"

- Section 5.6.3, "Adding Activity Graph, Analytics, Pagelet Producer, and Personalization Server to the Patched Domain"

■ Section 5.6.4, "Upgrading a WebCenter Custom Application to Add Portal Framework Features"

5.6.1 Enabling Process Spaces in a Patched Domain

This manual step should be followed if you would like to add Process Spaces BPM functionality – which is an integration between WebCenter and a BPM enabled SOA domain - to a WebCenter domain. This procedure must be performed regardless of whether the domain was an existing Release 11.1.1.2.0 domain which was updated to Release 11.1.1.4.0 or whether it is a brand new domain created with a brand new Release 11.1.1.4.0 installation.

To learn more about Process Spaces functionality, refer to "Understanding Oracle Business Process Management Process Spaces" in *Oracle BPEL Process Manager User's Guide*.

1. If you have not already enabled Process Spaces in your existing WebCenter domain, perform the following steps to extend your domain using the Oracle BPM Spaces template.

   a. Go to the `common/bin` (on UNIX operating systems) or `common\bin` (on Windows operating systems) directory in your WebCenter Oracle home and start the Configuration Wizard (`config.sh` on UNIX operating systems or `config.cmd` on Windows operating systems).

   b. Follow the instructions in "Extending a WebLogic Domain in Graphical Mode" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* to extend your domain.

   On the "Select Extension Source" screen, select **Base this domain on an existing template**. Click **Browse** and select the following template from the list:

   On UNIX operating systems:

   ```
   WebCenter_ORACLE_HOME/common/templates/applications/oracle.bpm.spaces_
   template_11.1.1.jar
   ```

   On Windows operating systems:

   ```
   WebCenter_ORACLE_HOME\common\templates\applications\oracle.bpm.spaces_
   template_11.1.1.jar
   ```

   c. Close the Configuration Wizard when the domain extension is complete.

2. Copy the `SOA_ORACLE_HOME/bpm/process_spaces` (on UNIX operating systems) or `SOA_ORACLE_HOME\bpm\process_spaces` (on UNIX operating systems) folder from the SOA Oracle home directory to any location from where it would be able to connect to the Webcenter installation.

3. Edit the `process-portal-install.properties` file located in the `process_spaces` folder you just copied to specify the required BPM and WebCenter properties.

   For security purposes, you can leave the passwords empty and provide them later when prompted.

   > **Note:** The config services flag in the properties file can be used to configure WebCenter services if WebCenter Services has not already been configured as part of the Webcenter installation.

4. Make sure you have ant installed with the *PATH* and *CLASSPATH* configured.

5. Run the ant script `install.xml` located in the `process_spaces` folder:

```
ant -f install.xml -DpromptForPasswords=true
```

6. If config services was set to `true` in `process-portal-install.properties`:

a. Restart the WebCenter server.

b. Run the following ant command:

```
ant -f install.xml post-install -DpiArgs -importGSOnly
```

7. If Oracle BPM and WebCenter have been configured in different domains, configure Trusted Domain Credentials in both the Oracle BPM and WebCenter domains.

For more information, see "Enabling Trust Between WebLogic Server Domains" in *Oracle Fusion Middleware Securing Oracle WebLogic Server*.

5.6.2 Extending a WebCenter Domain to Add Oracle WebCenter Analytics Collector

If you want to extend an existing Oracle WebCenter domain to add Oracle WebCenter Analytics Collector, you need to do the following:

1. Remove the `openusage` properties from `EXTRA_JAVA_PROPERTIES` in *DOMAIN_HOME*/bin/setDomainEnv.sh (on UNIX operating systems) or *DOMAIN_HOME*\bin\setDomainEnv.cmd (on Windows operating systems).

Specifically, the lines that need to be removed are:

```
EXTRA_JAVA_PROPERTIES="-Doracle.wc.openusage.clustername=localhost
-Doracle.wc.openusage.collectorport=port_number
-Doracle.wc.openusage.timeout=30
-Doracle.wc.openusage.unicast=true
-Doracle.wc.openusage.enabled=false
${EXTRA_JAVA_PROPERTIES}"
export EXTRA_JAVA_PROPERTIES
```

2. Restart all the servers in the domain.

5.6.3 Adding Activity Graph, Analytics, Pagelet Producer, and Personalization Server to the Patched Domain

Oracle WebCenter 11.1.1.4.0 introduces several new features for Oracle WebCenter Spaces, including:

- Activity Graph, which provides suggestions of people that a user may be interested in

- Analytics, which allows you to track and analyze WebCenter Spaces usage

- Pagelet Producer, which provides a collection of useful tools and features that facilitate dynamic pagelet development

- Personalization Server, which can deliver targeted content

For more information about these features, as well as the other components of Oracle WebCenter, see "Getting Started with WebCenter Components" in the *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*.

To take advantage of these new features, you must apply the Oracle WebCenter 11.1.1.4.0 patch set, and then extend your Oracle WebLogic Server domain, as follows:

1. Decide on the products and topology for your environment.

   To verify that your system meets the minimum necessary requirements, you should consult the following documents:

   a. *Oracle Fusion Middleware System Requirements and Specifications*:

      ```
      http://www.oracle.com/technetwork/middleware/ias/downloads/fusio
      n-requirements-100147.html
      ```

      This document contains information related to hardware and software requirements, minimum disk space and memory requirements, database schema requirements, and required system libraries, packages, or patches.

   b. *Oracle Fusion Middleware Supported System Configurations*:

      ```
      http://www.oracle.com/technetwork/middleware/ias/downloads/fusio
      n-certification-100350.html
      ```

      This page contains various certification documents for current and previous product releases. The *System Requirements and Supported Platforms for Oracle Fusion Middleware 11gR1* document contains certification information related to supported 32-bit and 64-bit operating systems, databases, web servers, LDAP servers, adapters, IPv6, JDKs, and third-party products.

   c. *Oracle Fusion Middleware Interoperability and Compatibility Guide*

      This document covers the compatibility and interoperability issues that may arise when installing or upgrading Oracle Fusion Middleware 11*g* products.

2. Use Repository Creation Utility (RCU) to install any necessary schemas.

   Oracle WebCenter Analytics and Oracle WebCenter Activity Graph require the `ACTIVITES` schema. No additional schemas are required for Oracle WebCenter Pagelet Producer or Oracle WebCenter Personalization Server.

   See "Oracle WebCenter Schemas" for information about required Oracle WebCenter schemas, and "Obtaining and Running Repository Creation Utility" for instructions on how to install the schemas with RCU. Both of these topics are in the *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

3. Run the Configuration Wizard.

   See "Starting the Oracle Fusion Middleware Configuration Wizard" in *Oracle Fusion Middleware Installation Guide for Oracle WebCenter* for instructions.

4. Extend the domain by selecting the products **Oracle WebCenter Analytics**, **Oracle WebCenter Activity Graph**, **Oracle WebCenter Pagelet Producer**, **Oracle WebCenter Personalization Server** from the Configuration Wizard.

   Note: It is recommended that you deploy Oracle WebCenter Analytics, Oracle WebCenter Activity Graph, and Oracle WebCenter Personalization Server to the `WC_Utilities` managed server, and Oracle WebCenter Pagelet Producer to the `WC_Portlet` managed server.

   Oracle WebCenter Pagelet Producer must not be deployed to the `WC_ Spaces` managed server.

See "Extending an Existing Domain" in *Oracle Fusion Middleware Installation Guide for Oracle WebCenter* for instructions.

If you have cluster or distributed environment, refer to:

- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle WebCenter*
- "Configuring High Availability for Oracle ADF and WebCenter Applications" in the *Oracle Fusion Middleware High Availability Guide*

5.6.4 Upgrading a WebCenter Custom Application to Add Portal Framework Features

WebCenter Portal Framework supports various new features such as page navigations and page hierarchies. You can manually add WebCenter Portal Frame file structures, components, and configurations to an existing custom WebCenter 11.1.1.3.0 application that has been migrated to 11.1.1.4.0 by using the automatic migration feature in Oracle JDeveloper.

For information, see the "Manually Migrating a WebCenter Portal Application" appendix in *Oracle Fusion Middleware Developer's Guide for Oracle WebCenter*.

6

Patching Oracle Identity and Access Management

This chapter describes how to patch your existing Oracle Identity and Access Management 11.1.1.3.0 installation to 11.1.1.5.0. It also describes how to migrate your existing configuration from 11.1.1.3.0 to 11.1.1.5.0.

This chapter contains the following sections:

- Section 6.1, "Preparing to Patch"

- Section 6.2, "Updating Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0"

- Section 6.3, "Updating Oracle Access Manager 11.1.1.3.0 to 11.1.1.5.0"

- Section 6.4, "Updating Oracle Adaptive Access Manager 11.1.1.3.0 to 11.1.1.5.0"

- Section 6.5, "Updating Oracle Identity Navigator 11.1.1.3.0 to 11.1.1.5.0"

> **Note:** You must patch your Oracle Identity and Access Management products in the order listed above. For example, Oracle Identity Manager must be patched before Oracle Access Manager.

- Section 6.6, "Patching Oracle Identity and Access Management in a Clustered Environment"

If you have a version of Oracle Identity Management that is earlier than 11*g*, you must upgrade your software and the patching instructions in this chapter are not applicable. For upgrade instructions, see the *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*.

6.1 Preparing to Patch

This section discusses the following topics:

- Section 6.1.1, "Prerequisites"

- Section 6.1.2, "Before You Begin"

- Section 6.1.3, "Backing Up Oracle Fusion Middleware"

- Section 6.1.4, "Patching Oracle WebLogic Server 10.3.3. to 10.3.5"

- Section 6.1.5, "Patching Oracle SOA Suite 11.1.1.3.0 to 11.1.1.5.0 (Oracle Identity Manager Users Only)"

■ Section 6.1.6, "Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0"

6.1.1 Prerequisites

Ensure that the following versions of Oracle Fusion Middleware software are installed on your machine before moving from Oracle Identity and Access Management 11.1.1.3.0 to Oracle Identity and Access Management 11.1.1.5.0:

■ Oracle WebLogic Server 11*g* (10.3.3)

■ Oracle SOA Suite 11.1.1.3.0 (required for Oracle Identity Manager only)

■ Oracle Identity and Access Management 11*g* Release 1 (11.1.1.3.0)

6.1.2 Before You Begin

Read the following before you start moving from Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0

■ This chapter describes how to patch an existing Oracle Identity and Access Management 11.1.1.3.0 installation to Oracle Identity and Access Management 11.1.1.5.0. If you are installing Oracle Identity and Access Management (11.1.1.5.0) for the first time, refer to the "Installing Oracle Identity and Access Management (11.1.1.5.0)" topic in the *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.

■ By completing the procedure in this chapter, your existing 11.1.1.3.0 Oracle Identity Manager, Oracle Access Manager, Oracle Adaptive Access Manager, Oracle Identity Navigator are patched to their 11.1.1.5.0 versions. In addition, the following components are installed:

– Oracle Adaptive Access Manager (Offline)

– Oracle Entitlements Server

■ When you are patching Oracle Access Manager from 11.1.1.3.0 to 11.1.1.5.0, Oracle Access Manager will be patched. In addition, Oracle Secure Token Service will be installed. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager with Oracle Security Token Service*.

6.1.3 Backing Up Oracle Fusion Middleware

Before you begin patching, you should back up your Oracle Fusion Middleware environment. For more information, see "Backing Up Your Environment" in the *Oracle Fusion Middleware Administrator's Guide*.

6.1.4 Patching Oracle WebLogic Server 10.3.3. to 10.3.5

Perform the following steps to patch your existing Oracle WebLogic Server 10.3.3 to 10.3.5 by using the WebLogic Server Upgrade installer.

1. Download the Upgrade installer from My Oracle Support.

   For instructions, see "Downloading an Upgrade Installer From My Oracle Support" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

2. Run the Upgrade installer in graphical mode to patch your WebLogic Server.

   For instructions, see "Running the Upgrade Installer in Graphical Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

> **Note:** After patching Oracle WebLogic Server to 10.3.5, an additional JDK directory can be seen in the Middleware home. The patch does not remove the existing JDK from the Oracle WebLogic Server 10.3.3 installation.

If you want to run the Upgrade installer in silent mode (for example, you have an environment where you need to patch multiple instances of Oracle WebLogic Server), see the instructions in "Running the Installation Program in Silent Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

6.1.5 Patching Oracle SOA Suite 11.1.1.3.0 to 11.1.1.5.0 (Oracle Identity Manager Users Only)

If you have Oracle Identity Manager installed, you must patch Oracle SOA Suite 11.1.1.3.0 to Oracle SOA Suite 11.1.1.5.0.

> **Note:** Only Oracle Identity Manager requires Oracle SOA Suite 11*g* (11.1.1.5.0). This step is required because Oracle Identity Manager uses process workflows in Oracle SOA Suite to manage request approvals.

For instructions, see Chapter 3, "Applying the Latest Oracle Fusion Middleware Patch Set". In addition to the general patching tasks described in this chapter, make sure you also perform the tasks in Section 3.8.6, "Post-Patching Tasks for Oracle SOA Suite".

6.1.6 Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0

Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0 involves the following steps:

1. Download the Oracle Identity and Access Management 11.1.1.5.0 Patch Set Installer. See the instructions in Section 3.5.2, "Download the Installer".

2. Run the Oracle Identity and Access Management 11.1.1.5.0 Patch Set Installer from your local system. For instructions, see Section 3.5.3, "Start the Installer".

3. Follow the instructions in Section 3.6, "Patch Set Installer Instructions" to navigate through the Patch Set Installer screens and patch your Oracle Identity and Access Management software.

> **Note:** On the Specify Installation Location screen, You must specify the location of the same Middleware home that contains Oracle Identity and Access Management 11.1.1.3.0 components. You must also specify the same Oracle home that was created in the Oracle Identity and Access Management 11.1.1.3.0 installation. This directory will be referred to as the IAM home (`IAM_Home`) for the remainder of this document.
>
> For more information about these directories, see "Oracle Fusion Middleware Directory Structure and Concepts" in the *Oracle Fusion Middleware Installation Planning Guide*.

6.2 Updating Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0

To update Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0, complete the steps in both Section 6.2.1, "Instructions for Updating Oracle Identity Manager" and Section 6.2.2, "Configuring Oracle Identity Manager Design Console".

Additionally, if you have enabled LDAP Sync in the Oracle Identity Manager 11.1.1.3.0 environment and the LDAP server is configured to enable referential integrity, see Section 6.2.3, "Setting System Properties for LDAP Sync and Referential Integrity".

6.2.1 Instructions for Updating Oracle Identity Manager

1. Back up the Oracle Identity Manager 11.1.1.3.0 schema, the MDS schema, the Oracle Identity Manager 11.1.1.3.0 domain, and your Oracle Identity Manager and Oracle SOA Suite binaries.

   > **Note:** If your application includes any UI customizations, ensure that you back up such customizations before updating Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0. After the update, you should redo the customizations.

   > **Note:** All of the default 11.1.1.3.0 Event Handlers will be overwritten during the update; make sure that you back up all of the Event Handlers that come with the original product. You can export the Event Handlers from MDS through the MDS export utility (*IAM_11.1.1.3.0_Home*/server/bin/weblogicExportMetadata.sh). This back up can be used to redo any customization related to the default Event Handlers after updating Oracle Identity Manager.
   >
   > For more information about the MDS export utility, see "Using the Export Utility" in *Oracle Fusion Middleware Developer's Guide for Oracle Identity Manager*.

2. Close all requests that are in pending state.

   Any requests that are pending and not closed prior to upgrade may fail and may need to be resubmitted. A request is in pending state if the status is NOT one of "Request Closed", "Request Completed", "Request Withdrawn", "Request Failed" "Template Approval Rejected", "Request Approval Rejected", "Operation Approval Rejected", "Request Partially Failed", or "Request Completed with Errors".

   To find all pending requests using the Administration Console:

   a. Log in to the Advanced Administration Console as a user with "Request Administrators" role.

   b. Run an advanced search for requests with the top level operator "Any" and with conditions "Request Status Not equals" with all of the statuses listed above.

   > **Note:** This search cannot be limited to (or combined with) a specific request type.

To find all pending requests using SQL, use the following command:

```
select request_id, request_status from request
where request_status not in ('Request Closed', 'Request Completed',
                             'Request Withdrawn', 'Request Failed',
                             'Template Approval Rejected',
                             'Request Approval Rejected',
                             'Operation Approval Rejected',
                             'Request Partially Failed',
                             'Request Completed with Errors');
```

3. Shut down the following servers running in the domain:

   ■ Administration Server for both Oracle Identity Manager and Oracle SOA Suite.

   ■ All Managed Servers for Oracle Identity Manager and Oracle SOA Suite.

4. Make sure you have patched your Oracle SOA Suite software to the latest version, as described in Section 6.1.5, "Patching Oracle SOA Suite 11.1.1.3.0 to 11.1.1.5.0 (Oracle Identity Manager Users Only)".

5. Run the Oracle Identity and Access Management 11g Release 1 (11.1.1.5.0) Patch Set Installer to patch your existing `IAM_11.1.1.3.0_Home` to the `IAM_Home` for Oracle Identity and Access Management 11.1.1.5.0, as described in Section 6.1.6, "Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0".

6. Run Patch Set Assistant (located in the `bin` directory inside the *OIM_HOME*) to update the following schema:

   *prefix*_OIM: Oracle Identity Manager schema

   Chapter 4, "Updating Your Schemas with Patch Set Assistant" contains information about using the Patch Set Assistant:

   ■ See Section 4.5.3, "Command Line Syntax" for the command line syntax.

   ■ See Section 4.5.5, "Sample Commands" for some sample commands.

7. Run Patch Set Assistant (located in the `bin` directory inside the *SOA_HOME*) to update the following schemas:

   ■ *prefix*_MDS: MDS schema

   ■ *prefix*_SOAINFRA: SOA Infrastructure schema

   > **Note:** You must run the Patch Set Assistant once for each schema. Because of dependencies, you should run the Patch Set Assistant to update the *prefix*_MDS schema first, then run it a second time to update the *prefix*_SOAINFRA schema.

   Chapter 4, "Updating Your Schemas with Patch Set Assistant" contains information about using the Patch Set Assistant:

   ■ See Section 4.5.3, "Command Line Syntax" for the command line syntax.

   ■ See Section 4.5.5, "Sample Commands" for some sample commands.

8. Start the Administration Server and the SOA Managed Server.

9. Update Oracle Identity Manager mid-tier using the standalone utility as follows:

   a. Set the following environment variables:

MW_HOME, WL_HOME, JAVA_HOME, OIM_HOME, and SOA_HOME

Where MW_HOME is the Middleware home that contains Oracle Identity Manager 11.1.1.5.0, WL_HOME is the WebLogic Server home directory, JAVA_HOME is the location of the JDK included in the installer, OIM_HOME is the location of IAM_11.1.1.5.0_Home directory, and SOA_HOME is the Oracle home directory for the SOA suite 11.1.1.5.0 installed on the machine.

Below are some sample values for your reference:

Table 6–1   Sample Environment variable Values

Variable	Sample Value (UNIX operating systems)
MW_HOME	UNIX: /home/Oracle/Middleware
	Windows: *Drive*:\Oracle\Middleware
WL_HOME	UNIX: /home/Oracle/Middleware/wlserver_10.3
	Windows: *Drive*:\Oracle\Middleware\wlserver_10.3
JAVA_HOME	/home/Oracle/Middleware/jdk160_21
	Windows: *Drive*:\Oracle\Middleware\jdk160_21
OIM_HOME	/home/Oracle/Middleware/Oracle_OIM1
	Windows: *Drive*:\Oracle\Middleware\Oracle_OIM1
SOA_HOME	/home/Oracle/Middleware/Oracle_SOA1
	Windows: *Drive*:\Oracle\Middleware\Oracle_SOA1

    b. Create a directory for reporting and logging; you will be asked to specify this directory when you run the standalone utility.

    c. From your present working directory, navigate to the IAM_11.1.1.5.0_Home/server/bin directory.

    d. Run DW2PS1Upgrade.sh (on UNIX) or DW2PS1Upgrade.bat (on Windows).

    e. Enter the following input values, when prompted:

Table 6–2   Input Required by Midtier Update Script

Field/Input	Description
WL Server Location	Enter the WebLogic Server location (WL_Home).
MW Home	Enter the absolute path to the Middleware home.
OIM Oracle Home	Enter the absolute path to the IAM_11.1.1.5.0_Home that contains OIM.
Domain Directory	Enter the path to the OIM domain.
Report Directory	Enter the path to the directory (specified in Step b) where a report should be generated.
OIM Schema Connection String	Enter the connection string for the database that contains the OIM schema.
OIM Schema User Name	Enter the OIM schema user name.
OIM Schema Password	Enter the OIM schema password.
MDS Schema Connection String	Enter the connection string for the database that contains the MDS schema.

Table 6–2   (Cont.) Input Required by Midtier Update Script

Field/Input	Description
MDS Schema User Name	Enter the MDS schema user name.
MDS Schema Password	Enter the MDS schema password.
SOA Server Host Name	Enter the host name of the machine where SOA Server is running.
SOA Server Port	Enter the SOA server port.
SOA User Name	Enter the SOA server user name.
SOA Password	Enter the SOA server password.
WebLogic User Name	Enter the Administration Server user name.
WebLogic Password	Enter the Administration Server user password.

    f. Check the summary report for upgrade status printed on the terminal and proceed only if all the features are shown as successfully upgraded. A sample summary report is shown below:

```
 *************************************
Summary Report
*************************************
Feature ID :Upgraded

DW2PS1UPG.Scheduler:Y


DW2PS1UPG.OES:Y


DW2PS1UPG.OIMConfig:Y


DW2PS1UPG.MDSNSUpdate:Y


DW2PS1UPG.DBEncryption:Y

*************************************
Upgrade Successful.OIM Server can be started
*************************************
```

    You must see the **OIM Server can be started** message before you continue.

    g. Verify the domain patching did not generate any errors.

