

Oracle® Fusion Middleware

Upgrading Oracle WebCenter

12c Release 2 (12.2.1.0.0)

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Explains how to upgrade your existing Oracle WebCenter environment.

Oracle Fusion Middleware Upgrading Oracle WebCenter , 12c Release 2 (12.2.1.0.0)

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Primary Author: Lisa Jamen

Contributing Authors: Savita Thakur

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Preface

Upgrading Oracle WebCenter describes the tools and procedures required for you to upgrade your existing Oracle WebCenter environment.

[Intended Audience](#)

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Intended Audience

This guide is intended for existing Oracle Fusion Middleware users who are upgrading their Oracle Fusion Middleware 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 upgrading their Oracle Fusion Middleware software may need `root` access to run some scripts.

Related Documents

For additional information, see the following manuals:

- *Understanding Oracle Fusion Middleware*. This book introduces the common terms and concepts in an Oracle Fusion Middleware environment.
- *Administering Oracle Fusion Middleware*. This book contains information for managing your Oracle Fusion Middleware environment after installation and configuration is complete.
- *Installing and Configuring Oracle WebCenter Portal*
- *Installing and Configuring Oracle WebCenter Content*
- *High Availability Guide*. This book contains information for installing Oracle Fusion Middleware in high availability environments.

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.
<i>italic</i>	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.

Introduction to the Oracle WebCenter 12c Upgrade

When upgrading your Oracle WebCenter 11g environment to 12c (12.2.1), you should understand how your pre-upgrade environment will be affected by the upgrade.

[Understanding the Oracle WebCenter Upgrade to 12c](#)

[Understanding the Starting Points for an Oracle WebCenter 12c Upgrade](#)

[Understanding the Interoperability and Compatibility Restrictions](#)

[Understanding the Oracle WebCenter Upgrade Process Flow](#)

[Understanding the Oracle WebCenter Upgrade Procedures](#)

1.1 Understanding the Oracle WebCenter Upgrade to 12c

When upgrading your Oracle WebCenter environment to 12c (12.2.1), you should understand how your pre-upgrade environment will be affected by the upgrade. For example, schemas and domain directory upgrades are performed "in place" which updates the existing 11g files during the upgrade. The 12c (12.2.1) Oracle Home binaries are upgraded "out of place" as the binaries are installed in a new directory.

The upgrade to 12c (12.2.1) includes the midtier and the schemas. You cannot perform a midtier-only or schema-only upgrade.

The list below describes how the upgrade is performed for the following Infrastructure and WebCenter Content components:

- **Oracle WebLogic Server, JRF and WebCenter Oracle Home Binaries - Upgraded Out of Place**

You will install the Oracle Infrastructure 12c (12.2.1) (which includes WebLogic Server and JRF) and Oracle WebCenter distribution binaries in a new Oracle home. The upgrade of binaries is considered "out of place" as the 11g binaries are not overwritten.

- **Schemas - Upgraded In Place**

The 11g schemas are upgraded to 12c "in place" which means that the Upgrade Assistant updates and overwrites the schemas during the upgrade process. The servers must be down during this process.

- **Domain Directory Reconfiguration - Upgraded In Place**

The existing domain is upgraded "in place". During the upgrade you will identify the location of the 11g domain and the 11g domain will be reconfigured to point to the new 12c (12.2.1) home directory.

- **Domain Component Configuration - Upgraded In Place**

After the reconfiguration of the 11g domain, the Upgrade Assistant is used again to upgrade any remaining domain component configurations to point to the new 12c (12.2.1) home directory.

1.2 Understanding the Starting Points for an Oracle WebCenter 12c Upgrade

The starting points for Oracle WebCenter vary by component. Review the table to determine which versions are supported for an upgrade to WebCenter 12c.

Component Name	Supported Starting Points for Upgrade
Oracle Enterprise Capture ¹	11.1.1.8.0
	11.1.1.9.0
Oracle WebCenter Content	11.1.1.6.0
	11.1.1.7.0
	11.1.1.8.0
	11.1.1.9.0
Oracle WebCenter Portal	11.1.1.7.0
	11.1.1.8.0
	11.1.1.9.0

¹ If you installed WebCenter Capture 11.1.1.9.0, then the schema version will still be 11.1.1.8.0 as there were no schema changes in 11.1.1.9.0.