    Look for any error messages in the console. For example:

```
Error: addTemplate() failed. Do dumpStack() to see details.
```

10. Update Oracle Platform Security Services (OPSS) as follows:

    a. Run the *MW_HOME*/oracle_common/common/bin/wlst.sh (on UNIX operating systems) or *MW_HOME*\oracle_common\common\bin\wlst.cmd (on Windows operating systems) command.

    b. Connect to the Administration Server using the following command:

```
connect('weblogic_username', 'weblogic_password');
```

   c. Run the following `upgradeOpss` WLST (online) command:

```
upgradeOpss(jpsConfig="existing_jps_config_file", jaznData="system_jazn_
data_file")
```

Replace *existing_jps_config_file* with the full path to the location of the existing `jps-config.xml` file (usually *DOMAIN_HOME*/config/fmwconfig/jps-config.xml on UNIX operating systems or *DOMAIN_HOME*\config\fmwconfig\jps-config.xml on Windows operating systems.

Replace *system_jazn_data_file* with the full path to the location of the 11.1.1.5.0 `system-jazn-data.xml` file (usually *MW_HOME*/oracle_common/modules/oracle.jps_11.1.1/domain_config/system-jazn-data.xml on UNIX operating systems or *MW_HOME*\oracle_common\modules\oracle.jps_11.1.1\domain_config\system-jazn-data.xml on Windows operating systems).

Below is an example on a UNIX operating system:

```
upgradeOpss(jpsConfig="DOMAIN_HOME/config/fmwconfig/jps-config.xml",
jaznData="MW_HOME/oracle_common/modules/oracle.jps_11.1.1/domain_
config/system-jazn-data.xml")
```

> **Note:** You may see error messages on the console when you run the `upgradeOpss` command. These errors can be safely ignored so long as there is some text indicating that your operation was completed successfully. For more information about the error messages, refer to the *Oracle Fusion Middleware Release Notes*.

---

11. Re-start the Administration Server and the SOA Managed Server to apply your changes to the domain.

12. Run Oracle Identity Manager Managed Servers. In addition, navigate to the `IAM_11.1.1.3.0_Home/server/logs` directory to verify that the following directories are created after OIM 11.1.1.3.0 is updated to 11.1.1.5.0:

- `mergeDir`

- `Report`

- `sourceDir`

- `targetDir`

13. Access the OIM application by using the URL (`http://host:port/oim`).

14. Modify the `RoleUserMembership.xml` file as follows:

   a. Export `/db/identity/entity-definition/RoleUserMembership.xml` from MDS schema.

For more information, see "Using the Export Utility" in *Oracle Fusion Middleware Developer's Guide for Oracle Identity Manager*.

   b. Add the following attribute definition:

```
<attribute name="request_key">
    <type>string</type>
    <required>false</required>
```

```
<searchable>false</searchable>
<attribute-group>Basic</attribute-group>
</attribute>
```

    c. Import
`/db/identity/entity-definition/RoleUserMembership.xml` back
to the MDS schema.

15. Configure the Oracle Identity Manager Design Console, as described in
Section 6.2.2, "Configuring Oracle Identity Manager Design Console".

6.2.2 Configuring Oracle Identity Manager Design Console

The Oracle Identity Manager Design Console can be used to configure system settings
that control the system-wide behavior of Oracle Identity Manager and affect its users.
The Design Console allows you to perform user management, resource management,
process management, and other administration and development tasks. For more
information about the Design Console, see "Design Console Overview" in *Oracle Fusion
Middleware Developer's Guide for Oracle Identity Manager*.

> **Note:** Oracle Identity Manager Design Console must be installed
> inside a Middleware home. In addition, the Design Console must be
> outside the Oracle home where you installed Oracle Identity Manager
> (*OIM_HOME*). This means you must first run the Oracle WebLogic
> Server installer to create a new Middleware home before you install
> the Design Console.

To install and configure the Design Console:

1. Make sure you have patched your environment to the latest version.

2. Make sure know the URL of your Oracle Identity Management server; you will be
asked for this when you configure the Design Console.

3. Run the WebLogic Server installer to create a new Middleware home for the
Design Console.

4. Run Oracle Identity and Access Management 11.1.1.5.0 Patch Set Installer and
install the software, including the Design Console, in the new Middleware home.
For example, if your existing Oracle Identity Management installation resides in
MW_HOME1`\Oracle_IDM1`, you can install the Design Console in *MW_
HOME2*`\Oracle_IDM1`).

5. Run the configuration tool from the location where you installed the Design
Console (for example, *MW_HOME2*`/Oracle_IDM1/bin/config.sh` on UNIX
operating systems or *MW_HOME2*`\Oracle_IDM1\bin\config.bat` on Windows
operating systems) and configure the Design Console.

6. Build and copy the `wlfullclient.jar` file as follows:

    a. Go to the *MW_HOME2*`/wlserver_10.3/server/lib` (on UNIX operating
systems) or *MW_HOME2*`\wlserver_10.3\server\lib` (on Windows
operating systems) directory.

    b. Set the *JAVA_HOME* environment variable and add the *JAVA_HOME* variable to
the *PATH* environment variable.

    For example, you can set the *JAVA_HOME* to the `jdk160_21` directory inside
the Middleware home.

    c. Run the following command to build the `wlfullclient.jar` file.

    On UNIX operating systems:

```
java -jar MW_HOME2/modules/com.bea.core.jarbuilder_1.6.0.1.jar
```

    On Windows operating systems:

```
java -jar MW_HOME2\modules\com.bea.core.jarbuilder_1.6.0.1.jar
```

    d. Copy the `wlfullclient.jar` file to the new *IAM_Home* where you installed the Design Console. For example:

    On UNIX operating systems:

```
cp MW_HOME2/wlserver_10.3/server/lib/wlfullclient.jar MW_HOME2/Oracle_
IDM1/designconsole/ext
```

    On Windows operating systems:

```
cp MW_HOME2\wlserver_10.3\server\lib\wlfullclient.jar MW_HOME2\Oracle_
IDM1\designconsole\ext
```

7. Backup and delete the old `designconsole` directory in your *IAM_HOME* (in the case of this example, `MW_HOME1/Oracle_IDM1/designconsole` on UNIX operating systems, or `MW_HOME1\Oracle_IDM1\designconsole` on Windows operating systems).

If you want to install the Design Console without having to install a new WebLogic Server and Oracle Identity and Access Management, you can also

6.2.3 Setting System Properties for LDAP Sync and Referential Integrity

If you have enabled LDAP Sync in the Oracle Identity Manager 11.1.1.3.0 environment and the LDAP server is configured to enable referential integrity, then you must set the system property `XL.isReferentialIntegrityEnabled` to `TRUE` in Oracle Identity Manager after updating to Oracle Identity Manager 11.1.1.5.0. The default value for this property is `FALSE`.

Note: If your Oracle Identity Manager 11.1.1.3.0 installation was not configured with LDAP Sync enabled, then LDAP Sync is not enabled when you update to Oracle Identity Manager 11.1.1.5.0. After the update, if you wish to enable LDAP Sync, you must set up LDAP Sync, as described in the "Enabling LDAP Synchronization" topic in the *Oracle Fusion Middleware Administrator's Guide for Oracle Identity Manager*.

If your Oracle Identity Manager 11.1.1.3.0 installation was configured with LDAP Sync enabled, then the LDAP Sync configuration is retained after you update to Oracle Identity Manager 11.1.1.5.0. The update process does not alter your previous LDAP Sync configuration.

6.3 Updating Oracle Access Manager 11.1.1.3.0 to 11.1.1.5.0

Before you update Oracle Access Manager, make sure the update of Oracle Identity Manager is complete as described in Section 6.2, "Updating Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0".

Information about updating Oracle Access Manager 11.1.1.3.0 to 11.1.1.5.0 are located in the following support note on the `http://support.oracle.com` website:

Procedure to Update OAM 11.1.1.3.0 to OAM 11.1.1.5.0 (Doc ID 1318524.1)

6.4 Updating Oracle Adaptive Access Manager 11.1.1.3.0 to 11.1.1.5.0

To migrate Oracle Adaptive Access Manager 11.1.1.3.0 to 11.1.1.5.0, complete the following steps:

1. Shut down the Administration Server (the Administration Server for the domain that contains Oracle Adaptive Access Manager 11.1.1.3.0) and the Oracle Adaptive Access Manager Managed Servers.

2. Run the WebLogic Server Upgrade Installer to patch your WebLogic Server installation to the latest version (10.3.5), as described in Patching Oracle WebLogic Server 10.3.3. to 10.3.5.

3. Run the Oracle Identity and Access Management 11g Release 1 (11.1.1.5.0) Patch Set Installer to patch your existing Oracle Identity and Access Management 11.1.1.3.0 installation (`IAM_Home`) to Oracle Identity and Access Management 11.1.1.5.0, as described in Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0.

4. Run Patch Set Assistant to update the following schemas:

   - *prefix*`_OAAM`: Oracle Adaptive Access Manager schema

   - *prefix*`_OAAM_PARTN`: Oracle Adaptive Access Manager partition schema

   - *prefix*`_MDS`: AS Common schema

   For instructions, see Chapter 4, "Updating Your Schemas with Patch Set Assistant".

5. Extend the Oracle Adaptive Access Manager domain with the `oracle.communications.client_template` by running the Oracle Fusion Middleware Configuration Wizard as follows:

   a. From the patched `IAM_Home` (11.1.1.5.0), run the Oracle Fusion Middleware Configuration Wizard (located at `IAM_Home/common/bin/`).

   b. On the Welcome screen, select the **Extend an existing WebLogic domain** option. Click **Next**. The Select a WebLogic Domain Directory screen is displayed.

   c. On the Select a WebLogic Domain Directory screen, select the domain that contains Oracle Adaptive Access Manager 11.1.1.3.0. Click **Next**. The Select Extension Source screen is displayed.

   d. On the Select Extension Source screen, select the **Extend my domain using an existing extension template** option.

   e. In the **Template location** field, click **Browse**, and select the following location:

   ```
   IAM_
   Home/common/templates/applications/oracle.communications.c
   lient_template_11.1.1.jar
   ```

   f. Continue by following the on-screen instructions. Select the **Deployments and Services** check box on the Select Optional Configuration screen. On the Target Deployments to Clusters or Servers screen, ensure that the `oracle.sdp.client#11.1.1.@11.1.1` library is targeted to the `oaam_server` Managed Server in your domain or cluster.

    g. Complete the domain extension process.

6. Start the Administration Server.

7. Perform this step only if you want to install Oracle Adaptive Access Manager Offline in your domain. Otherwise, skip this step.

    a. Run *IAM_HOME*`/common/bin/wlst.sh` (on UNIX operating systems) or *IAM_HOME*`\common\bin\wlst.cmd` (on Windows operating systems).

    b. Connect to the Administration Server using the following command:

```
connect('weblogic-username', 'weblogic-password');
```

    c. Run the `grantPermission` WLST(online) command to create Oracle Adaptive Access Manager Offline Application grant to the out-of-the-box JPS common `system-jazn-data.xml`, as in the following example:

```
grantPermission(codeBaseURL="file:${domain.home}/servers/${weblogic.Name}/t
mp/_WL_user/oaam_offline_11.1.1.3.0/-",
permClass="oracle.security.jps.service.credstore.CredentialAccessPermission
",
permTarget="context=SYSTEM,
mapName=oaam,keyName=*"
,permActions="*")
```

    Where

    `codeBaseURL=` name of the grantee codebase URL.

    `permClass=` class name of the permission being granted.

    `permTarget=` target part of the permission that is being granted.

    `permActions=` permission actions that are being granted.

    The `system-jazn-data.xml` file is located in the *DOMAIN_HOME*`/config/fmwconfig` (on UNIX operating systems) or *DOMAIN_HOME*`\config\fmwconfig` (on Windows operating systems) directory.

    d. Exit WLST.

    e. From the patched IAM_Home (11.1.1.5.0), run the Oracle Fusion Middleware Configuration Wizard (located at `IAM_Home/common/bin/`).

    f. On the Welcome screen, select the **Extend an existing WebLogic domain** option. Click **Next**. The Select a WebLogic Domain Directory screen is displayed.

    g. On the Select a WebLogic Domain Directory screen, select the domain that contains Oracle Adaptive Access Manager 11.1.1.3.0. Click **Next**. The Select Extension Source screen is displayed.

    h. On the Select Extension Source screen, select the **Oracle Adaptive Access Manager Offline - 11.1.1.3.0** option.

    i. Continue by following the on-screen instructions. Complete the domain extension process. The domain with Oracle Adaptive Access Manager is extended to support Oracle Adaptive Access Manager Offline.

    j. Restart the Administration Server.

8. Undeploy and redeploy the `oaam.extensions` library through the WebLogic Server Administration Console as follows:

    a. Log in to the WebLogic Server Administration Console.

b. Under **Domain Structure**, click **Deployments**. The Summary of Deployments page is displayed.

c. Select the `oracle.oaam.extensions` library, and click **Delete**.

d. Deploy the library by clicking **Install**. The Install Application Assistant page is displayed.

e. Select the following application to install:

`IAM_Home/oaam/oaam_`
`extensions/generic/oracle.oaam.extensions.war`

f. Install this application as a library.

g. Select all Managed Servers hosting `oaam_admin`, `oaam_server`, and `oaam_offline` as the deployment targets for this application.

h. For **Source Accessibility**, select the **I will make the deployment accessible from the following location** option. This option sets the staging mode to `nostage`.

i. Complete the deployment of the library.

9. Start all Managed Servers hosting `oaam_admin`, `oaam_offline`, and `oaam_server`.

10. Optional: If you have customized the jazn-data permissions of `oaam_admin`, you should back up these changes by using the OPSS WLST `migrateSecurityStore` command. For instructions, see the "Migrating with the Script migrateSecurityStore" topic in the *Oracle Fusion Middleware Application Security Guide*.

11. Redeploy `oaam_admin`, which overwrites the security policies of `oaam_admin` with the `jazn-data.xml` that is packaged in the Oracle Identity and Access Management 11.1.1.5.0 oaam_admin's ear. To do so, complete the following steps:

a. Ensure that the Managed Server hosting oaam_admin is up and running.

b. Log in to the WebLogic Server Administration Console.

c. Under **Domain Structure**, click **Deployments**. The Summary of Deployments page is displayed.

d. Select `oaam_admin`, and click **Update**.

e. Complete the redeployment steps.

12. Optional: If you had customized permissions for `oaam_admin` before migrating to Oracle Adaptive Access Manager 11.1.1.5.0, you must redo them after migrating to 11.1.1.5.0. You should use the backup that you took in Step 10. You can modify `jazn-data.xml` and use OPSS WLST commands.

6.5 Updating Oracle Identity Navigator 11.1.1.3.0 to 11.1.1.5.0

To update Oracle Identity Navigator 11.1.1.3.0 to 11.1.1.5.0, complete the following steps:

1. On the machine where Oracle Identity Navigator 11.1.1.3.0 is installed, export the Oracle Identity Navigator metadata to an export directory using WLST as follows:

a. Run `wlst.sh` (located at `IAM_Home/common/bin`).

b. Connect to the Administration Server using the following command:

```
connect('weblogic-username', 'weblogic-password');
```

    c. Run the following WLST (online) command:

```
exportMetadata(application='oinav',server='AdminServer',to
Location='export_directory')
```

    `export_directory` is the directory where you want to export Oracle Identity Navigator metadata to.

2. Stop the WebLogic Administration Server (the Administration Server for the domain where Oracle Identity Manager is installed and configured) and the Oracle Identity Navigator Managed Server.

3. Run the WebLogic Server Upgrade Installer to patch your WebLogic Server installation to the latest version (10.3.5), as described in Patching Oracle WebLogic Server 10.3.3. to 10.3.5.

4. Run the Oracle Identity and Access Management 11g Release 1 (11.1.1.5.0) Patch Set Installer to patch your existing Oracle Identity and Access Management 11.1.1.3.0 installation (`IAM_Home`) to Oracle Identity and Access Management 11.1.1.5.0, as described in Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0.

5. After the patching is complete, start the WebLogic Administration Server (the Administration Server for the domain that contains Oracle Identity Navigator).

6. Log in to the WebLogic Server Administration Console.

7. Under **Domain Structure**, click **Deployments**. The Summary of Deployments page is displayed.

8. Select `oinav`, and click **Update**.

Alternatively, you can use the `redeploy('oinav#11.1.1.3.0')` WLST command to update the Oracle Identity Navigator application. Exit the WebLogic Server Administration Console.

9. Import Oracle Identity Navigator metadata by running the following WLST command:

```
importMetadata(application='oinav',server='AdminServer',fromL
ocation='export_directory')
```

`export_directory` is the directory where you previously exported Oracle Identity Navigator metadata to.

6.6 Patching Oracle Identity and Access Management in a Clustered Environment

This section describes how to patch your existing Oracle Identity and Access Management 11.1.1.3.0 installation in a clustered environment to 11.1.1.5.0. The procedures in this section are based on a two node cluster as described below:

- Node 1: Administration Server, OIM Managed Server, SOA Managed Server

- Node 2: OIM Managed Server, SOA Managed Server

  Any additional nodes in your cluster should be patched using the instructions in Section 6.6.2, "Upgrading Node 2".

- If Node 1 and Node 2 do not share a disk, then the directory structure for each node's Middleware home, Oracle home, and Domain home are identical.

For more information about deploying Oracle Identity Management in an enterprise environment, refer to the *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle Identity Management*.

6.6.1 Upgrading Node 1

To upgrade Node 1 in the cluster, follow the instructions in Section 6.2, "Updating Oracle Identity Manager 11.1.1.3.0 to 11.1.1.5.0".

6.6.2 Upgrading Node 2

To upgrade Node 2 in the cluster, follow the instructions below:

1. Back up the Oracle Identity Manager 11.1.1.3.0 domain, and your Oracle Identity Manager and Oracle SOA Suite binaries.

2. Shut down all Managed Servers for Oracle Identity Manager and Oracle SOA Suite that are running in the domain.

3. If your Oracle WebLogic Server, Oracle Identity Management, and Oracle SOA Suite binaries are NOT at a shared location, perform the following steps. Otherwise, skip to Step 4.

    a. Patch Oracle WebLogic Server as described in Section 6.1.4, "Patching Oracle WebLogic Server 10.3.3. to 10.3.5".

    b. Update your Oracle SOA Suite software as described in Section 6.1.5, "Patching Oracle SOA Suite 11.1.1.3.0 to 11.1.1.5.0 (Oracle Identity Manager Users Only)".

    c. Update your Oracle Identity and Access Management software as described in Section 6.1.6, "Patching Oracle Identity and Access Management 11.1.1.3.0 to 11.1.1.5.0".

4. Run the following command to pack your domain on Node 1:

    On UNIX operating systems:

    ```
    cd MW_HOME/oracle_common/common/bin
    ./pack.sh -domain=OIM_Domain_Home -template=Domain_Configuration_Jar_
    Destination -template_name="template_nanme" -managed=true
    ```

    On Windows operating systems:

    ```
    cd MW_HOME\oracle_common\common\bin
    pack.cmd -domain=OIM_Domain_Home -template=Domain_Configuration_Jar_Destination
    -template_name="template_nanme" -managed=true
    ```

    Replace `OIM_Domain_Home` with the full path to your OIM domain, `Domain_Configuration_Jar_Destination` with the full path to the location where you want to create your domain configuration `.jar` file, and `template_name` with the name of this domain configuration template.

    Below is an example on UNIX operating systems:

    ```
    ./pack.sh -domain=/home/Oracle/Domains/11.1.1.3.0_OIMDomain
    -template=/home/Oracle/Data -template_name="OIM Domain" -managed=true
    ```

    On Windows operating systems:

    ```
    pack.cmd -domain=D:\Oracle\Domains\11.1.1.3.0_OIMDomain
    -template=D:\Oracle\Data -template_name="OIM Domain" -managed=true
    ```

5. Unpack the domain configuration information on Node 2.

On UNIX operating systems:

```
cd MW_HOME/oracle_common/common/bin
./unpack.sh -domain=OIM_Domain_Home -template=Domain_Configuration_Jar_Location
-overwrite_domain=true
```

On Windows operating systems:

```
cd MW_HOME\oracle_common\common\bin
pack.cmd -domain=OIM_Domain_Home -template=Domain_Configuration_Jar_Location
-overwrite_domain=true
```

Replace *OIM_Domain_Home* with the full path to your OIM domain on Node 2, and *Domain_Configuration_Jar_Location* with the full path to the location where you want created your domain configuration .jar file on Node 1.

Below is an example on UNIX operating systems:

```
./unpack.sh -domain=/home/Oracle/Domains/11.1.1.3.0_OIMDomain
-template=/home/Oracle/Data -overwrite_domain=true
```

On Windows operating systems:

```
pack.cmd -domain=D:\Oracle\Domains\11.1.1.3.0_OIMDomain
-template=D:\Oracle\Data -overwrite_domain=true
```

> **Note:** The domain directory structures must be identical on both nodes.

6. Go to the *OIM_HOME*/server/bin (on UNIX operating systems) or *OIM_HOME*\server\bin (on Windows operating systems) directory and edit the dwps1upgrade.properties file so that all properties EXCEPT for oim.ps1.soacomposite.patch are set to false.

7. Start the SOA Managed Server on Node 2. This is required to deploy SOA composites on Node 2.

8. Run the standalone utility as described in Step 9 in Section 6.2.1, "Instructions for Updating Oracle Identity Manager".

9. Check to see if any login module .jar files are found in the *MW_HOME*/wlsserver_10.3/server/lib/mbeantypes (on UNIX operating systems) or *MW_HOME*\wlsserver_10.3\server\lib\mbeantypes (on Windows operating systems) directory in your Release 11.1.1.3.0 environment. If there are no files, you can skip this step.

If there are, copy the following login module files from *OIM_HOME*/server/loginmodule/wls to *MW_HOME*/wlsserver_10.3/server/lib/mbeantypes (on UNIX operating systems) or from *OIM_HOME*\server\loginmodule\wls to *MW_HOME*\wlsserver_10.3\server\lib\mbeantypes (on Windows operating systems):

- OIMAuthenticator.jar
- oimmbean.jar
- oimsigmbean.jar
- oimsignaturembean.jar

10. Start the OIM Managed Server on Node 2.

11. Access the OIM application by using the URL (`http://host:port/oim`).

7

Patching an Oracle Identity Management High Availability Environment

This chapter describes how to patch your existing Oracle Identity Management high availability environment to the latest version. To do so, complete the following tasks:

> **See:** Types of Oracle Identity Management Environments in the
> *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*
> for information on the topologies.

- Task 1: Stopping Servers and System Components

- Task 2: Updating Oracle WebLogic Server to Version 10.3.5

- Task 3: Updating the Oracle Identity Management Oracle Home using the Oracle Identity Management Patch Set Installer

- Task 4: Updating the Oracle HTTP Server Oracle Home Using the Oracle Web Tier Patch Set Installer

- Task 5: Updating the Oracle Identity Management Repository using Patch Set Assistant

- Task 6: Starting System Components and Servers

- Task7: Updating the Version Number String Shown in Fusion Middleware Control

> **Note:** Back up your Oracle software, inventory, schema, and domain before applying this patch set, or before making any other changes to your existing Oracle software. Refer to your product administrator's guide for instructions on backing up your Oracle software and inventory. For more information, see "Advanced Administration: Backup and Recovery" in the *Oracle Fusion Middleware Administrator's Guide*.

7.1 Task 1: Stopping Servers and System Components

Before updating Oracle Identity Management, you must stop the following servers and components:

- Stopping Managed Servers

- Stopping the Administration Server

- Stopping the Node Manager

- Stopping the Oracle Management Agent

- Stopping the System Components
- Special Consideration for Patching OID Replication Environments

7.1.1 Stopping Managed Servers

You must stop the `WLS_ODS1` and `WLS_ODS2` Managed Servers running on `IDMHOST1` and `IDMHOST2` by using the Oracle WebLogic Server Administration Console. For more information, see the "Starting and Stopping Oracle Fusion Middleware" section in the *Oracle Fusion Middleware Administrator's Guide*.

7.1.2 Stopping the Administration Server

You must stop the `IDMHOST1` Administration Server, for more information see the "Starting and Stopping Administration Servers" in the *Oracle Fusion Middleware Administrator's Guide*.

7.1.3 Stopping the Node Manager

Stop the Node Manager running on `IDMHOST1` and `IDMHOST2` by closing the command shell in which it is running or terminate the Node Manager Process. For example, run the following command on a UNIX operating system:

```
kill -9 pid
```

Replace `pid` with the process ID of the Node Manager process.

7.1.4 Stopping the Oracle Management Agent

To stop the Oracle Management Agent running on `IDMHOST1` and `IDMHOST2`, run the following command:

```
opmnctl stopall
```

7.1.5 Stopping the System Components

You must stop all system components and processes running on Oracle Internet Directory (running on `OIDHOST1` and `OIDHOST2`), Oracle Virtual Directory (running on `OVDHOST1` and `OVDHOST2`), and Oracle HTTP Server (running on `WEBHOST1` and `WEBHOST2`) by using the `opmnctl` command-line tool:

```
opmnctl stopall
```

7.1.6 Special Consideration for Patching OID Replication Environments

If you have configured OID replication in your environment:

1. Stop the replication server on all the nodes of Directory Replication Group (DRG).

2. Patch one node at a time to the latest version using the Patch Set Installer.

3. Restart the replication server after patching all the nodes of DRG.

7.2 Task 2: Updating Oracle WebLogic Server to Version 10.3.5

Your existing Oracle WebLogic Server must be updated to version 10.3.5 on IDMHOST1, IDMHOST2, OIDHOST1, OIDHOST2, OVDHOST1 and OVDHOST2.

In order to update your WebLogic Server, you must use the upgrade installer, which requires a My Oracle Support account. For more information, see "Downloading an Upgrade Installer From My Oracle Support" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

7.3 Task 3: Updating the Oracle Identity Management Oracle Home using the Oracle Identity Management Patch Set Installer

You must update your existing Oracle Identity Management `ORACLE_HOME` to the latest version on `IDMHOST1`, `IDMHOST2`, `OIDHOST1`, `OIDHOST2`, `OVDHOST1`, and `OVDHOST2` by using the Patch Set Installer for Oracle Identity Management.

For instructions, see Chapter 3, "Applying the Latest Oracle Fusion Middleware Patch Set".

After the installation is complete, the `oracleRoot.sh` confirmation dialog box is displayed. This dialog box advises you to run configuration scrip as root before the installation can proceed. Leaving the confirmation dialog box open, open another shell window, log in as root, and run the `oracleRoot.sh` script file.

After the script completes, click **OK** on the Confirmation Dialog box.

7.4 Task 4: Updating the Oracle HTTP Server Oracle Home Using the Oracle Web Tier Patch Set Installer

If Oracle HTTP Server is configured in the `ORACLE_INSTANCE`, then you must update the Oracle HTTP Server `ORACLE_HOME` to the latest version on `WEBHOST1` and `WEBHOST2` by using the Patch Set Installer for Oracle Web Tier.

For instructions, see Chapter 3, "Applying the Latest Oracle Fusion Middleware Patch Set".

7.5 Task 5: Updating the Oracle Identity Management Repository using Patch Set Assistant

You must run Patch Set Assistant to update the database schema for Oracle Internet Directory to the latest version. Patch Set Assistant performs an in-place schema update on your existing schemas.

For instructions, see Chapter 4, "Updating Your Schemas with Patch Set Assistant".

> **Note:** You must update the schema once for the entire topology.

7.6 Task 6: Starting System Components and Servers

You must start the following:

- Starting System Components
- Starting Node Manager
- Starting the Oracle WebLogic Administration Server
- Starting the Managed Server
- Starting Oracle Management Agent

7.6.1 Starting System Components

You must start the following system components:

- Starting Oracle Internet Directory Processes
- Starting Oracle Virtual Directory Processes
- Starting Oracle HTTP Server

Note: If you have not started OPMN, then you must start OPMN by running the following command:

```
opmnctl start
```

7.6.1.1 Starting Oracle Internet Directory Processes

To start the Oracle Internet Directory processes, use the following OPMN command:

```
opmnctl startproc ias-component=oid_component_name
```

To verify that the Oracle Internet Directory Instances have started, run the following opmnctl status command:

```
opmnctl status
```

Example:

```
Processes in Instance: oid_inst1
------------------------------+--------------------+---------+---------
ias-component                 | process-type       |     pid | status
------------------------------+--------------------+---------+---------
oid1                          | oidldapd           |   31522 | Alive
oid1                          | oidldapd           |   31520 | Alive
oid1                          | oidmon             |   31449 | Alive
EMAGENT                       | EMAGENT            |   31448 | Alive
```

7.6.1.2 Starting Oracle Virtual Directory Processes

To start the Oracle Virtual Directory processes, use the following OPMN command:

```
opmnctl startproc ias-component=ovd_component_name
```

To verify that the Oracle Virtual Directory Instances have started, run the following opmnctl status command:

```
opmnctl status
```

Example:

```
$ ovd_instance_home/bin/opmnctl status

Processes in Instance: ovd_inst1
------------------------------+--------------------+---------+---------
ias-component                 | process-type       |     pid | status
------------------------------+--------------------+---------+---------
ovd1                          | OVD                |   31658 | Alive
EMAGENT                       | EMAGENT            |   31657 | Alive
```

7.6.1.3 Starting Oracle HTTP Server

If Oracle HTTP Server is configured in the ORACLE_INSTANCE, then start it using the following command:

```
opmnctl startproc ias-component=ohs_component_name
```

To verify that the Oracle HTTP Server instances have started, run the following OPMN command:

```
opmnctl status
```

Example:

```
[abcd@stajz13 Disk1]$ /u01/app/oracle/ps1/admin/ohs_inst1/bin/opmnctl status

Processes in Instance: ohs_inst1
--------------------------------+--------------------+---------+---------
ias-component                   | process-type       |     pid | status
--------------------------------+--------------------+---------+---------
ohs1                            | OHS                |    7144 | Alive
```

7.6.2 Starting Node Manager

You must start Node Manager, running on IDMHOST1 and IDMHOST2, by using the startNodeManager.sh script (UNIX, located at *WL_HOME*/server/bin directory) or startNodeManager.cmd script (Windows, located at *WL_HOME*\server\bin directory) as follows:

On UNIX operating systems:

```
MW_HOME/wl_server_n/server/bin/startNodeManager.sh
```

On Windows operating systems:

```
MW_HOME\wl_server_n\server\bin\startNodeManager.cmd
```

7.6.3 Starting the Oracle WebLogic Administration Server

You must start the IDMHOST1 Administration Server by running the following command:

On UNIX operating systems:

```
DOMAIN_HOME/bin/startWebLogic.sh
        -Dweblogic.management.username=weblogic
        -Dweblogic.management.password=password
        -Dweblogic.system.StoreBootIdentity=true
```

On Windows operating systems:

```
DOMAIN_HOME\bin\startWebLogic.cmd
        -Dweblogic.management.username=weblogic
        -Dweblogic.management.password=password
        -Dweblogic.system.StoreBootIdentity=true
```

7.6.4 Starting the Managed Server

You must start Node Manager, running on IDMHOST1 and IDMHOST2. For more information see "Starting and Stopping Managed Servers Using Fusion Middleware Control" in *Oracle Fusion Middleware Administrator's Guide*.

7.6.5 Starting Oracle Management Agent

To start the Oracle Management Agent for the Oracle WebLogic Server running on IDMHOST1 and IDMHOST2, use the following OPMN command:

```
opmnctl startproc ias-component=EMAGENT
```

To verify that the Oracle Management Agent Instances have started, run the following `opmnctl` status command:

```
opmnctl status
```

Example:

```
Processes in Instance: wls_ods1
---------------------------------+--------------------+---------+---------
ias-component                    | process-type       |     pid | status
---------------------------------+--------------------+---------+---------
EMAGENT                          | EMAGENT            |   10971 | Alive
```

7.7 Task7: Updating the Version Number String Shown in Fusion Middleware Control

If you are using existing Oracle Internet Directory or Oracle Virtual Directory components and you have patched those components to the latest version, you must use the `opmnctl updatecomponentregistration` command to manually update the version number string that is shown in Fusion Middleware Control.

For instructions, see Section 3.8.4.1, "Upgrading System Components".

A

Patch Set Installer Screens

This appendix contains screenshots and descriptions for the Patch Set Installer screens:

> **Note:** There are separate Patch Set Installers for each Fusion Middleware product. The screens in this appendix are from the Oracle SOA Suite Patch Set Installer.
>
> The Specify Security Updates screenshot is from the Web Tier Patch Installer.

- Welcome
- Specify Installation Location
- Specify Security Updates
- Installation Summary
- Installation Progress
- Installation Complete

A.1 Welcome

The Welcome screen is displayed each time you start the installer.

A.2 Specify Installation Location
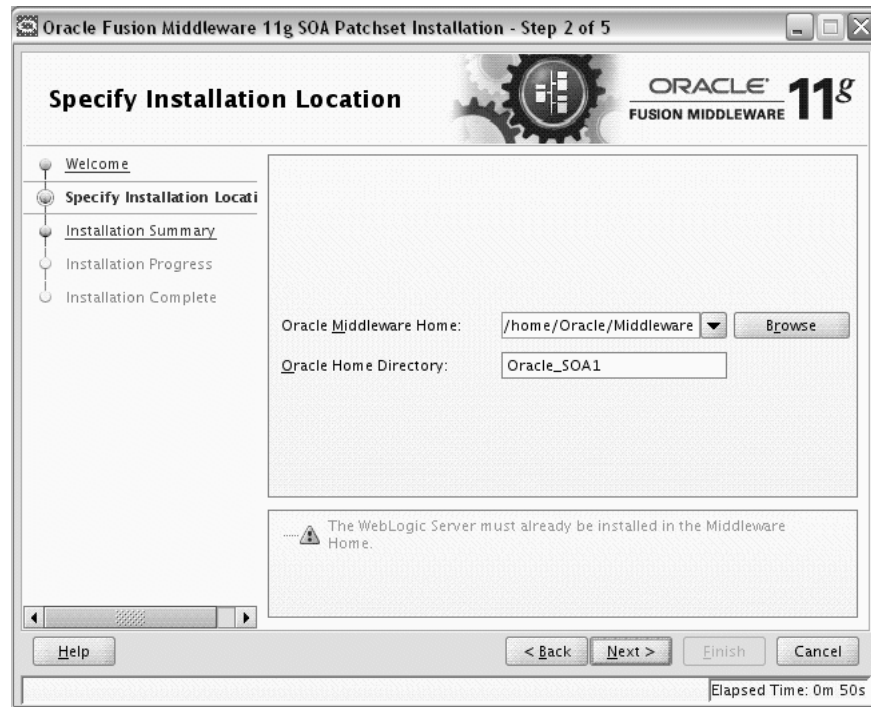
In the Oracle Middleware Home field, specify the absolute path to your existing Oracle Middleware Home directory; this is the directory that was created when you installed Oracle WebLogic Server. If you do not know the full path to your Middleware Home, you can click **Browse** to select an existing directory in your system.

In the Oracle Home Directory field, specify the existing product Oracle home directory inside the Oracle Middleware Home. This is the directory that will be patched with this installation.

> **Note:**   If you are performing an installation on a Windows operating system, be sure that your directory paths are valid and do not contain double backslashes (\\).

If you specify an Oracle home directory that does not contain the same product you are patching (for example, you are running the Patch Set Installer for Oracle SOA Suite but you have specified an Oracle home that contains Oracle Web Tier), you will receive a warning message but will be allowed to continue if you choose. In such cases, only the `oracle_common` directory and any components which the two products have in common are patched.

> **Note:**   If you specify an Oracle home directory that has already been patched, then you will receive a warning message and the installation will not continue. Re-patching an Oracle home is not supported.

A.3 Specify Security Updates
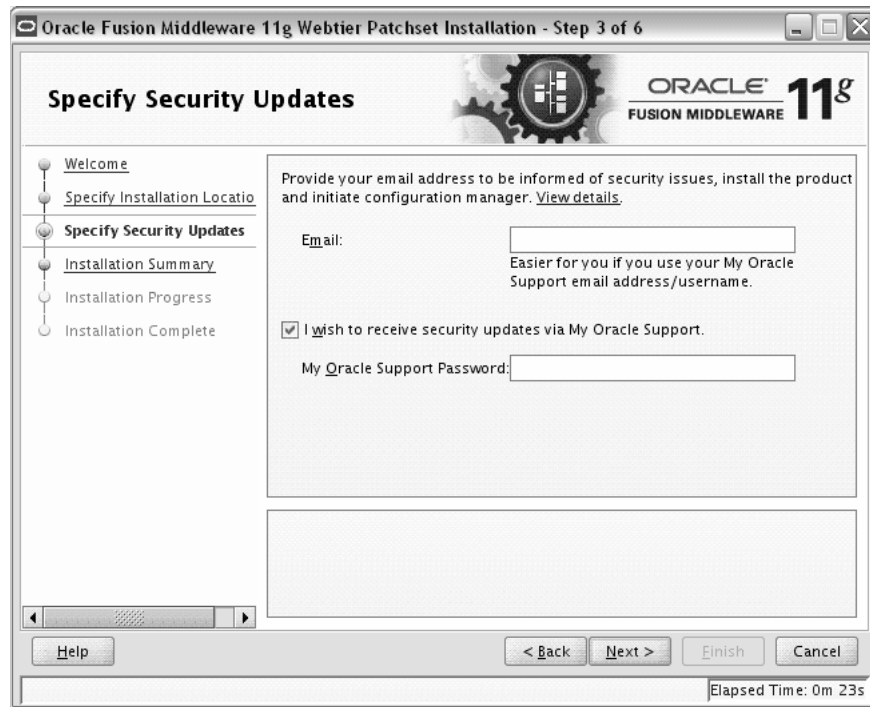
If you are running the Patch Set Installer for Oracle Web Tier, Oracle Identity Manager, or Oracle Portal, Forms, Reports and Discoverer, and you did not already register for security updates in your previous installation, you will see this screen.

Enter your E-mail address if you want to receive the latest product information and security updates. If you have a My Oracle account and wish to receive updates via this mechanism, select **I wish to receive security updates via My Oracle Support**, then enter your account password.

If you do not wish to register for security updates, leave all the fields on this screen blank. You will be prompted to confirm your selection with the following screen:
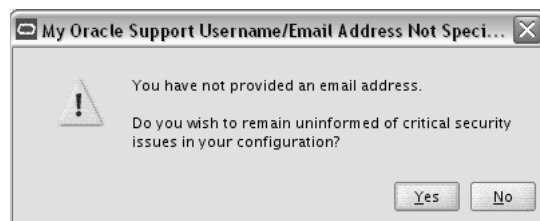
Click **Yes** to confirm that you do not want to register for any security updates.

A.4 Installation Summary
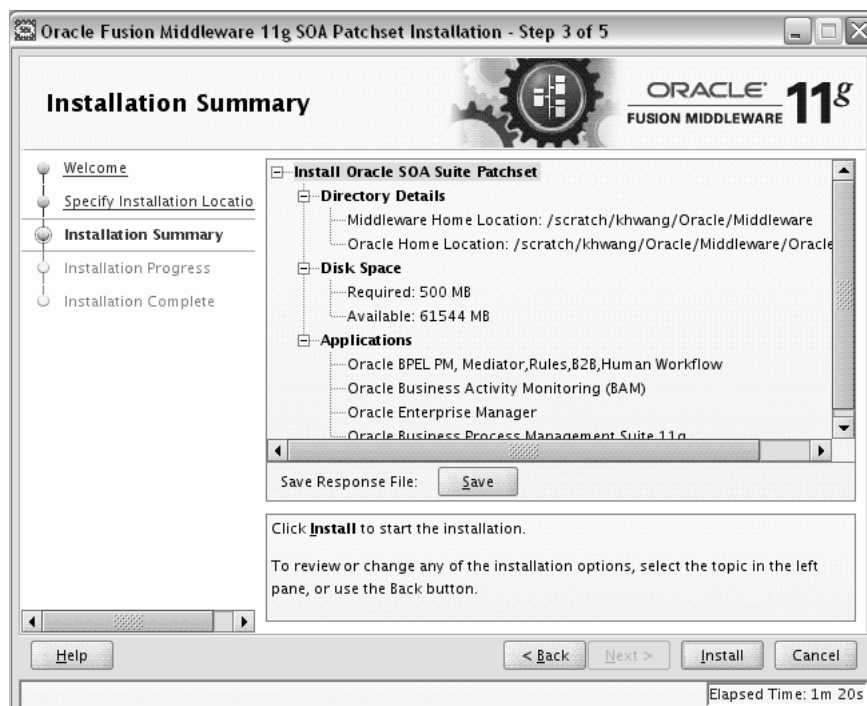
Review the information on this screen, and click **Install** to begin the installation. The operations summarized on this page will be performed when you click **Install**.

If you want to make any changes to the configuration before starting the installation, use the navigation pane and select the topic you want to edit.

If you want to save this configuration to a text file, click **Save**. This file can be used later if you choose to perform the same installation from the command line.

For more information about silent installation, refer to *Oracle Fusion Middleware Installation Planning Guide*.

A.5 Installation Progress
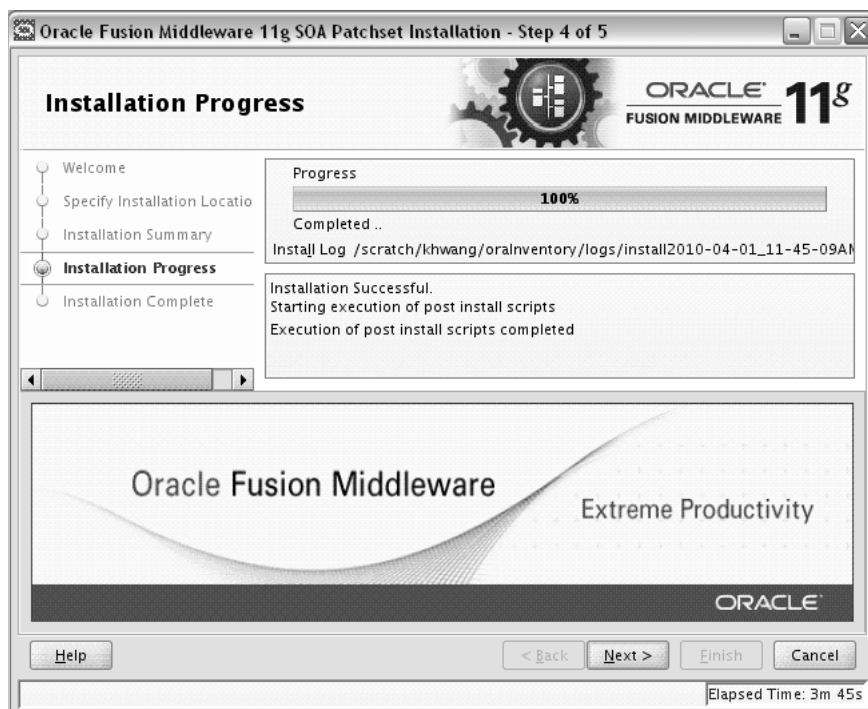
This screen shows you the progress of the installation.