1.3 Understanding the Interoperability and Compatibility Restrictions

Before you begin the upgrade process from 11g to 12c, you must read and understand how all of the components within your 11g domain will be impacted by the upgrade. *Understanding Interoperability and Compatibility* provides a detailed matrix of which components can and cannot be upgraded together.

In general, you cannot upgrade a domain that contains components that are not yet available in Oracle Fusion Middleware 12c (12.2.1). There are other restrictions on the components that can be upgraded to 12c (12.2.1) and you need to be sure that you have reviewed this information carefully before you proceed with the upgrade.

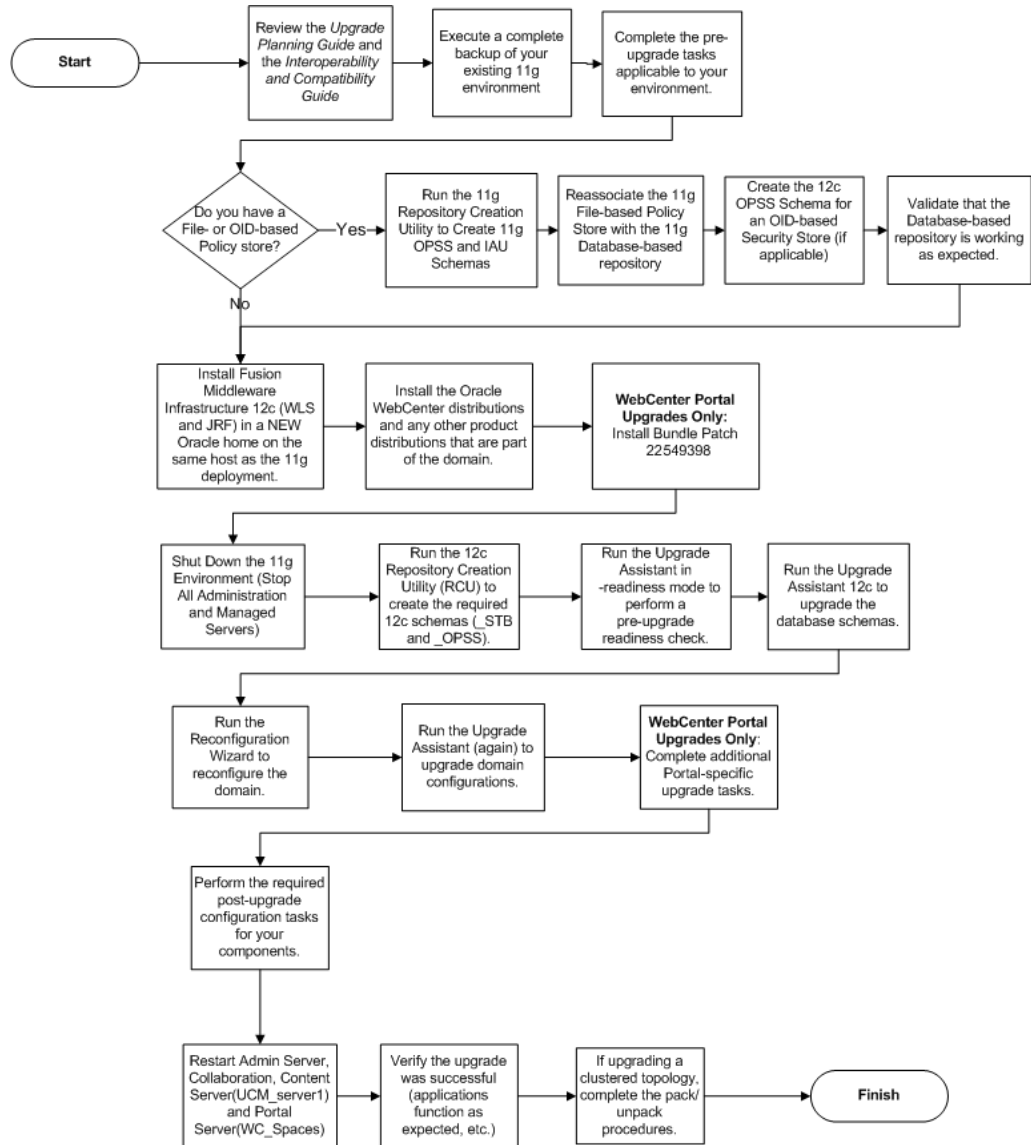
WebCenter Web UI 12c (12.2.1) is not compatible with WebCenter Content or Application Development Framework 11g.