If you want to quit before the installation is completed, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

A.6 Installation Complete
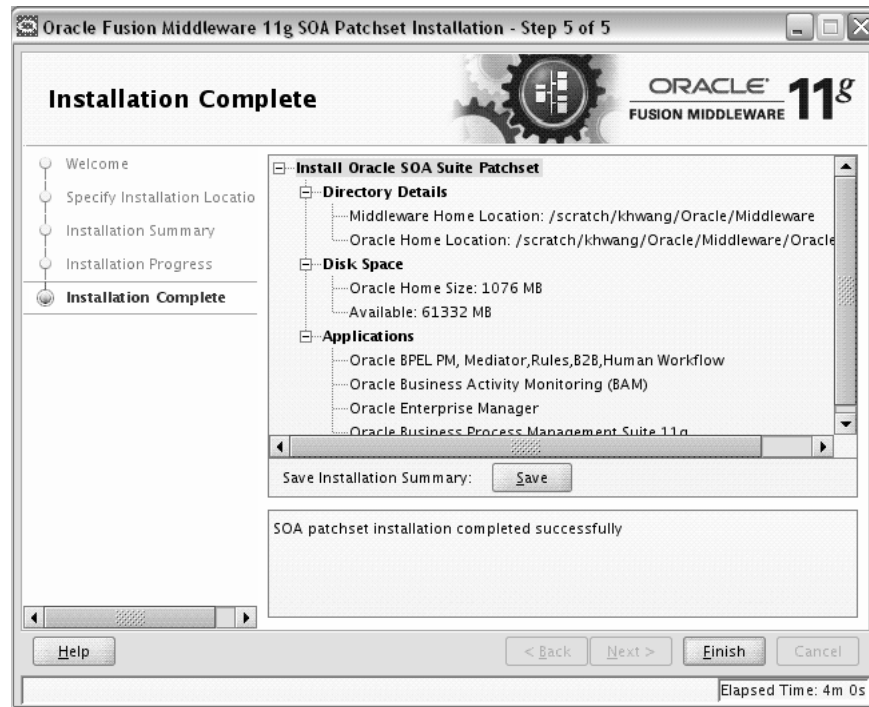
This screen summarizes the installation that was just completed.

If you want to save this summary information to a text file for future reference, click **Save**.

B

Using Patch Assistant to Migrate from 11*g* Release 1 (11.1.1.1.0) to Release 1 (11.1.1.2.0)

This chapter contains the following sections:

- Overview of Oracle Fusion Middleware 11g Release 1 (11.1.1.2.0) Patch Assistant
- Migration Process
- Preparing to Migrate
- Migrating to Oracle Fusion Middleware 11g Release 1 (11.1.1.2.0)

> **Important Note:** The information and procedures in this chapter apply only to users who have installed and configured Oracle Fusion Middleware 11g Release 1 (11.1.1.1.0). If you are currently running Release 1 (11.1.1.1.0), then you must use this chapter to update your Oracle Fusion Middleware environment to Release 1 (11.1.1.2.0) before you can patch your environment to Release 1 (11.1.1.4.0).
>
> If you are already running Oracle Fusion Middleware 11g Release 1 (11.1.1.2.0) or 11g Release 1 (11.1.1.3.0), then disregard this appendix.

B.1 Overview of Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) Patch Assistant

Patch Assistant enables you to migrate your existing configuration of Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) components, used in conjunction with the 11.1.1.1.0 and 11.1.1.2.0 installations. Patch Assistant is not a complete software distribution. You must run this Patch Assistant over an existing Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) installation. Patch Assistant is designed to work with all Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) products. You may see messages that an Oracle product is not present in a domain or instance. This message is informational and does not indicate an error.

Refer to Table B–7 for the Oracle Fusion Middleware components supported by Patch Assistant.

> **Note:** Patch Assistant is used only for updating Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) Domains and Oracle Instances. If you are not updating your existing 11.1.1.1.0 domains and instances, you are not required to use Patch Assistant.

Patch Assistant helps to migrate the following from Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0):

- Oracle Fusion Middleware Domains

> **Note:** It is required that you migrate the entire Oracle WebLogic domain. When the domain is migrated, all components in the domain are also migrated.

- Oracle Instances
- Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) database schema created using Oracle Repository Creation Utility (RCU)

> **Note:** You must migrate both the schema and the middle tier.

When you run Patch Assistant tool, the configuration files contained in the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) domain and Instance directories are copied to the new directories in the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) installation. The Middleware home is the full path of the Oracle directory that contains the Oracle Fusion Middleware installation, and *MW_HOME* will be used in this documentation to refer to the directory where the product is installed.

> **Note:** *MW_HOME* must be replaced with the full path name of the installed Oracle Fusion Middleware instance.

B.2 Migration Process

Figure B–1 illustrates the migration process. Review this chart to get familiar with the steps you are required to take, based on your existing Oracle Fusion Middleware environment.

Figure B–1 Flow Chart of the Migration Process
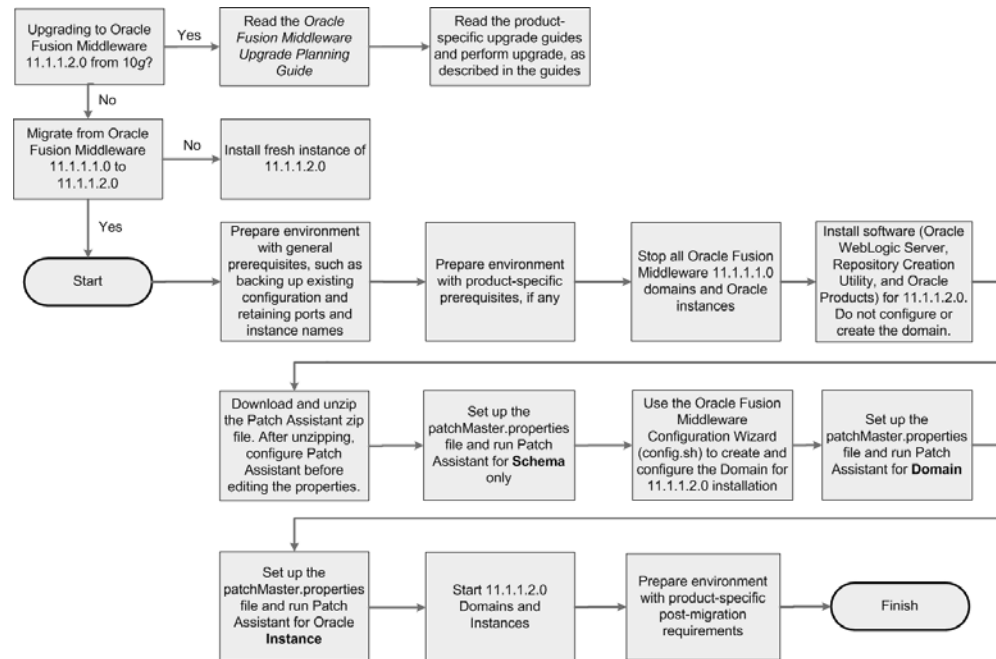
B.3 Preparing to Migrate

This section contains important information you should read before you migrate.

B.3.1 Evaluating and Reviewing your Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) Environment

The first step in the migrating process is to evaluate your current Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) environment. During the migration process, the topology of the deployment must not change, the port configuration must be retained, and there must be minimal changes in namespaces. All the changes in the namespaces are encapsulated by the properties in the `patchMaster.properties` file, which is included in the `fmw11gR1ps1_patchassist.zip` file.

For a list of products included in this patch set, see Section B.4.7, "Oracle Fusion Middleware Components Supported by Patch Assistant".

B.3.2 Preparing to Migrate Your Configuration

This section discusses the following topics:

- Prerequisites

- Extracting the Contents of Patch Assistant

- Setting Up the Patch Assistant Environment

- Stopping Oracle Fusion Middleware

- Setting Logging Properties

B.3.2.1 Prerequisites

This section describes the general and product-specific prerequisites for running Patch Assistant.

This section discuss the following topics:

- General Prerequisites
- Product-Specific Prerequisites

B.3.2.1.1   General Prerequisites   The following are the general prerequisites for running Patch Assistant:

- Ensure that Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) is installed and configured.

- Ensure that you install 11.1.1.2.0 on the same operating system used by the 11.1.1.1.0 installation.

- Ensure that the system configuration meets the recommended system configuration described in your product documentation. For more information, see `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`.

- Ensure that you have Apache Ant 1.7.0 and Java JDKs (Java SE 6 1.6.0_11 and jrockit_160_05_R27.6.2-20), which are packaged with Oracle WebLogic Server.

  > **Note:**   If you are using Oracle Internet Directory, Oracle Virtual Directory, Oracle HTTP Server, or Oracle Web Cache as standalone Oracle Fusion Middleware installations, you must install and configure Apache Ant separately. For more information, see Installing Ant at `http://ant.apache.org/manual/installlist.html` and Section B.3.2.3, "Setting Up the Patch Assistant Environment".

- Make a detailed note of the topology used for the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) installation.

- Ensure that you do not change the port configuration and instance names in your existing Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) installation.

- Ensure that the environment variables for `tmp` and `temp` directories for Microsoft Windows are set, as described in the *Oracle Fusion Middleware Administrator's Guide*.

- Back up your Oracle software, inventory, schema, and domain before applying this patch set, or before making any other changes to your existing Oracle software. Refer to your product administrator's guide for instructions on backing up your Oracle software and inventory. For more information, see the "Advanced Administration: Backup and Recovery" part in the *Oracle Fusion Middleware Administrator's Guide*.

- On Windows, it is recommended that you edit the `patchMaster.properties` file in a Notepad. If you are using any other text editor, such as Windows WordPad, then save the file as Text Document. Do not save the file in Rich Text Format.

- On Windows, you must delete the service name for Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) before installing Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) because both the installations use the same service name. To do so, run the following `Ant` task on the command line:

  ```
  ant master-opmn-delete-service
  ```

Enter the required information when prompted by the `Ant` task.

> **Note:** If you want to abort the migration and revert to the 11.1.1.1.0 deployment, run the following `Ant` task on the command line:
>
> `ant master-opmn-create-service`

- Heterogeneous nodes in a Cluster (one in 11.1.1.2.0, other in 11.1.1.2.0) is not supported during the migration process. You must migrate all nodes to 11.1.1.2.0 before environment can be used.

B.3.2.1.2 Product-Specific Prerequisites Depending on your Oracle Fusion Middleware component, you may have to meet additional prerequisites as follows:

- Oracle Fusion Middleware Audit Framework
- Oracle Directory Integration Platform
- Oracle Internet Directory and Oracle Virtual Directory
- Oracle WebCenter
- Oracle Portal

Oracle Fusion Middleware Audit Framework

For Oracle Fusion Middleware Audit Framework, the audit policy is configured for Java components in Oracle Fusion Middleware 11g Release 1 (11.1.1.1.0), you must export the configuration before running Patch Assistant, as follows:

1. Log in to Oracle Enterprise Manager 11*g* Fusion Middleware Control.

2. Expand WebLogic Domain on the left pane, and select your domain.

   Your selected domain page is displayed.

3. From the WebLogic Domain, select **Security**, and then **Audit Policy**.

   The **Audit Policy** page is displayed.

4. Select the Audit Policy, and click **Export**.

5. Save the `AuditConfiguration` file to your machine.

Oracle Directory Integration Platform

For the Oracle Directory Integration Platform, do the following:

1. Ensure that your Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) Oracle Internet Directory is up and running in SSL No-Auth mode.

2. Extend the Oracle WebLogic domain created during the Oracle Internet Directory 11*g* Release 1 (11.1.1.2.0) installation, by running the following command:

   Windows

   `config.cmd` (Located at: *ORACLE_HOME*\bin)

   UNIX

   `config.sh` (Located at: *ORACLE_HOME*/bin)

   The Oracle Fusion Middleware Configuration Wizard appears. Enter the Oracle Internet Directory 11*g* Release 1 (11.1.1.2.0) connection details and credentials.

3. Stop the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) domain.

Oracle Internet Directory and Oracle Virtual Directory

Depending on your installation, complete the following prerequisites:

- If your 11.1.1.1.0 configuration has Oracle Internet Directory and Oracle Virtual Directory created with a new Oracle WebLogic domain, then choose the **Create a new WebLogic domain** option on the Welcome screen of the Oracle Fusion Middleware Configuration Wizard when configuring the 11.1.1.2.0 domain.

  During the configuration of 11.1.1.2.0, if you select the Create a new WebLogic domain option, then you must deselect Oracle Internet Directory and Oracle Virtual Directory, and select Oracle Directory Services Manager.

- If your Oracle Internet Directory and Oracle Virtual Directory are not registered to any Oracle WebLogic domain in your 11.1.1.1.0 configuration, then 11.1.1.2.0 configuration is not required. You must set the property `patchMaster.Oracleinstancenewlist` in the `patchMaster.properties` file to a new directory for the instance. Ensure that you retain the same instance name used in 11.1.1.1.0.

- If your 11.1.1.1.0 configuration has Oracle Internet Directory and Oracle Virtual Directory registered to an existing Oracle WebLogic domain, then 11.1.1.2.0 configuration is not required. You must set the property `patchMaster.Oracleinstancenewlist` in the `patchMaster.properties` file to a new directory and register the instance with the existing 11.1.1.2.0 WebLogic domain using `Ant` target. Ensure that you retain the same instance name used in 11.1.1.1.0.

Oracle WebCenter

To migrate Oracle WebCenter, you may choose either of these approaches:

- Keep two parallel instances of Oracle WebCenter, that is 11.1.1.1.0 as well as 11.1.1.2.0. To do this, you must perform a complete installation of Oracle WebCenter 11.1.1.2.0. You can then migrate your Oracle WebCenter 11.1.1.1.0 data into the new WebCenter instance by using the export and import utilities. This approach enables you to use both instances of Oracle WebCenter, if required. For example, you may run the two instances in parallel to minimize downtime or to ensure that the 11.1.1.2.0 instance is set up to the same level as the 11.1.1.1.0 instance before you switch over to the 11.1.1.2.0 instance completely.

  For information about how to install Oracle WebCenter, see the *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*. For information about export and import utilities, see "Managing Export, Import, Backup, and Recovery of WebCenter" in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- Migrate the Oracle WebCenter 11.1.1.1.0 repository and mid-tier completely to Oracle WebCenter 11.1.1.2.0. This approach preserves your Oracle WebCenter 11.1.1.1.0 repository data and enables you to reuse the repository.

  This guide describes the tasks required to implement this migration approach for Oracle WebCenter.

Oracle Portal

Before updating, you should backup your OmniPortlet and WebClipping customizations. For more information, see Section 5.1.2, "Saving Your OmniPortlet and WebClipping Customizations".

B.3.2.2 Extracting the Contents of Patch Assistant

You can download the **fmw11gR1ps1_patchassist.zip**, which is included in the Oracle Fusion Middleware 11g Release 1 Patch Set 1 Patch Scripts media. The zip file is available in the same media pack as Oracle Fusion Middleware 11g Release 1 (11.1.1.2.0) on Oracle Technology Network (OTN) at the following URL: http://oracle.com/technology

After downloading this zip file, extract its contents to its own location, in your local machine, where the old and new Oracle Fusion Middleware components are installed. Ensure that the same operating system is used for the 11.1.1.1.0 and 11.1.1.2.0 installations. The zip file includes the following files:

- **README** – Describes the environment.

- **patchMaster.properties** - The user input file.

- **build.xml** – The master build file. Each Oracle Fusion Middleware component has its own `build.xml` file.

B.3.2.3 Setting Up the Patch Assistant Environment

To set up the Patch Assistant environment for Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0), you must set up `ANT_HOME`, add it to your `PATH`, set the `JAVA_HOME` and the `permgen` size.

For example, on **Windows**:

```
set ANT_HOME=MW_HOME\modules\org.apache.ant_1.7.0
set PATH=%PATH%;%ANT_HOME%\bin
set JAVA_HOME=MW_HOME\jdk160_14_R27.6.4-18
set ANT_OPTS=-Xmx512M -XX:MaxPermSize=512m
```

For example, on **UNIX**:

```
setenv MW_HOME ##set mw home here##
setenv ANT_HOME $MW_HOME/modules/org.apache.ant_1.7.0
setenv PATH $ANT_HOME/bin:$PATH
setenv JAVA_HOME $MW_HOME/jdk160_14_R27.6.5-32
setenv ANT_OPTS "-Xmx512M -XX:MaxPermSize=512m"
```

B.3.2.4 Stopping Oracle Fusion Middleware

Before you run Patch Assistant, you must stop the following:

- Oracle WebLogic Server

- Administration Servers

- Managed Servers

- Oracle Management Agent

- Java EE Applications

- High Availability Environments

For more information, see the Starting and Stopping Oracle Fusion Middleware chapter in the *Oracle Fusion Middleware Administrator's Guide*.

B.3.2.5 Setting Logging Properties

You can use the log file to verify the migration or to detect any errors after running Patch Assistant. Patch Assistant creates a time stamp file in the Patch Assistant home. You can specify the following logging levels:

- `info` (This is the default setting)
- `error`
- `warning`
- `verbose`
- `debug`

> **Note:** The debug and the verbose options may display sensitive information in the logs, and they are not recommended for typical use.

Before you use your log file, you must set the logging properties as follows:

Open the `patchMaster.properties` file in a text editor, and update the following properties:

```
# Description: Specifies the directory where the log files go
patchMaster.Logdir=${patchMaster.Dir}
```

Specifies the default location where the log file is saved.

```
# Description: Specifies the logging level to be recorded in the log file
patchMaster.Loglevel=info
```

Sets the logging level.

To override the default `patchMaster.properties` Log level, run the command as shown in the following example:

```
ant -DpatchMaster.Loglevel=error
```

> **Note:** You can override the `patchMaster.properties` by setting properties on the command line. If the `debug` or `verbose` options are used on the command line, they override the logging level property set in the `patchMaster.properties` file. For more information, see Section B.4.6.1, "Overriding Properties Set in the patchMaster.properties File".

B.4 Migrating to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0)

This sections contains migration instructions. The following topics are covered:

- Migration Roadmap
- Migration Procedure
- Post-Migration Configuration for Oracle Fusion Middleware Components
- Installation Process
- Configuration Process
- Properties in the patchMaster.properties File

■ Oracle Fusion Middleware Components Supported by Patch Assistant

B.4.1 Migration Roadmap

Table B–1 describes the high-level tasks for migrating from Oracle Fusion Middleware 11.1.1.1.0 to 11.1.1.2.0. The table also provides information on where to get more details on each task.

Table B–1   Tasks in the Migration Procedure

Task	Description	Documentation	Mandatory or Optional?
Task 1 - Prepare Environment with General Prerequisites, such as Backing Up Existing Configuration and Retaining Ports and Instance Names	Complete all general prerequisites for running Patch Assistant.	For more information, see Section B.3.2.1.1, "General Prerequisites".	Mandatory
Task 2- Prepare Environment with Product-Specific Prerequisites, if any	Complete all product-specific prerequisites for running Patch Assistant, as applicable.	For more information, see Section B.3.2.1.2, "Product-Specific Prerequisites".	Optional
Task 3 - Stop All Oracle Fusion Middleware 11.1.1.1.0 Domains and Instances	Ensure that you stop all Oracle Fusion Middleware 11.1.1.1.0 domains and instances.	For more information, see Section B.3.2.4, "Stopping Oracle Fusion Middleware" and Section B.4.2.1, "Stopping the Old Domain".	Mandatory

Task 4 - Install Software (Oracle WebLogic Server, Repository Creation Utility, and Oracle Products) for 11.1.1.2.0	Install Oracle software, including Oracle WebLogic Server, Repository Creation Utility, and Oracle products for 11.1.1.2.0. Do not create or configure a WebLogic domain at this stage of the migration process.
	
	Install the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) and its components in a separate Middleware home on the same host as the Oracle Fusion Middleware 11*g* Release 1 (11.1.1) *MW_HOME*. Ensure that you stop the Oracle Fusion Middleware components for 11.1.1.1.0, before you begin the installation. This will enable the 11.1.1.2.0 installation to retain the same 11.1.1.1.0 port number, host name, and machine name.
		Installation instructions for Oracle WebLogic Server are provided in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.
		