WebCenter Web UI 12c (12.2.1) cannot be used with WebCenter Content 11g or Application Development Framework 11g. Web UI can only be used with 12c (12.2.1).

1.4 Understanding the Oracle WebCenter Upgrade Process Flow

This section describes the high-level steps for upgrading Oracle WebCenter products:

Figure 1-1 Upgrading Oracle WebCenter to 12c



1.5 Understanding the Oracle WebCenter Upgrade Procedures

The following table describes the tasks required to upgrade Oracle WebCenter 11g to 12c.

Step	Description	More Information
1	Review the Oracle Fusion Middleware documentation library for important information about upgrading to 12c.	<i>Planning an Upgrade of Oracle Fusion Middleware</i> <i>Understanding Oracle Fusion Middleware</i> <i>Understanding Interoperability and Compatibility</i>
2	Backup your entire 11g environment before you begin any part of this upgrade. If the upgrade fails or encounters an error, you will have to redeploy your pre-upgrade environment and start the upgrade again.	"Introducing Backup and Recovery" "Backup and Recovery Recommendations for Oracle Fusion Middleware Components"
3	Complete all of the Oracle Fusion Middleware standard pre-upgrade tasks, as well as any additional component-specific tasks you may be required to perform.	Oracle Fusion Middleware Pre-Upgrade Checklist Performing the Oracle WebCenter Pre-Upgrade Tasks
4	If you are using a file-based policy store in your 11g environment, Oracle recommends that you reassociate it to a database-based store before the upgrade. If you are using Oracle Internet Directory (OID) 11.1.1.6.0 as the policy store, Oracle recommends that you reassociate it to a database-based store before the upgrade. For information about supported OID versions, see Oracle Fusion Middleware 12c Certifications at http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html .	Reassociating File-based Policy Stores to Database-based Policy Stores (Required)
5	Install the product distributions for all the products that are part of the domain. Note that in 12c, the WebLogic Server and JRF are part of the Infrastructure distribution and must be installed first. The binaries should be installed into a new Oracle home on the same host as the 11g deployment.	Installing the Required Oracle Fusion Middleware Distributions for WebCenter

Step	Description	More Information
6	WebCenter Portal Users Only: Apply the WebCenter Portal Bundle Patch 22549398. This patch includes fixes for upgrade issues. Download the patch from My Oracle Support at http://support.oracle.com . Follow the README file available with the patch.	<i>Patching with OPatch</i>
7	Stop the Administration Server, Managed Servers and any other running applications in your 11g deployment.	Starting and Stopping Administration Server
8	Run the 12c Repository Creation Utility (RCU) to create the required 12c schemas (_STB and _OPSS). The Service Table(STB) schema is required in 12c. The OPSS schema is required if OID-based policy store was used in 11g.	Creating Schemas for WebCenter 12c

Step	Description	More Information
9	<p>When run in <code>-readiness</code> mode, the Upgrade Assistant performs a read-only check to determine if there might be problems in the starting point environment that would prevent a successful upgrade.</p> <p>The checks vary by component and a complete report is generated to help troubleshoot any potential issues.</p>	<p>Performing a Readiness Check with the Upgrade Assistant</p>
		<hr/> <p>Note: You ran the readiness check as part of the pre-upgrade tasks described in the Pre-Upgrade Checklist. Oracle recommends that you run the readiness check again just before you begin the upgrade.</p> <hr/>
10	<p>Run the Upgrade Assistant to upgrade individually selected schemas or all schemas used by the domain.</p>	<p>Upgrading Schemas with the Upgrade Assistant</p>
11	<p>Run the Reconfiguration Wizard to reconfigure the domain. The Reconfiguration Wizard is a new tool in Oracle Fusion Middleware 12c.</p>	<p>Reconfiguring the WebCenter Domain with the Reconfiguration Wizard</p>