		For system requirements information, go to:
		
		`http://download.oracle.com/docs/html/E18558_01/fusion_requirements.htm`
		
		For certification information, go to:
		
		`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html`
		
		For information about installing Oracle products, refer to the product-specific installation guides.
			Mandatory

Task 5 - Download the Patch Assistant Zip File	Download the Patch Assistant zip file and extract its contents. After unzipping, configure Patch Assistant before editing the properties.	For more information, see Section B.4.2.3, "Downloading Patch Assistant".	Mandatory

Table B–1 (Cont.) Tasks in the Migration Procedure

Task	Description	Documentation	Mandatory or Optional?
Task 6 - Set Up the `patchMaster.properties` File and Run Patch Assistant for Schema Only	Ensure that the Oracle database that contains the 11.1.1.1.0 schemas is up and running. This will allow access to the `SCHEMA_VERSION_REPOSITORY` table by Patch Assistant. Specify the schema-related properties in the `patchMaster.properties` file, and run the `ant master-patch-schema` command to migrate the schema only. **Note**: For Oracle Portal, you must complete the steps in Task 7, 8, and 9, and then follow the steps to migrate the schema. It is recommended that you refer to the following topics in the *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer* before you run Patch Assistant to migrate the schema: ■ Understanding the Impact of the Oracle Portal Schema Upgrade ■ Checking for Invalid Objects in the Database Where the Oracle Portal 10*g* Schema Resides ■ Backing Up the Database Where the Oracle Portal 10*g* Schema Resides ■ Verifying the Required Database Parameters for Oracle Portal 11*g* ■ Verifying That the Database and Oracle Internet Directory Are Running Log files specific to Oracle Portal migration are generated in the `upgrade.log` and `precheck.log` files in the *ORACLE_HOME*`/upgrade/logs` directory (UNIX). If your Oracle Portal repository is not stored in the Oracle Metadata Repository, and is instead installed in a separate database, then do not use the procedures in this section. Instead, refer to "Upgrading an Oracle Portal Repository in a Customer Database" in *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer.*	For more information, see Section B.4.2.4, "Migrating the Schema".	Mandatory

Table B–1 (Cont.) Tasks in the Migration Procedure

Task	Description	Documentation	Mandatory or Optional?
Task 7 - Use the Oracle Fusion Middleware Configuration Wizard (`config.sh`) to Create and Configure a WebLogic Domain for 11.1.1.2.0	Create and configure a WebLogic administration domain for your 11.1.1.2.0 installation. Ensure that you configure the domain as it was in your 11.1.1.1.0 installation.	For more information, see Section B.4.2.5, "Creating a WebLogic Domain for 11.1.1.2.0" and the product-specific installation guides.	Mandatory
Task 8 - Set Up the `patchMaster.properties` File and Run Patch Assistant for Domain	Specify the domain-related properties in the `patchMaster.properties` file, and run the `ant master-patch-domain` command to migrate the WebLogic domain. You must patch all products in the domain being migrated.	For more information, see Section B.4.2.6, "Migrating the Domain".	Mandatory
Task 9 - Set Up the `patchMaster.properties` File and Run Patch Assistant for Oracle Instance	Specify the instance-related properties in the `patchMaster.properties` file, and run the `ant master-patch-oinstance` command to migrate the instances.	For more information, see Section B.4.2.7, "Migrating an Instance".	Optional
Task 10 - Run Patch Assistant for Registering Instance	After migrating the instances, run the `ant master-register-oinstance` command to register the instances.	For more information, see Section B.4.2.8, "Registering the Instance".	Mandatory
Task 11 - Start 11.1.1.2.0 Domains and Instances	Run the `ant master-start-domain-new` command to start the new 11.1.1.2.0 domain. In addition, start the new instances.	For more information, see Section B.4.2.9, "Starting or Stopping the 11.1.1.2.0 Domain".	Mandatory
Task 12 - Prepare Environment with Product-Specific Post-Migration Requirements	Perform any product-specific post-migration tasks.	For more information, see Section B.4.3, "Post-Migration Configuration for Oracle Fusion Middleware Components".	Mandatory if your Oracle product requires any post-migration configuration.
Task 13 - Decommission 11.1.1.1.0 Installation	Deinstall the 11.1.1.1.0 installation.	For more information, see Section B.4.2.11, "Decommissioning the 11.1.1.1.0 Installation".	Optional

B.4.2 Migration Procedure

Migrating your existing configuration from 11.1.1.1.0 to 11.1.1.2.0 involves the following tasks:

1. Stopping the Old Domain

2. Installing Oracle Software for 11.1.1.2.0

3. Downloading Patch Assistant

4. Migrating the Schema

5. Creating a WebLogic Domain for 11.1.1.2.0

6. Migrating the Domain

7. Migrating an Instance

8. Registering the Instance

9. Starting or Stopping the 11.1.1.2.0 Domain

10. Completing Post-Migration Tasks

11. Decommissioning the 11.1.1.1.0 Installation

B.4.2.1 Stopping the Old Domain

To stop the old 11.1.1.1.0 domain, complete the following steps:

> **Note:**   You can also use Fusion Middleware Control, Oracle
> WebLogic Server Administration Console, or WLST or OPMN
> commands to stop the Oracle Fusion Middleware components.

1. Open the `patchMaster.properties` file (Located in your `patchMaster` directory) in a text editor, and specify the following properties in the `patchMaster.properties` file, as applicable:

   ```
   patchMaster.Oraclehomeold
   patchMaster.Oracleinstanceoldlist
   patchMaster.Domainadminhost
   patchMaster.Domainadminport
   ```

   If the `patchMaster.Domainadminhost` property is not specified, the default value local host is used. If the `patchMaster.Domainadminport` property is not specified, the default value `7001` is used. After editing the properties, save the file and close. For more information about properties in the `patchMaster.properties` file, see Section B.4.6, "Properties in the patchMaster.properties File".

   > **Note:**   If you have multiple Oracle products installed, then you must
   > run Patch Assistant once for each product and setting the
   > `patchMaster.Oraclehomeold` for each product.

2. Run the following command on the command line:

   ```
   ant master-stop-domain-old
   ```

3. Enter the domain user name and password, when prompted.

B.4.2.2 Installing Oracle Software for 11.1.1.2.0

You must install Oracle WebLogic Server, Repository Creation Utility (RCU), and Oracle products for 11.1.1.2.0:

- Create a new Middleware home directory.

- Install Repository Creation Utility.

- Perform a software-only installation of the product bundle.

Ensure that your system environment meets the general installation requirements for Oracle Fusion Middleware. Some Oracle Fusion Middleware Components require schemas that must be installed in an Oracle database. It is recommended that you do not install any new schemas for your existing 11*g* R1 (11.1.1.1.0) products. However, in the same environment, you can add new products for which you may have to create the appropriate schemas. For such products, you can create and load the schemas in your database by using RCU. Ensure that you have a supported Oracle database up and running. See `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html` for more information.

Ensure that same instance name used in 11.1.1.1.0 and 11.1.1.2.0.

> **Note:** When you migrate the mid-tier, you are installing a fresh mid-tier in your new 11.1.1.2.0 environment. Patch Assistant migrates the middle tier configuration to this new instance.

For information about the installation process, including Cluster scenarios, see Section B.4.4, "Installation Process".

B.4.2.3 Downloading Patch Assistant

For information about downloading Patch Assistant and extracting its contents, see Section B.3.2.2, "Extracting the Contents of Patch Assistant".

B.4.2.4 Migrating the Schema

Before you can update the repository, ensure that your 11.1.1.1.0 domain is configured and it includes tables populated from running the Repository Creation Utility (RCU).

> **Note:** You can choose to install Oracle Content Server while installing Oracle WebCenter, or later by performing a standalone installation. In Oracle Fusion Middleware 11.1.1.1.0, if you performed a standalone installation of Oracle Content Server, then before you migrate the schemas, you must rename the Oracle Content Server's schema so that it contains the standard suffix, `OCSERVER`. For information, see Section B.4.2.4.1, "Renaming the Oracle Content Server Schema"

To migrate the schema, complete the following steps:

1. Open the `patchMaster.properties` file (Located in your `patchMaster` directory) in a text editor, and specify the following schema-related properties in the `patchMaster.properties` file:

```
patchMaster.Schemaurl
patchMaster.Schemauser
patchMaster.Schemaprefix
patchMaster.Mwhomenew
patchMaster.Mwhomeold
patchMaster.Componentlist
```

> **Note:** The `patchMaster.Componentlist` property is optional, if you are migrating the schema for a single component. For Oracle Portal, in addition to the above properties, you must specify the `patchMaster.Oraclehomenew` property.
>
> In `patchMaster.Componentlist`, include Oracle Content Server as a component only if you created the server's schema using RCU. If you did not create the schema using RCU, then list the server in `patchMaster.Componentlist` only after completing the schema renaming process described in section Section B.4.2.4.1, "Renaming the Oracle Content Server Schema"

After editing the properties, save the file and close. For more information about properties in the `patchMaster.properties` file, see Section B.4.6, "Properties in the patchMaster.properties File".

2. Run the following command on the command line to migrate the database schema, and provide the required user name and password when prompted:

```
ant master-patch-schema
```

Patch Assistant can only migrate one set of component schemas that share the same prefix. If different components in your deployment have different prefixes and you have multiple schemas sharing a repository, then you must invoke Patch Assistant multiple times, once for each prefix.

> **Note:** If you migrate the Metadata Services schema for one component, it also affects all the other components using the same Metadata Services schema. If you are using Oracle SOA, you must enter `ant -q master-patch-schema` on the command line to migrate the schema.

Refer to your product-specific upgrade guides, in the *Oracle Fusion Middleware Online Documentation Library,* for more information about upgrading schema for your Oracle Fusion Middleware.

During the schema migration, exceptions may occur. Some of these exceptions can be ignored. The following example shows one such exception:

```
[java] SEVERE: Error while registering Oracle JDBC Diagnosability MBean.
     [java] java.security.AccessControlException: access denied
(javax.management.MBeanTrustPermission register)
     [java]     at
java.security.AccessControlContext.checkPermission(AccessControlContext.java:323)
```

> **Note:** Patch Assistant ensures that all required properties are set for each of the operations.
>
> Patch Assistant attempts to migrate all Oracle Fusion Middleware components. If a component is not installed or configured in the deployment, log messages indicating these attempts are generated.
>
> Log files specific to Oracle Portal migration are generated in the `upgrade.log` and `precheck.log` files in the `ORACLE_HOME/upgrade/logs directory` (UNIX).

B.4.2.4.1 Renaming the Oracle Content Server Schema In Oracle Fusion Middleware 11.1.1.1.0, if you performed a standalone installation Oracle Content Server, then before migrating the schemas, you must rename the Oracle Content Server's schema so that it contains the standard suffix, `OCSERVER`. You must also rebuild indexes on Oracle Content Server.

To rename the Oracle Content Server schema:

1. Create a new schema (for example, `DEV_OCSERVER`) using the RCU. Ensure that you use the same password as that of your existing Oracle Content Server schema.

2. Export the existing schema (for example, `IDC_IR10`).

3. Import data into the new schema you created (`DEV_OCSERVER`).

> **Note:** Before you import data into the newly created schema, ensure that all the seeded database objects are removed from that schema.

4. Open the `config/config.cfg` file from the installation directory of your Oracle Content Server.

5. Change the Oracle Content Server schema name listed in the configuration file to the newly created schema. (for example, rename `IDC_IR10` to `DEV_OCSERVER`)

6. Access the Oracle Content Server administration console and ensure that the data exists.

After renaming the Oracle Content Server schema, you must migrate the schema, as described in the beginning of this section.

After migrating the schemas, you must rebuild the indexes on Oracle Content Server.

To re-create the index:

1. Log on to Oracle Content Server as a system administrator.

2. Access Repository Manager from the Admin Console by navigating to **Administration** > **Admin Applets** > **Repository Manager**.

3. Click the **Indexer** tab.

4. In the Collection Builder Cycle section, click **Start**. If the collection rebuild is already in progress, do not choose to restart the operation. First stop the collection rebuild operation, and then start the operation. Note that the collection rebuild operation is a time-consuming task.

B.4.2.5 Creating a WebLogic Domain for 11.1.1.2.0

Create a WebLogic domain for 11.1.1.2.0 as follows:

1. Run the `MW_Home/oracle_common/common/bin/config.sh` command (on UNIX) or the `MW_Home\oracle_common\common\bin\config.cmd` command (on Windows) on the command line. The Oracle Fusion Middleware Configuration Wizard appears.

   For Oracle Portal, Oracle Forms, Oracle Reports, and Oracle Discoverer the `config.sh` command is located at `ORACLE_HOME/bin` (on UNIX) and the `config.cmd` is located at `ORACLE_HOME\bin` (on Windows).

2. On the Welcome screen, select the **Create a new WebLogic domain** option. Click **Next**. The Select Domain Source screen appears.

3. On the Select Domain Source screen ensure that the **Generate a domain configured automatically to support the following products:** option is selected. Select templates for the products that are included in your existing 11.1.1.1.0 installation. For example, if the domain in your 11.1.1.1.0 installation had SOA configured, you must configure the new domain with SOA in 11.1.1.2.0. Click **Next**. The Select Domain Name and Location screen appears.

4. Enter a name and a location for the domain to be created, and click **Next**. Ensure that the domain name is same as the 11.1.1.1.0 domain. Click **Next**. The Configure Administrator User Name and Password screen appears.

5. Configure a user name and a password for the administrator. The default user name is weblogic. Click **Next**.

6. Choose a JDK in the Configure Server Start Mode and JDK screen.

7. Configure JDBC Component Schemas and ensure that you retain the same 11.1.1.1.0 topology during this configuration.

8. On the Select Optional Configuration screen, select the **Administration Server** and **Managed Servers, Clusters, and Machines**, and **Deployments and Services** check boxes. Click **Next**.

9. Configure the Administration Server, Managed Servers, Clusters, Machines, as required. Ensure that you retain the same 11.1.1.1.0 topology during this configuration.

10. On the Configuration Summary screen, review the domain configuration, and click **Create** to start creating the domain.

The WebLogic domain with your configuration attributes is created.

> **Note:** Patch Assistant ensures that all required properties are set for each of the operations.
>
> Patch Assistant attempts to migrate all Oracle Fusion Middleware components. If a component is not installed or configured in the deployment, log messages indicating these attempts are generated.

For more information about the configuration process, including Cluster scenarios, see Section B.4.5, "Configuration Process".

B.4.2.6 Migrating the Domain

Before you can migrate the WebLogic domain, ensure that the database schemas are migrated, the new 11.1.1.2.0 products are installed, the new 11.1.1.2.0 domain is configured (as it was configured in the previous 11.1.1.1.0 installation), and all the

WebLogic domains are shut down. When you migrate the 11.1.1.1.0 domain, the products configured in the domain are also migrated to the new 11.1.1.2.0 domain.

> **Note:** If you have multiple Oracle products installed, then you must run Patch Assistant once for each product and setting the `patchMaster.Oraclehomeold` property for each product. You must patch all products in the domain being migrated.

To migrate the WebLogic domain, complete the following steps:

1. Open the `patchMaster.properties` file (Located in your `patchMaster` directory) in a text editor, and specify the following domain-related properties:

   ```
   patchMaster.Domainhomenew
   patchMaster.Domainapplicationshomenew
   patchMaster.Domainhomeold
   patchMaster.Domainusername
   patchMaster.Oracleinstanceoldlist
   patchMaster.Oraclehomeold
   ```

   After editing the properties, save the file and close. For more information about properties in the `patchMaster.properties` file, see Section B.4.6, "Properties in the patchMaster.properties File".

2. Run the following command on the command line to migrate the WebLogic domain:

   ```
   ant master-patch-domain
   ```

   > **Note:** Patch Assistant ensures that all required properties are set for each of the operations.
   >
   > Patch Assistant attempts to migrate all Oracle Fusion Middleware components. If a component is not installed or configured in the deployment, log messages indicating these attempts are generated.
   >
   > For the Oracle Directory Integration Platform, you only need to enter the above target to complete the migration process. If you are using Oracle SOA, you must enter `ant -q master-patch-domain` on the command line to migrate the WebLogic domain.

If you are using a Cluster environment, ensure that the database schemas are migrated, the new 11.1.1.2.0 products are installed in a Cluster environment, the new 11.1.1.2.0 domain is configured (as it was configured in the previous 11.1.1.1.0 installation) in a Cluster environment, and all the WebLogic domains are shut down.

B.4.2.7 Migrating an Instance

Before you can migrate the Oracle Instances, ensure that the database schemas are migrated, the new 11.1.1.2.0 products are installed, the new 11.1.1.2.0 domain is configured (as it was configured in the previous 11.1.1.1.0 installation), the domain is migrated, and the Oracle Instances are shut down.

> **Note:** For Oracle Business Intelligence Discoverer in a High
> Availability (clustered) environment with multiple Managed Servers,
> you can override the default value `WLS_DISCO` by specifying the
> following java properties on the command-line:
>
> - `srcDiscoMgdServer`
> - `destDiscoMgdServer`
>
> For example:
>
> ```
> ant -DsrcDiscoMgdServer=WLS_DISCO1 -DdestDiscoMgdServer=WLS_DISCO1
> master-patch-oinstance
> ```

To migrate an instance, complete the following steps:

1. Open the `patchMaster.properties` file (Located in your `patchMaster`
   directory) in a text editor, and specify the following properties related to your
   Oracle Instance homes:

   ```
   patchMaster.Oracleinstanceoldlist
   patchMaster.Oracleinstancenewlist
   ```

   After editing the properties, save the file and close. For more information about
   properties in the `patchMaster.properties` file, see Section B.4.6, "Properties in
   the patchMaster.properties File".

2. Run the following command on the command line to migrate the Oracle Instances:

   ```
   ant master-patch-oinstance
   ```

> **Note:** Patch Assistant ensures that all required properties are set for
> each of the operations.
>
> Patch Assistant attempts to migrate all Oracle Fusion Middleware
> components. If a component is not installed or configured in the
> deployment, log messages indicating these attempts are generated.

B.4.2.8 Registering the Instance

After migrating an instance, you must register the instance by completing the
following steps:

> **Note:** Before registering the instance, ensure that your
> Administration Server is up and running.

1. Open the `patchMaster.properties` file (Located in your `patchMaster`
   directory) in a text editor, and specify the following properties in the
   `patchMaster.properties` file, as applicable:

   ```
   patchMaster.Oracleinstancenewlist
   ```

   After editing the properties, save the file and close. For more information about
   properties in the `patchMaster.properties` file, see Section B.4.6, "Properties in
   the patchMaster.properties File".

2. Run the following command on the command line:

```
ant master-register-oinstance
```

3. Enter the domain user name and password, when prompted.

> **Note:** Patch Assistant ensures that all required properties are set for each of the operations.
>
> Patch Assistant attempts to migrate all Oracle Fusion Middleware components. If a component is not installed or configured in the deployment, log messages indicating these attempts are generated.

B.4.2.9 Starting or Stopping the 11.1.1.2.0 Domain

Starting or stopping the new 11.1.1.2.0 domain requires the `patchMaster.Domainhomenew` property to be specified in the patchMaster.properties file.

To start the new 11.1.1.2.0 domain, run the following command on the command line:

```
ant master-start-domain-new
```

To stop the new 11.1.1.2.0 domain, run the following command on the command line:

```
ant master-stop-domain-new
```

B.4.2.10 Completing Post-Migration Tasks

For information about post-migration tasks specific to your product, see Section B.4.3, "Post-Migration Configuration for Oracle Fusion Middleware Components".

> **Note:** When the Oracle Portal, Forms, Reports, and Discoverer installation is performed on a Windows machine, the System `PATH` is updated so that the `ORACLE_HOME`\bin for that installation precedes `PATH`. You cannot run Oracle Forms from the first installation, by default. To access the 11.1.1.1.0 components, right-click on **My Computer** and then **Properties**, select the **Advanced** tab, and click the **Environment Variables** button. Edit the System variable `PATH` so that the `ORACLE_HOME`\bin that you want to use is the one that precedes `PATH`.

B.4.2.11 Decommissioning the 11.1.1.1.0 Installation

After migrating to 11.1.1.2.0, you can deinstall Oracle Fusion Middleware 11g Release 1 (11.1.1.1.0). For more information, refer to the following:

- "Deinstalling Oracle Identity Management 11*g* Release 1 (11.1.1)" chapter in the *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.

- "Deinstalling Oracle Portal, Forms, Reports and Discoverer" chapter in the *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

- "Deinstalling Oracle SOA Suite" chapter in the *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite*.

- "Deinstalling Oracle WebCenter" chapter in the *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*.

- "Deinstalling Oracle Web Tier" chapter in the *Oracle Fusion Middleware Installation Guide for Oracle Web Tier*.

> **Note:** When you deinstall 11.1.1.1.0, the Installer removes the previously created 11.1.1.2.0 windows service. Use the `Ant` command-line utility to re-create that service for each instance as follows:
>
> ```
> ant master-opmn-create-service
> ```
>
> Enter the required information when prompted by the Ant task.

B.4.3 Post-Migration Configuration for Oracle Fusion Middleware Components

After running the Patch Assistant, you must manually configure some of the Oracle Fusion Middleware Components:

- Post-Migration Configuration for Oracle Fusion Middleware Audit Framework
- Post-Migration Configuration for Oracle Business Intelligence Discoverer
- Post-Migration Configuration for Oracle Directory Integration Platform
- Post-Migration Configuration for Oracle Identity Federation
- Post-Migration Configuration for Oracle Platform Security Services
- Post-Migration Configuration for Oracle Reports
- Post-Migration Configuration for Oracle SOA
- Post-Migration Configuration for Oracle User Messaging Service
- Post-Migration Configuration for Oracle WebCenter
- Post Migration Configuration for Oracle Web Services Manager

B.4.3.1 Post-Migration Configuration for Oracle Fusion Middleware Audit Framework

After running Patch Assistant for Oracle Fusion Middleware Audit Framework, you must complete the following tasks:

- Update the Translation Table in Audit Schema
- Migrating Audit Policy Configuration for Java Components
- Creating the Audit Data Source

B.4.3.1.1 Update the Translation Table in Audit Schema If the `IAU_DISP_NAMES_TL` audit event translation data is defined in the 11.1.1.1.0, then you can migrate them to the 11.1.1.2.0, by completing the following steps:

1. Run SQLPlus, and connect to the database as the system user. For example:

    ```
    sqlplus sys as sysdba
    ```

2. Run SQL commands in the following order:

    ```
    SQL> alter session set current_schema=<Name_of_Your_Audit_Schema>;
    SQL> delete from iau_disp_names_tl;
    SQL> @disp_names.sql;
    ```

    `disp_names.sql` is located at `fmw11gR1ps1_patchassist\Audit` folder.