Step	Description	More Information
12	Run the Upgrade Assistant (again) to upgrade any remaining component configurations.	Upgrading the Component Configuration with the Upgrade Assistant
13	WebCenter Portal Users Only: You must complete a set of additional procedures to upgrade Oracle WebCenter Portal to 12c.	Upgrading Oracle WebCenter Portal 11g Installations
14	Complete all of the required post-upgrade tasks described in your component-specific documentation. Some components will not work correctly if these tasks are not performed after the upgrade.	Performing Post-Upgrade Configuration Tasks
15	Restart the Administration Server and all the managed servers such as the Collaboration Server, Content Server (UCM_server1) and Portal Server (WC_Spaces).	Starting and Stopping Administration Server
16	Verify the upgrade was successful (applications function as expected, etc.)	Verifying the New Applications Work as Expected
17	Upgrade WebCenter for a cluster topology, if applicable	Upgrading WebCenter in a Clustered Topology

Pre-Upgrade Tasks for Oracle WebCenter Components

Before you upgrade your existing Oracle WebCenter components, you must complete the mandatory pre-upgrade tasks.

Complete the standard Oracle Fusion Middleware Pre-Upgrade checklist before you begin the pre-upgrade tasks that are specific to Oracle WebCenter. The tasks you perform depend on which components are being upgraded.

Pre-Upgrade Checklist

Refer to the Pre-Upgrade Checklist before you begin the upgrade process. The checklist identifies tasks that can be performed before you begin your upgrade to ensure you have a successful upgrade and limited downtime.

Performing the Oracle WebCenter Pre-Upgrade Tasks

2.1 Pre-Upgrade Checklist

Refer to the Pre-Upgrade Checklist before you begin the upgrade process. The checklist identifies tasks that can be performed before you begin your upgrade to ensure you have a successful upgrade and limited downtime.

Note:

The pre-upgrade procedures you perform depend on the configuration of your existing system, the components you are upgrading, and the environment you want to create at the end of the upgrade and configuration process. You do not need to complete any tasks that do not pertain to your configurations or use cases.

Table 2-1 *Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 12c*

Task	Description	Documentation
Create a complete backup of your pre-upgrade environment.	<p>Required</p> <p>Back up all system-critical files and database(s) that contain any schemas that are to be upgraded before you begin your upgrade.</p> <p>If the upgrade fails, you need to restore your pre-upgrade environment and begin the upgrade again.</p>	Creating a Complete Backup (Required)

Table 2-1 (Cont.) Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 12c

Task	Description	Documentation
Clone your production environment to use as an upgrade testing platform.	<p>Optional</p> <p>In addition to creating a complete backup of your system files, Oracle strongly recommends that you clone your production environment. This environment can be used to test the upgrade.</p>	Cloning Your Production Environment for Testing
<p>Verify that you are installing and upgrading your product on a supported hardware and software configuration.</p> <p>NOTE: Do not attempt an upgrade if you are unable to use the latest supported operating system. As with all supported configurations, failure to comply with these requirements may cause your upgrade to fail.</p>	<p>Required</p> <p>As part of the upgrade planning process, you already verified that your hardware and software configurations (including operating systems) are supported by the latest certifications and requirements documents.</p> <p>Just before you start the upgrade, Oracle recommends that you verify this information again, as the certification requirements may have changed.</p> <p>Make sure that you have applied the latest patches to your components before you upgrade.</p>	Verifying Certification and System Requirements
Verify that you are running a 64-bit operating system. Most Oracle Fusion Middleware 12c components require a 64-Bit operating system.	<p>Required only if you are currently running a 32-bit operating system.</p>	Migrating from a 32-Bit to a 64-Bit Operating System
Remove any outdated or unused data before you upgrade.	<p>Optional</p> <p>To optimize performance, consider purging data and objects that will not be used in the upgraded environment.</p>	Purging Unused Data
Oracle Database Users: Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12c (12.2.1).	<p>Required only if you are using an Edition-Based Redefinition (EBR) database.</p>	Creating an Edition on the Server for Edition-Based Redefinition (Optional)
Create a new Non-SYSDBA user to avoid running the upgrade as SYS AS SYSDBA.	<p>Optional</p> <p>Oracle recommends that you create a non-SYSDBA user to run Upgrade Assistant with only those privileges required by the Upgrade Assistant.</p>	Creating a Non-SYSDBA User