> **Note:** To avoid scrambled characters, a Unicode-supported database is required to store the translation data. In addition, to ensure proper character set conversion between SQL*Plus and the database server, a compatible character set, such as UTF8 or AL32UTF8, needs to be set for the NLS_LANG environment variable before running disp_names.sql.
>
> For the complete list of legal NLS_LANG values, see the Oracle Database Documentation Library at:
>
> ```
> http://www.oracle.com/technology/documentation/database.html
> ```

B.4.3.1.2 Migrating Audit Policy Configuration for Java Components If the audit policy is configured for Java components in 11.1.1.1.0, you must import the configuration file after running Patch Assistant, as follows:

1. Log in to the Oracle Enterprise Manager 11*g* Fusion Middleware Control.

2. Expand the WebLogic Domain on the left pane, and select your domain.

   Your selected domain page is displayed.

3. From the WebLogic Domain, select **Security**, and then **Audit Policy**.

   The **Audit Policy** page is displayed.

4. Select the Audit Policy, and click **Import**.

5. Click **Browse**, and specify the path where your AuditConfiguration file is located.

6. Click **Ok**.

B.4.3.1.3 Creating the Audit Data Source If the audit data source is used in Oracle Fusion Middleware 11.1.1.1.0, then you must re-create the audit data store used in 11.1.1.2.0. To do so, perform the following steps:

1. Log in to the Oracle WebLogic Server administration console:

   ```
   http://host:7001/console
   ```

2. Under **JDBC**, click the **Data Sources** link.

   The **Summary of JDBC Data Sources** page is displayed.

3. Click **New** to create a new data source.

   The **Create a New JDBC Data Source** page is displayed.

4. Enter the following details for the new data source:

   - **Name**: Enter a name such as Audit Data Source-0
   - **JNDI Name**: jdbc/AuditDB
   - **Database Type**: Oracle
   - **Database Driver**: Oracle's Driver (Thin XA) Versions: 9.0.1, 9.0.2, 10, 11

   If deploying to a managed cluster server, check **AdminServer**. This selection ensures that the data source is listed in the audit store when switching from file to database store.

5. Click **Next**.

The **Transaction Options** page is displayed.

6. Click **Next**.

   The **Connection Properties** page is displayed.

7. In the Connection Properties page, enter the following information:

   - **Database Name**: Enter the name of the database to which you will connect. This usually maps to the SID.

   - **Host Name**: Enter the hostname of the database.

   - **Port**: Enter the database port.

   - **Database User Name**: This is the name of the audit schema that you created in RCU. The suffix is always IAU for the audit schema. For example, if you gave the prefix as test, then the schema name is test_iau.

     - **Password**: This is the password for the audit schema that you created in RCU.

   Click **Next**.

8. The next page lists the JDBC driver class and database details. Accept the default values, and click **Test Configuration** to test the connection. If you see the message "Connection established Successfully", click **Next**. If it displays any error, go back and check the connection details.

9. In the Select Targets page, select the servers where this data source must be configured, and click **Finish**.

B.4.3.2 Post-Migration Configuration for Oracle Business Intelligence Discoverer

After running Patch Assistant, ensure that all your existing Oracle BI Discoverer Plus OLAP users have proper access privileges to the Oracle BI Discoverer 11*g* Release 1 (11.1.1.2.0) Discoverer Catalog. To set proper access privileges, perform the following tasks using the command-line utilities:

- Authorizing a New User to Access the Discoverer Catalog

- Updating the Privileges of an Existing Discoverer Catalog User

B.4.3.2.1 Authorizing a New User to Access the Discoverer Catalog Use the following commands to authorize one or more users so they can access the Discoverer Catalog:

```
java -classpath path_to_d4o_jar_file load . java -classpath path_to_d4o_jar_file
authorize -h hostname -po portname
    -sid database_SID -p d4osyspasswd -u user
```

For example. on **Windows**:

```
java -classpath C:\temp\d4o.jar load . java -classpath C:\temp\d4o.jar authorize
-h sys42.example.com -po 1521
    -sid disco_db1 -p nPword432 -u jones
```

For example, on **UNIX**:

```
java -classpath /home/abc/temp/d4o.jar load . java -classpath
/home/abc/temp/d4o.jar authorize -h sys42.example.com -po 1521
    -sid disco_db1 -p nPword432 -u jones
```

In this example, you must run the load command only once before authorizing any number of users. For example, if you want to authorize 10 users, run the load command once, and then run the authorize command once for each user.

B.4.3.2.2 Updating the Privileges of an Existing Discoverer Catalog User To update the user's privileges to access all private and shared folders, use the following command:

```
java -classpath path_to_d4o_jar_file updatePrivileges -h hostname -po portname
    -sid database_SID -p d4osyspasswd -u user
```

For example, on **Windows**:

```
java -classpath C:\temp\d4o.jar updatePrivileges -h sys42.example.com -po 1521
    -sid disco_db1 -p nPword432 -u jones
```

For example, on **UNIX**:

```
java -classpath /home/abc/d4o.jar updatePrivileges -h sys42.example.com -po 1521
    -sid disco_db1 -p nPword432 -u jones
```

In this example, if you specify the -u option, then the privileges are upgraded only for that user. If you do not specify the -u option, then the privileges are upgraded for all users.

B.4.3.3 Post-Migration Configuration for Oracle Directory Integration Platform

After running Patch Assistant, start your Oracle Directory Integration Platform 11*g* Release 1 (11.1.1.2.0) domain. For more information, see the "Starting and Stopping Oracle Fusion Middleware " in the *Oracle Fusion Middleware Administrator's Guide* and, then complete the following steps:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.

2. In the Oracle Enterprise Manager home page, select **Farm**, and then **Agent-Monitored Targets**.

   The **Agent-Monitored Targets** page is displayed.

3. From the **Targets** table, select the target used by the Oracle Directory Integration Platform, and click **Configure**.

   The **Configure Target** page is displayed.

4. Click **Change Agent** and, then select the Oracle Internet Directory Agent URL from the drop-down box.

5. Click **Ok**.

6. Click **Apply**.

7. Log out of Oracle Enterprise Manager.

8. Log in to Oracle Enterprise Manager again.

9. Unregister the ASInstance created during Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) Directory Integration Platform configuration by running the following command:

   Windows:

   ```
   ORACLE_INSTANCE\bin\opmnctl unregisterinstance -adminHost -adminPort
   -adminUserName
   ```

   UNIX:

   ```
   $ORACLE_IMSTANCE/bin/opmnctl unregisterinstance -adminHost -adminPort
   -adminUserName
   ```

10. Delete the ASInstance created during Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) Directory Integration Platform Configuration by running the following command:

Windows:

```
ORACLE_HOME\opmn\bin\opmnctl deleteinstance -oracleInstance <Oracle instance
root directory>
```

UNIX:

```
$ORACLE_HOME/opmn/bin/opmnctl deleteinstance -oracleInstance <Oracle instance
root directory>
```

B.4.3.4 Post-Migration Configuration for Oracle Identity Federation

After running Patch Assistant, your Credential Store Framework (CSF) is not migrated to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0), if you are using an LDAP store. You must migrate the credentials manually from a source repository to a target repository by using the WLST command `migrateSecurityStore`. For information, see "Migrating with the Script migrateSecurityStore" in *Oracle Fusion Middleware Security Guide*.

B.4.3.5 Post-Migration Configuration for Oracle Platform Security Services

You must manually migrate your existing Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) policy store because the corresponding schema changes when you install Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0). During this migration, any existing 11.1.1.1.0 installation policies are updated to 11.1.1.2.0 policies. You will find the existing 11.1.1.1.0 data provisioned in the 11.1.1.2.0 LDAP store.

However, you must redeploy your applications after installing Oracle Fusion Middleware (11.1.1.2.0), but the provisioned policies are already in the migrated LDAP store.

> **Note:** When redeploying your applications, you should not migrate the policies as they already exist in the policy store.

Note that Oracle WebLogic Server domains are containers of application policy data that is used by Oracle Platform Security Services. Typically, a domain is identified by its name, as in the following example:

```
Relative DN(RDN)cn=MyDomain,cn=JpsContext,cn=JpsTestNode
```

The `Relative DN (RDN) cn=MyDomain` is the node on the LDAP server that corresponds to a domain. All data under such a domain, including Credential Store and Policy Store data, is preserved.

> **Note:** If you are using Oracle WebLogic Server LDAP, then you must re-create the user. For more information, see "Security Data Migration" section in the *Oracle Fusion Middleware Developing Security Providers for Oracle WebLogic Server*.

Migration Scenarios

If you are migrating Oracle Platform Security Services 11.1.1.1.0 Policy Store to 1.1.1.2.0 Policy Store, consider the following migration scenarios:

- Migrating File-Based Policy and Credential Store

- Migrating Oracle Internet Directory Policy and Credential Store and Reusing an Existing Oracle Internet Directory Server

B.4.3.5.1   Migrating File-Based Policy and Credential Store To migrate your existing file-based policy and credential store from 11.1.1.1.0 to 11.1.1.2.0, you must install Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0), which is configured to use the file-based policy (XML), credential (wallet) stores, and then migrate the credentials and application policies by using the WebLogic Scripting Tool (WLST) command `migrateSecurityStore`. For more information, see the "Migrating Credentials with the Command migrateSecurityStore" section in the *Oracle Fusion Middleware Security Guide*.

B.4.3.5.2   Migrating Oracle Internet Directory Policy and Credential Store and Reusing an Existing Oracle Internet Directory Server To migrate your existing Oracle Internet Directory policy and credential store from Oracle Fusion Middleware 11g Release 1 (11.1.1.1.0) to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0), start the servers in your Oracle Fusion Middleware domain and then complete the following steps:

> **Note:**   Ensure that your Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) installation has applications deployed on a single domain and configured with LDAP or credential store. In addition, make sure that you do not have any resource catalog information provisioned.

1. Reconfigure the LDAP authenticator to use the same LDAP server used in the 11.1.1.1.0 installation. For information, see the *Oracle Fusion Middleware Security Guide*.

   > **Note:**   For information on reconfiguring the LDAP authenticator to use the same LDAP server used in Oracle WebCenter 11.1.1.1.0 installation, see the "Reassociating the Identity Store with an External LDAP" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

2. Update the Java Platform Security (JPS) LDAP schema in the LDAP store by using the WLST `reassociateSecurityStore` command. The reassociation creates a temporary node under a pre-existing jps root node. The temporary data is the domain, you specified during reassociation. The domain needs to be a new temporary name and the jpsroot should have the same name that contains the domain you are migrating from 11.1.1.1.0. For information, see "reassociateSecurityStore" in *Oracle Fusion Middleware Security Guide*. This command creates a temporary domain that will be deleted later. For example:

   ```
   reassociateSecurityStore(domain="ps1_tmp_domain",admin="cn=orcladmin",
   password="welcome1", ldapurl="ldap://example.com:3060", servertype="OID",
   jpsroot="cn=jpsroot_r1_name")
   ```

   > **Note:**   Set a temporary name for the domain, and ensure that the `jpsroot` has the same name as in 11.1.1.1.0.

3. Ensure that the Oracle WebLogic Administration Server is stopped to change the server configuration. To stop the server, run the following command:

Windows:

```
MW_HOME\user_projects\domains\<domain_name>\bin\stopWebLogic.cmd
      username password admin_url
```

UNIX:

```
$ MW_HOME/user_projects/domains/<domain_name>/bin/stopWeblogic.sh
      username password admin_url
```

4. Rebuild the Oracle Internet Directory catalog by running the following catalog commands from the Oracle Internet Directory machine:

> **Note:** Before you start using the Oracle Identity Management command-line tools, you must configure your environment. This involves setting the appropriate environment variables as follows:
>
> - *ORACLE_HOME* - The location of non-writable files in your LDAP-based identity store installation.
>
> - *ORACLE_INSTANCE* - The location of writable files in your LDAP-based identity store installation.
>
> - *TNS_ADMIN* - The location of tnsnames.ora file in your Oracle home.
>
>   Ensure that the tnsnames.ora file (Located at *ORACLE_ HOME*/network/admin) contains the conn_str that will be used in the catalog command.
>
> - PATH - Add the following directory locations to your PATH:
>
>   ```
>   ORACLE_HOME/bin
>   ORACLE_HOME/ldap/bin
>   ORACLE_HOME/ldap/admin
>   ```

Drop the catalog first before re-creating it as follows:

```
catalog connect="conn_str" delete=true attribute= createtimestamp
catalog connect="conn_str" delete=true attribute= modifytimestamp
catalog connect="conn_str" delete=true attribute= orclJpsResourceName
catalog connect="conn_str" delete=true attribute= orclJPSObjGUID
catalog connect="conn_str" delete=true attribute=
orclJpsResourceTypeActionNames
```

Then add the following:

```
catalog connect="conn_str" add=true attribute= createtimestamp
catalog connect="conn_str" add=true attribute= modifytimestamp
catalog connect="conn_str" add=true attribute= orclJpsResourceName
catalog connect="conn_str" add=true attribute= orclJPSObjGUID
catalog connect="conn_str" add=true attribute= orclJpsResourceTypeActionNames
```

For more information, see "Performing Bulk Operations" in *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.

5. Delete the temporary domain, created in step 1, by performing the following:

a. Disable the Server Entry Cache. For more information, see "Tuning Recommendations for Server Entry Cache" in *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.

b. Stop Oracle Internet Directory by running the following command:

Windows

```
ORACLE_INSTANCE\bin\opmnctl stopall
```

UNIX

```
ORACLE_INSTANCE/bin/opmnctl stopall
```

c. Run the following command:

```
bulkdelete connect="connect string" basedn="cn=ps1_tmp_
domain,cn=JPSContext,cn=jpsroot_r1_name"
```

Note: Do not use JXplorer or any other LDAP browser to delete the JPS root node.

For more information, see "Deleting Entries or Attributes of Entries by Using bulkdelete" in *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.

d. Start Oracle Internet Directory by running the following command:

Windows

```
ORACLE_INSTANCE\bin\opmnctl startall
```

UNIX

```
ORACLE_INSTANCE/bin/opmnctl startall
```

e. Enable the Server Entry Cache. For more information, see the "Tuning Recommendations for Server Entry Cache" section and the "Attributes of the Instance-Specific Configuration Entry" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.

f. Stop and start Oracle Internet Directory by running the following commands:

Windows

```
ORACLE_INSTANCE\bin\opmnctl stopall
ORACLE_INSTANCE\bin\opmnctl startall
```

UNIX

```
ORACLE_INSTANCE/bin/opmnctl stopall
ORACLE_INSTANCE/bin/opmnctl startall
```

6. Open the `jps-config.xml` file (located in your `MW_HOME\user_projects\domains\<DomainName>\config\fmwconfig` directory) in a text editor and replace the 11.1.1.2.0 domain name with 11.1.1.1.0 domain name. For example, replace `cn=ps1_tmp_domain` with `cn=R1_domain_name`.

7. Migrate the default system policies from the XML store to the LDAP store by using the WLST Command `migrateSecurityStore`. For more information, see the "Migrating Credentials with the Command migrateSecurityStore" section in the *Oracle Fusion Middleware Security Guide*. In the `jps-config.xml` file, add the

entries to specify the source and the destination source JPS context. The source JPS context must be the one that uses the XML store as the policy store, and the destination JPS context must be the one that uses the LDAP store. For example, add the following entries in the `jps-config.xml` file:

```
<jpsContext name="filestore">
   <serviceInstanceRef ref="policystore.xml"/>
</jpsContext>
<jpsContext name="ldapstore">
   <serviceInstanceRef ref="policystore.ldap"/>
</jpsContext>
```

Ensure that the `policystore.xml` service instance in `jps-config.xml` file refers to the shipped `system-jazn-data.xml` file (out-of-the-box), as in the following example:

```
<serviceInstance location="./system-jazn-data.xml"
provider="policystore.xml.provider" name="policystore.xml">
           <description>File Based Policy Store Service Instance</description>
       </serviceInstance>
```

Migrate the system policies by using the WLST `migrateSecurityStore` command, as shown in the following example:

```
migrateSecurityStore(type="globalPolicies", configFile="<domain level
jpsconfig.xml file loc>", src="filestore" ,dst="ldapstore")
```

For more information about the migrating system policies, see "Migrating Policies to the Domain Policy Store" in *Oracle Fusion Middleware Security Guide*.

8. Ensure that the LDAP server contains the `Role Categories` entry under your application policy node.

   a. Run the `ldapsearch` command to search for this Role Categories entry from the Oracle Internet Directory machine:

   ```
   LDAP_OH/bin/ldapsearch -h <host> -p <port> -D "<Admin DN>" -w password -b
   "cn=Role Categories,cn=<app name>,cn=<domain
   name>,cn=JpsContext,cn=<jpsroot name>" -s base "(objectclass=*)"
   ```

   Where `LDAP_OH/bin` is the `OID/IdM IDM_ORACLE_HOME/bin` directory.

   Example:

   ```
   LDAP_OH/bin/ldapsearch -h oid.example.com -p 3060 -D "cn=orcladmin" -w
   password -b "cn=Role
   Categories,cn=appname,cn=domainname,cn=JpsContext,cn=jpsroot" -s base
   "(objectclass=*)"
   ```

   For detailed syntax, see the "ldapsearch" topic in the *Oracle Fusion Middleware User Reference for Oracle Identity Management*.

   Note: If the Role Categories entry is not available, the following message is displayed:

   ```
   ldap_search: No such object
   ```
   ---

   b. If the Role Categories entry is not present, create an `LDIF` file named `rolecat.ldif` with the following content:

   ```
   dn: cn=Role Categories,cn=<app name>,cn=<domain
   ```

```
name>,cn=JPSContext,cn=<jpsroot name>
objectclass: top
objectclass: orclContainer
cn: Role Categories
```

Example:

```
dn: cn=Role Categories,cn=webcenter,cn= R1_domain_
name,cn=JPSContext,cn=jpsroot_r1_name
objectclass: top
objectclass: orclContainer
cn: Role Categories
```

c. Run the `ldapadd` command to add this node to the application policy store as follows:

```
LDAP_OH/bin/ldapadd -p <port> -h <host> -D "<Admin DN>" -w <password> -vf
rolecat.ldif
```

Where `LDAP_OH/bin` is the `OID/IdM IDM_ORACLE_HOME/bin` directory.

Example:

```
LDAP_OH/bin/ldapadd -p 3060 -h oid.example.com -D "cn=orcladmin" -w
password -vf rolecat.ldif
```

For detailed syntax, see the "ldapadd" topic in the *Oracle Fusion Middleware User Reference for Oracle Identity Management*.

Note: If the node exists, the output of the `ldapadd` command indicates that the object already exists.

Note: The `ldapadd` command for Role Categories must be run for every application that uses LDAP as policy store.

---

9. Start the Oracle WebLogic Administration Server, as shown in the following example:

```
MW_HOME/user_projects/domains/domain_name/bin/startWebLogic.sh
        -Dweblogic.management.username=weblogic
        -Dweblogic.management.password=password
```

For more information, see "Starting and Stopping Oracle Fusion Middleware" in *Oracle Fusion Middleware Administrator's Guide*.

10. Redeploy any user applications that were deployed in 11.1.1.1.0.

B.4.3.6 Post-Migration Configuration for Oracle Reports

After running Patch Assistant, your Oracle Internet Directory Policy and Credential Store (CSF) is not migrated to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0). For information about migrating the Oracle Internet Directory Policy and Credential Store (CSF), see Section B.4.3.5.2, "Migrating Oracle Internet Directory Policy and Credential Store and Reusing an Existing Oracle Internet Directory Server".

B.4.3.7 Post-Migration Configuration for Oracle SOA

After running Patch Assistant, you must perform the following:

> **Note:** Service Engine configuration has moved from file to the database in 11.1.1.2.0.

1. Re-deploy your J2EE applications, including TaskDetail Application used in Human Workflow Applications. For more information, see "Deploying SOA Composite Applications" chapter in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*.

2. Reconfigure any changes made to configuration files (For example: `soa-infra-config`) and component-level configuration files in 11.1.1.1.0 must be reconfigured for 11.1.1.2.0 using the Oracle Enterprise Manager Fusion Middleware Control.

3. Reconfigure the log level settings using the Oracle Enterprise Manager Fusion Middleware Control. For more information, see "Configuring Logging" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*.

4. Re-create the seeding of the Workflow users.

5. Reconfigure the Secure Sockets Layer (SSL) for the SOA composite application. For more information, see "Securing SOA Composite Applications" in *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*.

6. If you have configured the Oracle HTTP Server for 11.1.1.1.0, then you must reconfigure it for 11.1.1.2.0.

7. For composites involving BPEL Sensors with sensor action as JMS Queue, JMS Topic, JMS Adapter (remote JMS), re-create the JMS Queue, JMS topic, and the remote JMS set up.

8. Configure the identity and policy provider, as described in Section B.4.3.5.2, "Migrating Oracle Internet Directory Policy and Credential Store and Reusing an Existing Oracle Internet Directory Server".

9. Configure the SSO provider for 11.1.1.2.0.

10. Configure the adapters as follows:

    - Create the data source for the AQ adapter by following the steps described in the "Configuring the Data Sources in the Oracle WebLogic Server Administration Console" section in the *Oracle Fusion Middleware User's Guide for Technology Adapters*.

    - Configure AQ JMS in Oracle WebLogic Server Administration Console. For more information, see the *Oracle Fusion Middleware User's Guide for Technology Adapters*.

    - Create the foreign server for the AQJMS again and restart the server.

    - After migration, if the log was showing Queue Manager not available (with MQ reason code: 2059), you must modify the JNDI, which is used by the composite deployed to point to the Queue Manager, which was used for pre-upgrade. After making this change, you must restart SOA.

11. Migrate the B2B for 11.1.1.2.0 as follows:

    a. Import previously exported repository from 11.1.1.1.0 with the Replace Existing MetaData flag.

    b. Update the key store password and restart the B2B server.

    c. Select the certificate alias in delivery channel and save.

   d. Deploy the B2B agreements.

B.4.3.8 Post-Migration Configuration for Oracle User Messaging Service

After running Patch Assistant, you must perform the following:

- Migrating Configuration for Additional Custom-Deployed Drivers
- Migrating Configuration for User Messaging Service Worklist Driver

B.4.3.8.1   Migrating Configuration for Additional Custom-Deployed Drivers If your Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) domain has configuration files for additional User Messaging Service driver deployments beyond those provisioned at install time, then you must migrate them to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0). Run the following `Ant` command on the command-line:

```
ant -f UMS/build.xml patch-ums-driver-config -Ddriver.name=<driver_name>
```

Where `<driver_name>` is the deployment name of the custom driver. The `build.xml` file is located in your `patchMaster` directory.

> **Note:**   This command only migrates the configuration to Oracle Fusion Middleware (11.1.1.1.2.0) domain and will not deploy the driver.

B.4.3.8.2   Migrating Configuration for User Messaging Service Worklist Driver If your Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) domain has the User Messaging Service Worklist Driver installed and configured, then the configuration of the Worklist Driver is automatically migrated by the Patch Assistant. Patch Assistant does not install this additional driver. You must re-install the driver in the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) domain. For more information, see "Install the Worklist Driver" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*.

B.4.3.9 Post-Migration Configuration for Oracle WebCenter

This section describes the tasks involved in getting your Oracle WebCenter 11.1.1.2.0 up and running after you have migrated the mid-tier.

B.4.3.9.1   Overview of Tasks for Configuring Oracle WebCenter Post Mid-Tier Migration
Table B–2 describes the tasks involved in configuring Oracle WebCenter 11.1.1.2.0 after the Patch Assistant script has been executed. The table also specifies whether these tasks are optional or mandatory.

Table B–2   Post Mid-Tier Migration Tasks for Oracle WebCenter

Task	Description	Mandatory/Optional?
Reconfiguring Oracle WebCenter Identity Store and Migrating the Application Policy to the WebCenter Policy Store	Configure the identity store to use the same configuration as Oracle WebCenter 11.1.1.1.0. Also, run the `updateSpacesPolicy.py` script to update the application store to include appropriate security permissions for WebCenter Spaces. **Note**: You must run `updateSpacesPolicy.py` even if your Oracle WebCenter uses the embedded LDAP identity store.	Mandatory

Table B–2   (Cont.) Post Mid-Tier Migration Tasks for Oracle WebCenter

Task	Description	Mandatory/Optional?
Configuring Oracle WebCenter for Secure Sockets Layer (SSL)	Configure Oracle WebCenter 11.1.1.2.0 to use the same SSL configuration and keystore as Oracle WebCenter 11.1.1.1.0.	Mandatory if SSL is configured in Oracle WebCenter 11.1.1.1.0
Configuring Oracle WebCenter for Single Sign-On (SSO)	Configure your single sign-on (SSO) solution to use the same SSO configuration as Oracle WebCenter 11.1.1.1.0.	Mandatory if SSO is configured in Oracle WebCenter 11.1.1.1.0
Refreshing Group Space Data in WebCenter Spaces	Refresh the group space data and the data about group space members.	Mandatory
Reapplying Configuration Changes	Reapply any configuration changes made to Oracle WebCenter 11.1.1.1.0.	Mandatory
Importing Wiki Templates and Attachments	Migrate templates and attachments to the database repository of Oracle WebCenter Wiki and Blog Server.	Mandatory if Oracle WebCenter Wiki and Blog Server is configured for Oracle WebCenter 11.1.1.1.0
Migrating Oracle Content Server	Run the WebCenter configuration script `wc_contentserverconfig` to migrate to Oracle Content Server 10.1.3.5.1. Also, configure a JPS user provider in place of the existing LDAP user provider.	Mandatory if Oracle Content Server is configured for Oracle WebCenter 11.1.1.1.0
Configuring Oracle WebCenter Discussions for WebCenter Spaces	Configure Web Services Security (WS-Security) if you want to use Oracle WebCenter Discussions with Oracle WebCenter Spaces.	Mandatory
Migrating Custom WebCenter Applications	Migrate custom WebCenter applications to Oracle WebCenter 11.1.1.2.0.	Mandatory

B.4.3.9.2   Reconfiguring Oracle WebCenter Identity Store and Migrating the Application Policy to the WebCenter Policy Store You must migrate your existing identity store and credential store. Before doing so, be sure to start all the servers in your WebCenter domain.

If you are using the embedded LDAP based policy and credential store, for information about the tasks that you need to perform, see the "Exporting and Importing a File-based Policy Store" and "Exporting and Importing a File-based Credential Store" sections in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

When Oracle WebCenter 11.1.1.1.0 is configured to use an external LDAP-based identity store, then post mid-tier migration you must migrate your identity store and credential store to Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0). For information about how to migrate Oracle Internet Directory policy and credential store, see Section B.4.3.5.2, "Migrating Oracle Internet Directory Policy and Credential Store and Reusing an Existing Oracle Internet Directory Server."

After migrating the identity and credential store, you must run the `updateSpacesPolicy.py` script to update the WebCenter Spaces application policy to include appropriate security permissions. If you do not run this script, WebCenter Spaces users will not be able to access their profile information or the service tabs in group spaces.

> **Note:** You must run the `updateSpacesPolicy.py` script even if your Oracle WebCenter uses the embedded LDAP identity store.

To execute `updateSpacesPolicy.py`:

1. Launch WLST with this command:

   WC_ORACLE_HOME`/common/bin/wlst.sh`

   Where *WC_ORACLE_HOME* refers to the Oracle WebCenter installation directory.

2. At the WLST command prompt, enter the following command to connect to the Administration Server:

   `wls:/offline> connect('`*user_name*`,'`*password*`, '`*host_name*`:`*port_number*`')`

   For example, use the following command:

   `connect('weblogic','weblogic', 'myhost.example.com:7001')`

3. Use the following command to run the `updateSpacesPolicy.py` script:

   `wls:/weblogic/serverConfig> execfile('`*WC_ORACLE_*
   HOME`/webcenter/scripts/updateSpacesPolicy.py')`

4. Ensure that there are no errors logged on the console. If there are errors, use the error message as a guide and inspect the `updateSpacesPolicy.py` script to determine the `grant` command that failed. You must fix errors, if any, and run the `grant` command manually.

5. Restart the Administration Server and the `WLS_Spaces` Managed Server.

B.4.3.9.3   Configuring Oracle WebCenter for Secure Sockets Layer (SSL) Secure Sockets Layer (SSL) provides additional security for connections between WebCenter applications or components by providing an additional authentication layer, and by encrypting the data exchanged. During mid-tier migration, the SSL configuration does not get migrated. After running the Patch Assistant script, you must reconfigure SSL for Oracle WebCenter and, if required, for various WebCenter Services integrated into your WebCenter applications. For information about how to configure SSL for WebCenter applications and WebCenter Services, see the "Configuring WebCenter Applications and Components to Use SSL" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

For example, in Oracle WebCenter 11.1.1.1.0, if secured portlets were used in WebCenter Spaces, then your keystore must have been set to the Custom Identity and Java Standard Trust keystore and you would have imported the required portlet certificates in the Java standard trust keystore (typically cacerts). Now, post mid-tier migration, you must configure the `WLS_Spaces` server, in your Oracle WebCenter 11.1.1.2.0 instance, to use the Custom Identity and Java Standard Trust keystore and other SSL-specific settings that were configured for Oracle WebCenter 11.1.1.1.0. Also, you must reimport all your portlet certificates into the trust keystore to access secured portlets in Oracle WebCenter 11.1.1.2.0.

B.4.3.9.4   Configuring Oracle WebCenter for Single Sign-On (SSO) For single sign-on (SSO) authentication, your Oracle WebCenter 11.1.1.1.0 may be configured to use Oracle Access Manager (OAM), Oracle Single Sign-on (OSSO), or a SAML-based single sign-on solution for WebCenter applications only. After mid-tier upgrade, you may need to perform the following configuration, depending on the SSO solution used:

- Configuring OAM: Configure the authenticator and the OAM asserter to use the same configuration as used in Oracle WebCenter 11.1.1.1.0. For information, see the "Configuring Oracle Access Manager (OAM)" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- Configuring OSSO: Configure the authenticator and the OSSO asserter to use the same configuration as used in Oracle WebCenter 11.1.1.1.0. For information, see the "Configuring Oracle Single Sign-On (OSSO)" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- Configuring SAML-based SSO: You must set up your entire SAML-based SSO solution. For information, see the "Configuring SAML-based Single Sign-on" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

> **Note:** If WebCenter is running with SSO, the OmniPortlet producer receives an authorization exception when it tries to store connection information in the Credential Store Framework (CSF) wallet. For information about how to resolve this issue, see the "OmniPortlet Producer Authorization Exception in SSO Environment" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

B.4.3.9.5 Refreshing Group Space Data in WebCenter Spaces After mid-tier migration, you must refresh the group space data. Also, refresh the member data for *each* group space individually.

To refresh the group space data:

1. Log on to WebCenter Spaces as an administrator.

2. Click the **Administration** link, and go to the **Group Spaces** tab.

3. Click the **Refresh** icon.

To refresh the member data for a group space:

1. Log on to WebCenter Spaces as an administrator.

2. Go to the desired group space, open the **Settings** tab, and then the **Members** tab.

3. Click the **Refresh** icon in the **Manage Group Space Members** section.

   You must perform this procedure for each group space individually.

> **Note:** In your migrated WebCenter instance if access is denied to a group space, ensure that the credential store has been migrated successfully and the group space data has been refreshed.
>
> After you upgrade from Oracle WebCenter 11.1.1.1.0 to Oracle WebCenter 11.1.1.2.0, you may initially see a group space GUID in Activity Stream in lieu of a group space name in WebCenter Spaces. This can occur when you configure an Activity Stream task flow instance and select to display activity from a group space that was upgraded. You can work around this issue by generating some activity in that group space, like adding or removing a member. This refreshes the Activity Stream instance with the group space display name.

B.4.3.9.6 Reapplying Configuration Changes If you want the same configuration as defined in your Oracle WebCenter 11.1.1.1.0, then you must reapply the configuration

changes in Oracle WebCenter 11.1.1.2.0. Configuration changes may relate to the any of the following:

- WebCenter Portlet Producers: Any changes made to the `provider.xml` file of a portlet producer, like changing a proxy server, require that post mid-tier migration you reconfigure those changes, redeploy the portlet producer EAR application, and restart `WLS_Portlet` Managed Server. For information about redeploying portlet producers, see the "Managing Portlet Producers" chapter in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- WebCenter Services: While installing Oracle Fusion Middleware 11.1.1.2.0, if you changed the host and port number of the back-end servers on which your WebCenter Services rely, you must reconfigure the required service connections to use the new server configuration. For information about specific services, see the "Managing Services, Portlet Producers, and External Applications" part in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- WebCenter Wikis and Blogs: Any configuration changes made to your Oracle WebCenter Wiki and Blog Server 11.1.1.1.0, such as changing the theme or setting the attachment size, require that you reapply those changes in Oracle WebCenter Wiki and Blog Server 11.1.1.2.0. To reconfigure settings, use Administration mode of your Oracle WebCenter Wiki and Blog Server. For information, see the "Oracle WebCenter Wiki and Blog Server - Configuration" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

- WebCenter Spaces and Workflows: The WebCenter Spaces workflows functionality requires `sca_CommunityWorkflows.jar` and `WebCenterWorklistDetailApp.ear` to be deployed to a SOA server. If WebCenter Spaces workflows were enabled in Oracle WebCenter 11.1.1.1.0, you must redeploy these applications to the SOA server post mid-tier migration. For information, see the "Back-End Requirements for WebCenter Spaces Workflows" section in the *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*.

- WebCenter Spaces profile settings: In WebCenter Spaces, profile settings set on the WebCenter Administration > Services > Profile screen are not retained when you upgrade from Oracle WebCenter 11.1.1.1.0 to Oracle WebCenter 11.1.1.2.0. After the upgrade, you must reapply the required profile settings on the **WebCenter Administration > Services > People Connections > Profiles** screen.

B.4.3.9.7 Importing Wiki Templates and Attachments In Oracle WebCenter Wiki and Blog Server 11.1.1.1.0, regardless of the repository type configured for the server, templates and attachments are stored in a file-based repository. Oracle WebCenter Wiki and Blog Server 11.1.1.2.0 supports only a database repository; templates and attachments are also stored in the database repository.

If your Oracle WebCenter Wiki and Blog Server 11.1.1.1.0 used a database repository, then during migration templates and attachments are migrated to the database repository configured for Oracle WebCenter Wiki and Blog Server 11.1.1.2.0. If your Oracle WebCenter Wiki and Blog Server 11.1.1.1.0 used a file-based repository, then during migration wiki templates and attachments are migrated to a file-based repository. To make these templates and attachments available in Oracle WebCenter Wiki and Blog Server 11.1.1.2.0, you must manually migrate them to the database repository.

To import attachments for a wiki page, the user who owns that wiki page or you as an administrator must reupload the attachments on the wiki page. When you reupload an attachment, the attachment gets stored in the database repository. Note that attachments must be reuploaded for each wiki page individually.

To migrate templates:

1. Log on to Oracle WebCenter Wiki and Blog Server 11.1.1.2.0 as an administrator.

2. Click the **Administration** link to open Administration mode.

3. Click **Templates**.

4. Click **import**.

5. On the **Import Templates** page, in the **Folder** field, enter the path to templates. For example:

   `$APPLICATIONS_DIRECTORY/owc_wiki/templates.`

   Where, `$APPLICATIONS_DIRECTORY` is the directory where you installed Oracle WebCenter Wiki and Blog Server 11.1.1.2.0. That is, `$APPLICATIONS_DIRECTORY` = `MW_HOME/user_projects/applications/DOMAIN_NAME`.

6. Click **Import Templates**. The existing file-based templates are individually re-created in the wiki database repository.

B.4.3.9.8   Migrating Oracle Content Server Oracle WebCenter 11.1.1.2.0 is compatible with Oracle Content Server 10.1.3.5.1. To migrate your existing Oracle Content Server and prepare it to work with Oracle WebCenter 11.1.1.2.0, you must perform the following tasks:

■ Run the WebCenter configuration script, `wc_contentserverconfig`. This script is available on the Universal Content Management (UCM) media shipped with Oracle WebCenter. For information about how to run the script, see the "Oracle Content Server - Installation" section in the *Oracle Fusion Middleware Installation Guide for Oracle WebCenter*.

■ Reconfigure the identity store for Oracle Content Server. To connect to an LDAP-based identity store, Oracle Content Server 10.1.3.5.1 requires a JPS user provider, instead of an LDAP user provider. Therefore, you must configure a JPS user provider and ensure that the existing LDAP user provider for Oracle Content Server is disabled. For information, see the "Configuring the Identity Store" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

B.4.3.9.9   Configuring Oracle WebCenter Discussions for WebCenter Spaces When you migrate from Oracle Fusion Middleware 11.1.1.1.0 to Oracle Fusion Middleware 11.1.1.2.0, the patch assistant script migrates the database schema of your Oracle WebCenter Discussions server. Out-of-the-box, Oracle WebCenter Discussions 11.1.1.2.0 is configured to use the embedded LDAP identity store of Oracle WebLogic Server.

You must configure Web Services Security (WS-Security) if you want to use Oracle WebCenter Discussions with WebCenter Spaces.

To configure Oracle WebCenter Discussions:

1. Log on to the Oracle WebCenter Discussions 11.1.1.2.0 server as an administrator by using the following URL format:

   `http://host:port/owc_discussions/admin`

   Where `host:port` refer to the host name and port number of the system where Oracle WebCenter is installed.

2. To verify that Oracle WebCenter Discussions has been migrated successfully, in Jive Forums Admin Console, ensure that "Jive Forums Silver 5.5.20.2-oracle" is displayed in the top-right corner.

3. Configure WS-Security trusted authentication if you want to use Oracle WebCenter Discussions with WebCenter Spaces. For information about how to configure WS-Security, see "Configuring WS-Security" in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

4. Reconfigure SSO for Oracle WebCenter Discussions, if required. For information, see "Configuring Single Sign-on" in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

B.4.3.9.10 Migrating Custom WebCenter Applications To make your custom WebCenter applications available in Oracle WebCenter 11.1.1.2.0, you must migrate them from your Oracle WebCenter 11.1.1.1.0 instance. You do not need to migrate the metadata of these applications because Oracle WebCenter 11.1.1.2.0 schemas are an in-place patch of your Oracle WebCenter 11.1.1.1.0 schemas for `MDS`, `PORTLET`, and `WEBCENTER`.

To migrate a custom WebCenter application:

1. Open the application in Oracle JDeveloper 11.1.1.2.0.

   This invokes the migration wizard that automatically migrates your application to Oracle WebCenter 11.1.1.2.0.

2. Save the application.

3. Create a WebLogic Managed Server instance and provision it with a required set of shared libraries. For information, see the "Creating and Provisioning a WebLogic Managed Server Instance" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

4. Create and register the Metadata Service (MDS) repository for your application on the WebLogic Domain's Administration Server instance. For information, see the "Creating and Registering the Metadata Service Repository" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

5. Deploy the application to a Managed Server. For information, see the "Deploying the Application to a WebLogic Managed Server Instance" section and the "Deploying Portlet Producer Applications" section in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

Your custom WebCenter applications may have WebCenter Services integrated that rely on back-end servers. For example, Discussions and Search services rely on Oracle WebCenter Discussions and Oracle SES, respectively. While installing Oracle Fusion Middleware 11.1.1.2.0, if you changed the host or port number of your back-end servers, you must reconfigure the required WebCenter Services to use the new server configuration. For information about specific services, see the "Managing Services, Portlet Producers, and External Applications" part in the *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

B.4.3.10 Post Migration Configuration for Oracle Web Services Manager

To migrate Oracle Web Services Manager (WSM), perform the following tasks:

- Purging the Policy Usage Analysis Information from the Metadata Services Repository
- Migrating the Oracle WSM Policies in the MDS Repository
- Migrating Custom Policy Accessor Properties

> **Note:** Before you can migrate Oracle WSM, you must migrate components of the security environment, such as the identity store and key store configurations. For more information, see Section B.4.3.5, "Post-Migration Configuration for Oracle Platform Security Services".

B.4.3.10.1   Purging the Policy Usage Analysis Information from the Metadata Services Repository In this release, the same Oracle Metadata Services (MDS) repository can be used to manage policies across multiple domains. In previous releases, an MDS repository could only be used by a single domain.

If you have analyzed policy usage using the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.1.0) installation, you will need to purge the policy usage analysis information from the MDS repository to ensure that accurate usage results are reflected for the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.2.0) version.

To purge the policy usage analysis information from the MDS repository, use the `deleteMetadata` MDS command as follows:

```
deleteMetadata(application='wsm-pm',server='server_name',
                docs='/policyAttachments/**')
```

`server_name` specifies the name of the server on which the Oracle WSM policy manager is running.

After purging the policy usage analysis information, you must restart the server.

For more information about managing MDS repositories, see "Maintaining the MDS Repository" section in the *Oracle Fusion Middleware Security and Administrator's Guide for Web Services*.

B.4.3.10.2   Migrating the Oracle WSM Policies in the MDS Repository In Oracle WSM 11*g* Release 1 (11.1.1), predefined and custom Oracle WSM policies are stored in the Oracle MDS repository. In this patch set, there are two new predefined policies available:

- `oracle/wss_saml_or_username_token_over_ssl_service_policy`
- `oracle/wss11_saml_or_username_token_with_message_protection_ service_policy`

You can use Oracle WebLogic Scripting Tool (WLST) commands to upgrade the repository with the new predefined policies. You can also refresh the repository by deleting all Oracle WSM policies from the repository, including custom policies, and then repopulating it using the predefined policies provided in your installation. All of the policies in the repository are also revalidated when you upgrade the repository.

For more information, see "Upgrading the Oracle WSM Policies in the MDS Repository" in *Oracle Fusion Middleware Security and Administrator's Guide for Web Services*.

B.4.3.10.3   Migrating Custom Policy Accessor Properties If you have customized the policy accessor properties, you must re-apply the policy manager connection information once you have migrated your installation. For more information, see "Configuring Platform Policy Properties" in the *Oracle Fusion Middleware Security and Administrator's Guide for Web Services*.

B.4.4 Installation Process

Table B–3 describes the 11.1.1.2.0 installation process that must be completed during the migration process.

Table B–3 Installation Process

Scenario	Description and Steps
Installing products in a new Middleware home	Before you can install 11.1.1.2.0 products in a new Middleware home, ensure that the repository is updated and the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema.
	To install products, complete the following steps:
	1. Install Oracle WebLogic Server. This step is not required for Web tier.
	2. Run product-specific Installers to install the new products.
	For more information, see the *Oracle Fusion Middleware Installation Planning Guide* and the product installation guides in the *Oracle Fusion Middleware Documentation Library* for the products you are installing and configuring.
Installing products in a new Middleware home, on a second machine, in a Cluster environment	Before you can install 11.1.1.2.0 products in a new Middleware home, ensure that the repository is updated and the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema.
	To install products in a Cluster environment, complete the following steps:
	1. Install Oracle WebLogic Server. This step is not required for Web tier.
	2. Run product-specific Installers to install the new products. Ensure that Middleware home on the second machine must be at the same file path as the first machine.
	For more information, see the *Oracle Fusion Middleware Installation Planning Guide* and the product installation guides in the *Oracle Fusion Middleware Documentation Library* for the products you are installing and configuring.

B.4.5 Configuration Process

Table B–4 describes the 11.1.1.2.0 configuration process that must be completed during the migration process.

Table B–4 Configuration Process

Scenario	Description and Steps
Configuring Oracle Instances in a new Middleware home	Before you can configure Oracle Instances in a new Middleware home, ensure that the repository is updated, the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema, all 11.1.1.2.0 products are installed, and the WebLogic domain is migrated.
	To configure Oracle Instances, run the `ant master-patch-oinstance` command.
Configuring Oracle Instances in a new Middleware home, on a second machine, in a Cluster environment	Before you can configure Oracle Instances in a new Middleware home, ensure that the repository is updated, the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema, all 11.1.1.2.0 products are installed in the Cluster environment (on a second machine), and the WebLogic domain is migrated.
	To configure Oracle Instances, run the `ant master-patch-oinstance` command.

Table B–4 (Cont.) Configuration Process

Scenario	Description and Steps
Configuring products in a new WebLogic domain	Before you can configure 11.1.1.2.0 products in a new WebLogic domain, ensure that the repository is updated, the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema, and the 11.1.1.2.0 products are installed in a new Middleware home.
	To configure products in a new WebLogic domain, complete the following steps:
	1. Start the Oracle Fusion Middleware Configuration Wizard from your new Middleware home.
	2. Choose product templates to match components on the old 11.1.1.1.0 domain.
	3. For the new domain, choose the same domain name as the old 11.1.1.1.0 domain.
	4. Configure servers, machines, or clusters to match the old 11.1.1.1.0 topology.
	5. Create domain.
	6. Optional: Start Node Manager.
Configuring products in a new WebLogic domain, on a second machine, in a Cluster environment	Before you can configure 11.1.1.2.0 products in a new WebLogic domain, ensure that the repository is updated, the 11.1.1.1.0 schema is migrated to the 11.1.1.2.0 schema, and the 11.1.1.2.0 products are installed in a new Middleware home on a second machine in the Cluster environment.
	To configure products in a new WebLogic domain, complete the following steps:
	1. Start the Oracle Fusion Middleware Configuration Wizard from your new Middleware home.
	2. Choose product templates to match components on the old 11.1.1.1.0 domain.
	3. For the new domain, choose the same domain name as the old 11.1.1.1.0 domain.
	4. Configure servers, machines, or clusters to match the old 11.1.1.1.0 topology.
	5. Create domain.
	6. Optional: Start Node Manager.
	7. Run the `pack` command on the new domain on the first machine.
	8. Run the `unpack` command on the second machine.

B.4.6 Properties in the patchMaster.properties File

Table B–5 describes the properties that you can set in the `patchMaster.properties` file. All the properties are not mandatory. For the list of properties that are required for specific components, see Table B–6.

> **Note:**   On Windows, you must use / as the delimiter to specify the property path. For example:
>
> `c:/my/path/file`

Table B–5   Patch Master Properties

Properties	Description
`patchMaster.Componentlist`	List the Fusion Middleware components, you want to patch from 11.1.1.1.0 to 11.1.1.2.0.
	Example:
	`patchMaster.Componentlist=Audit,BAM,DIP,Disco` `verer,Forms,JPS`
`patchMaster.Schemaurl`	Specify the connection string to a single repository being patched.
	Example:
	`patchMaster.Schemaurl=jdbc:oracle:thin:@local` `host:1521:orcl`
`patchMaster.Schemauser`	Specify the system user for the repository specified by `patchMaster.Schemaurl`.
	Example:
	`patchMaster.Schemauser=SYS AS SYSDBA`
`patchMaster.Schemaprefix`	Specify the repository schema metadata namespace.
	Example:
	`patchMaster.Schemaprefix=DEV`
	For Oracle Portal users, if you upgraded your Oracle Portal 10*g* to Oracle Portal 11*g* R1 (11.1.1.1.0), you must specify the schema prefix as `APPSERVER`.
	For Oracle Internet Directory, you must specify the schema prefix as `ODS`.
`patchMaster.Mwhomenew`	Specify the path where your 11.1.1.2.0 home is installed.
	Example:
	`patchMaster.Mwhomenew=/scratch/newhome`
`patchMaster.Mwhomeold`	Specify the path where your 11.1.1.1.0 home is installed.
	Example:
	`patchMaster.Mwhomeold=/scratch/oldhome`
`patchMaster.Domainhomenew`	Specify the Oracle WebLogic Server domain 11.1.1.2.0 home.
	Example:
	`patchMaster.Domainhomenew=/scratch/newhome/us` `er_projects/domains/newDomain`
`patchMaster.Domainapplications` `homenew`	Specify the Oracle WebLogic Server domain applications; 11.1.1.2.0 home.
	Example:

	`patchMaster.Domainapplicationshomenew=/scratc`
	`h/newhome/user_`
	`projects/applications/newDomain`

`patchMaster.Domainhomeold`	Specify the Oracle WebLogic Server domain 11.1.1.1.0 home.
	Example:
	`patchMaster.Domainhomeold=/scratch/oldhome/us` `er_projects/domains/oldDomain`

Table B–5   (Cont.) Patch Master Properties

Properties	Description
`patchMaster.Domainusername`	Specify the Oracle WebLogic Server domain user name.
	Example:
	`patchMaster.Domainusername=currentuser`
`patchMaster.Syspassword`	Specify the password for the Oracle Weblogic domain. This property is not available, by default. You may add and set this property. If the property is not present, Patch Assistant prompts you to enter the password.
	Example:
	`patchMaster.Syspassword=welcome1`
`patchMaster.Oracleinstancenewl ist`	List the paths to 11.1.1.2.0 Oracle instances.
	Example:
	`patchMaster.Oracleinstancenewlist=/scratch/ne winst1,/scratch/newinst2`
`patchMaster.Oracleinstanceoldl ist`	List the paths to 11.1.1.1.0), Oracle instances corresponding to 11.1.1.2.0, Oracle instance paths.
	Example:
	`patchMaster.Oracleinstanceoldlist=/scratch/ol dinst1,/scratch/oldinst2`
`patchMaster.Oraclehomenew`	Specify the path of 11.1.1.2.0 Oracle home.
	Example:
	`patchMaster.Oraclehomenew=/scratch/myOhomenew`
`patchMaster.Oraclehomeold`	Specify the Path of 11.1.1.1.0 Oracle home.
	Example:
	`patchMaster.Oraclehomeold=/scratch/myOhome`
	Note: You can patch only one Oracle home at once. Do not specify multiple Oracle homes in the properties file for this entry.
`patchMaster.Logdir`	The default directory where the log file will be saved.
	Example:
	`patchMaster.Logdir=${patchMaster.Dir}`
`patchMaster.Loglevel`	Specify the logging level to be recorded in the log file. The default log level is `info`. The other options are `error`, `warning`, `verbose`, and `debug`.
	Example:
	`patchMaster.Loglevel=info`
`patchMaster.Domainadminhost`	This is either the 11.1.1.1.0 or 11.1.1.2.0 Administration Server host depending on the operation. It is used for starting or stopping domain and instance registration.
	Example:
	`patchMaster.Domainadminhost=localhost`

Table B–5 (Cont.) Patch Master Properties

Properties	Description
`patchMaster.Domainadminport`	This is either the 11.1.1.1.0 or 11.1.1.2.0 Administration Server port depending on the operation. It is used for starting or stopping domain and instance registration.
	Example:
	`patchMaster.Domainadminport=7001`

> **Note:** See Appendix C, "Sample Patch Master Properties File", for a sample `patchMaster.properties` file.

Product-Specific Properties Required in the patchMaster.properties File

Table B–6 lists the properties required by Oracle Fusion Middleware components in the `patchMaster.properties` file.

> **Note:** Patch Assistant validates properties based on operations only. It does not validate properties at the individual product level.

Table B–6 Properties Required in patchMaster.properties File

Product	Required Properties
Oracle Fusion Middleware Audit Framework	▪ `patchMaster.Componentlist` ▪ `patchMaster.Schemaurl` ▪ `patchMaster.Schemauser` ▪ `patchMaster.Schemaprefix`
Oracle Business Intelligence Discoverer	▪ `patchMaster.Componentlist` ▪ `patchMaster.Domainhomenew` ▪ `patchMaster.Domainhomeold` ▪ `patchMaster.Oracleinstancenewlist` ▪ `patchMaster.Oracleinstanceoldlist` ▪ `patchMaster.Oraclehomenew` ▪ `patchMaster.Oraclehomeold` ▪ `patchMaster.Logdir` ▪ `patchMaster.Loglevel` ▪ `patchMaster.Statusfile` ▪ `patchMaster.Failonerror`

Table B–6 (Cont.) Properties Required in patchMaster.properties File

Product	Required Properties
Oracle Directory Integration Platform	`patchMaster.Componentlist` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oraclehomenew` `patchMaster.Oraclehomeold` `patchMaster.Domainadminhost` `patchMaster.Domainadminport`
Oracle Internet Directory	`patchMaster.Componentlist` `patchMaster.Schemaurl` `patchMaster.Schemauser` `patchMaster.Schemaprefix` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oracleinstancenewlist` `patchMaster.Oracleinstanceoldlist` `patchMaster.Oraclehomenew` `patchMaster.Oraclehomeold` `patchMaster.Logdir` `patchMaster.Loglevel` `patchMaster.Failonerror`
Oracle Virtual Directory	`patchMaster.Componentlist` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oracleinstancenewlist` `patchMaster.Oracleinstanceoldlist` `patchMaster.Oraclehomenew` `patchMaster.Oraclehomeold` `patchMaster.Logdir` `patchMaster.Loglevel` `patchMaster.Failonerror`

Table B–6   (Cont.) Properties Required in patchMaster.properties File

Product	Required Properties
Oracle Java Required Files	■ `patchMaster.Componentlist` ■ `patchMaster.Domainhomenew` ■ `patchMaster.Domainhomeold`
Oracle Metadata Services	■ `patchMaster.Componentlist` ■ `patchMaster.Schemaurl` ■ `patchMaster.Schemauser` ■ `patchMaster.Schemaprefix` ■ `patchMaster.Mwhomenew` ■ `patchMaster.Mwhomeold` ■ `patchMaster.Oraclehomenew`
Oracle Platform Security Services	■ `patchMaster.Mwhomenew` ■ `patchMaster.Mwhomeold` ■ `patchMaster.Domainhomenew` ■ `patchMaster.Domainapplicationshomenew` ■ `patchMaster.Domainhomeold` ■ `patchMaster.Domainusername` ■ `patchMaster.Oracleinstancenewlist` ■ `patchMaster.Oracleinstanceoldlist` ■ `patchMaster.Oraclehomenew` ■ `patchMaster.Oraclehomeold` ■ `patchMaster.Domainadminhost` ■ `patchMaster.Domainadminport`
Oracle Portal	■ `patchMaster.Componentlist` ■ `patchMaster.Schemaurl` ■ `patchMaster.Schemauser` ■ `patchMaster.Schemaprefix` ■ `patchMaster.Mwhomenew` ■ `patchMaster.Mwhomeold` ■ `patchMaster.Domainhomenew` ■ `patchMaster.Domainhomeold` ■ `patchMaster.Domainusername` ■ `patchMaster.Oracleinstancenewlist` ■ `patchMaster.Oracleinstanceoldlist` ■ `patchMaster.Oraclehomenew` ■ `patchMaster.Oraclehomeold` ■ `patchMaster.Logdir` ■ `patchMaster.Loglevel` ■ `patchMaster.Statusfile` ■ `patchMaster.Failonerror`

Table B–6   (Cont.) Properties Required in patchMaster.properties File

Product	Required Properties
Oracle Reports	`patchMaster.Componentlist` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oracleinstancenewlist` `patchMaster.Oracleinstanceoldlist` `patchMaster.Oraclehomeold` `patchMaster.Logdir` `patchMaster.Loglevel` `patchMaster.Failonerror`
Oracle User Messaging Service	`patchMaster.Componentlist` `patchMaster.Schemaurl` `patchMaster.Schemauser` `patchMaster.Schemaprefix` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oraclehomenew` `patchMaster.Oraclehomeold` `patchMaster.Logdir` `patchMaster.Loglevel` `patchMaster.Statusfile` `patchMaster.Failonerror`
Oracle Web Cache	`patchMaster.Componentlist` `patchMaster.Mwhomenew` `patchMaster.Mwhomeold` `patchMaster.Domainhomenew` `patchMaster.Domainhomeold` `patchMaster.Domainusername` `patchMaster.Oracleinstancenewlist` `patchMaster.Oracleinstanceoldlist` `patchMaster.Oraclehomenew` `patchMaster.Oraclehomeold`

Table B–6 (Cont.) Properties Required in patchMaster.properties File

Product	Required Properties
Oracle WebCenter	■ `patchMaster.Componentlist`
	■ `patchMaster.Schemaurl`
	■ `patchMaster.Schemauser`
	■ `patchMaster.Schemaprefix`
	■ `patchMaster.Domainhomeold`
	■ `patchMaster.Domainapplicationshomenew`
Oracle Web Services Manager	■ `patchMaster.Componentlist`
	■ `patchMaster.Domainhomenew`
	■ `patchMaster.Domainhomeold`
	■ `patchMaster.Logdir`
	■ `patchMaster.Loglevel`
	■ `patchMaster.Statusfile`
	■ `patchMaster.Failonerror`

B.4.6.1 Overriding Properties Set in the patchMaster.properties File

You can use the `Ant` command-line utility to override the properties set in the `patchMaster.properties` file. You must specify the required property on the command line as follows:

```
ant -D<property>=<value>
```

For example, to select components to patch, enter the following command on the command line:

```
ant -DpatchMaster.Componentlist=SOA,UMS,WebCenter
master-patch-schema
```

Note that `master-patch-schema`, in the above example, is the command that uses the new values.

Refer to Table B–5 for complete information about properties that you can specify on the command line or in the `patchMaster.properties` file.

> **Note:** When you override the `patchMaster.Schemauser` property to specify the system user by using the command-line utility, ensure that you use double quotation marks, as in the following example:
>
> ```
> ant -DpatchMaster.Schemauser="SYS AS SYSDBA"
> ```
> Do not enter the double quotation marks if you edit the `patchMaster.properties` file directly.

B.4.7 Oracle Fusion Middleware Components Supported by Patch Assistant

Table B–7 lists Oracle Fusion Middleware components that are supported by Patch Assistant.

Table B–7 Oracle Fusion Middleware Components Supported by Patch Assistant

Component Name	Release
Oracle Fusion Middleware Audit Framework	11.1.1.2.0

Table B–7   (Cont.) Oracle Fusion Middleware Components Supported by Patch Assistant

Component Name	Release
Oracle BPEL Process Manager	11.1.1.2.0
Oracle Business Rules	11.1.1.2.0
Oracle Business-to-Business Integration	11.1.1.2.0
Oracle Business Activity Monitoring	11.1.1.2.0
Oracle Business Intelligence Discoverer	11.1.1.2.0
Oracle Internet Directory	11.1.1.2.0
Oracle Directory Integration Platform	11.1.1.2.0
Oracle Identity Federation	11.1.1.2.0
Oracle Virtual Directory	11.1.1.2.0
Oracle Directory Services Manager	11.1.1.2.0
Oracle Forms	11.1.1.2.0
Oracle Platform Security Services	11.1.1.2.0
Oracle Java Required Files	11.1.1.2.0
Oracle Metadata Services	11.1.1.2.0
Oracle Access Manager	11.1.1.2.0
Oracle TopLink	11.1.1.2.0
Oracle Dynamic Monitoring System (DMS)	11.1.1.2.0
Oracle Java Object Cache	11.1.1.2.0
Oracle Enterprise Manager Fusion Middleware Control	11.1.1.2.0
Oracle HTTP Server	11.1.1.2.0
Oracle Reports	11.1.1.2.0
Oracle Portal	11.1.1.2.0
Oracle Portlet Producers	11.1.1.2.0
Oracle User Messaging Service	11.1.1.2.0
Oracle Web Cache	11.1.1.2.0
Oracle WebCenter Spaces	11.1.1.2.0
Oracle WebCenter Discussions	11.1.1.2.0
Oracle WebCenter Portlets	11.1.1.2.0
Oracle WebCenter Wiki and Blogs	11.1.1.2.0
Oracle Content Server	10.1.3.5.1
Oracle WebLogic Server	10.3.1.0
Oracle Wallet Manager	11.1.1.2.0
Oracle Web Services Manager	11.1.1.2.0

C

Sample Patch Master Properties File

This appendix shows a sample `patchMaster.properties` file.

```
# This is the property file for the 11gR1-11ps1 patchMaster.
# Set values for the properties below to the desired value.
# If a property is not needed, it must be commented out.

# Description: List of components to patch from 11gR1 to 11ps1
# Example:
patchMaster.Componentlist=Audit,BAM,DIP,Discoverer,Discussions,Forms,JPS,JRF,MDS,M
odplsql,OAM,OCServer,ODL,ODSM,OHS,OID,OIF,Opmn,OVD,OWSM,Portal,Portlet,Reports,SOA
,UMS,WebCenter,Webcache,Webservices,Wiki
patchMaster.Componentlist=Audit,BAM,DIP,Discoverer,Discussions,Forms,JPS,JRF,MDS,M
odplsql,OAM,OCServer,ODL,ODSM,OHS,OID,OIF,Opmn,OVD,OWSM,Portal,Portlet,Reports,SOA
,UMS,WebCenter,Webcache,Webservices,Wiki

# Description: Connection string to a single repository being patched.
# Example: patchMaster.Schemaurl=jdbc:oracle:thin:@localhost:1521:orcl
patchMaster.Schemaurl=jdbc:oracle:thin:@<host>:<port>:<sid>

# Description: A system user for the repository specified by patchMaster.Schemaurl
# Example: patchMaster.Schemauser=SYS AS SYSDBA
# patchMaster.Schemauser=<Value Unspecified>

# Description: The optional repository schema metadata namespace.
# Example: patchMaster.Schemaprefix=DEV
# patchMaster.Schemaprefix=<Value Unspecified>

# Description: Fusion Middleware 11ps1 home.
# Example: patchMaster.Mwhomenew=/scratch/newhome
# patchMaster.Mwhomenew=<Value Unspecified>

# Description: Fusion Middleware 11gR1 home.
# Example: patchMaster.Mwhomeold=/scratch/oldhome
# patchMaster.Mwhomeold=<Value Unspecified>

# Description: WLS domain 11ps1 home.
# Example: patchMaster.Domainhomenew=/scratch/newhome/user_
projects/domains/newDomain
# patchMaster.Domainhomenew=<Value Unspecified>

# Description: WLS domain applications 11ps1 home.
# Example: patchMaster.Domainapplicationshomenew=/scratch/newhome/user_
projects/applications/newDomain
# patchMaster.Domainapplicationshomenew=<Value Unspecified>

# Description:  WLS domain 11gR1 home.
```

```
# Example: patchMaster.Domainhomeold=/scratch/oldhome/user_
projects/domains/oldDomain
# patchMaster.Domainhomeold=<Value Unspecified>

# Description: WLS domain username.
# Example: patchMaster.Domainusername=currentuser
# patchMaster.Domainusername=<Value Unspecified>

# Description: List paths to 11ps1 Oracle instances.
# Example: patchMaster.Oracleinstancenewlist=/scratch/newinst1,/scratch/newinst2
# patchMaster.Oracleinstancenewlist=<Value Unspecified>

# Description: List paths to 11gR1 Oracle instances corresponding to 11ps1 Oracle
instance paths.
# Example: patchMaster.Oracleinstanceoldlist=/scratch/oldinst1,/scratch/oldinst2
# patchMaster.Oracleinstanceoldlist=<Value Unspecified>

# Description: Path to 11ps1 Oracle home.
# Example: patchMaster.Oraclehomenew=/scratch/mynewOhome
# patchMaster.Oraclehomenew=<Value Unspecified>

# Description: Path to 11gR1 Oracle home.
# Example: patchMaster.Oraclehomeold=/scratch/myOhome
# patchMaster.Oraclehomeold=<Value Unspecified>

# Description: Specifies the directory where the log files go if a custom
#              location is desired.
# Example: patchMaster.Logdir=/scratch/patchMasterDir
# patchMaster.Logdir=<Value Unspecified>

# Description: Specifies the logging level to be recorded in the log file
# Values={error|warning|info|verbose|debug}  Default=info
patchMaster.Loglevel=info

# Description: WLS domain Adminserver hostname.  This is *either* the R1 or PS1
Adminserver host
# depending the operation.  Used for start/stop domain and instance registration.
# Example: patchMaster.Domainadminhost=localhost
# patchMaster.Domainadminhost=<Value Unspecified>

# Description: WLS domain Adminserver port number.  This is *either* the R1 or PS1
Adminserver port
# depending the operation.  Used for start/stop domain and instance registration.
# Example: patchMaster.Domainadminport=7001
# patchMaster.Domainadminport=<Value Unspecified>
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