Table 2-1 (Cont.) Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 12c

Task	Description	Documentation
Some of the security algorithms used in Fusion Middleware 12c require additional policy files for the JDK.	Optional If you plan to use enhanced encryption (such as AES 256). Oracle recommends that you apply the required policy files to the JDK before you upgrade.	Using Enhanced Encryption (AES 256)
Maintain custom domain environment settings. NOTE: Oracle recommends that you do not modify the startup scripts, such as setDomainEnv, as any changes made to them are overwritten during subsequent domain upgrade and reconfiguration operations.	Optional If you modified any of the startup scripts in your existing domain, you will need to copy them to another directory during the upgrade. Startup scripts are overwritten during the upgrade and any changes you have made will be overwritten.	Maintaining Custom Domain Environment Settings
Download and install the new 12c products in to a new Oracle home before you upgrade.	Required Install the 12c (12.2.1) versions of the products you already have in your pre-upgrade environment.	Downloading and Installing the 12c Oracle Fusion Middleware Product Distributions
Depending on your upgrade starting point, you may be required to create new 12c schemas before an upgrade.	Required for 11g upgrades only Oracle Fusion Middleware 12c requires that you use the Repository Creation Utility (RCU) to create new schemas before you can upgrade your existing environment.	Creating the Required Schemas Before Upgrade
Understand the schema requirements when using an OID-based security store.	If you are using an OID-based security store, you need to create a 12c OPSS schema before you upgrade.	Creating the 12c OPSS Schema for an OID-based Security Store
If you are using a file-based policy store, Oracle recommends that you reassociate it to a database-based policy store.	Optional This step is not required if you are upgrading from a previous 12c release.	Reassociating File-based Policy Stores to Database-based Policy Stores
Run the Readiness Check on your production environment before you begin the upgrade.	Optional The Upgrade Assistant can be run in -readiness mode to detect potential issues that could prevent a successful upgrade.	Running a Pre-Upgrade Readiness Check
If you are upgrading any other components, refer to the component-specific upgrade documentation.	Optional If you are upgrading more than one Oracle Fusion Middleware product suite, use the component-specific upgrade documentation to complete your upgrade.	Locating the Component-Specific Upgrade Documentation

Creating a Complete Backup (Required)

Before you install any new 12c distributions and begin upgrading your Oracle Fusion Middleware 11g or 12c deployment, be sure you have backed up all system-critical files; including all of the databases that host your Oracle Fusion Middleware schemas.

Cloning Your Production Environment for Testing

Oracle strongly recommends that you create a copy of your actual production environment, upgrade the cloned environment, verify that the upgraded components work as expected, and then (and only then) upgrade your production environment.

Verifying Certification and System Requirements

The certification matrix and system requirements documents should be used in conjunction with each other to verify that your environment meets the necessary requirements for installation.

Migrating from a 32-Bit to a 64-Bit Operating System

Most Oracle Fusion Middleware 12c components require a 64-bit operating system. If you are running a 32-bit environment, then you must migrate your 32-bit environment to a 64-bit software environment before you upgrade.

Purging Unused Data

Purging unused data before an upgrade can optimize the upgrade process. Automated purge scripts are available for some components and can run before an upgrade to purge unused and obsolete data.

Creating an Edition on the Server for Edition-Based Redefinition (Optional)

Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12c.

Creating a Non-SYSDBA User

Oracle recommends that you create a non-SYSDBA user to run the Upgrade Assistant. The user created using this procedure has the privileges required to complete the upgrade.

Using Enhanced Encryption (AES 256)

The Java platform defines a set of APIs spanning major security areas, including cryptography, public key infrastructure, authentication, secure communication, and access control. These APIs allow developers to easily integrate security mechanisms into their application code. If you plan to use enhanced encryption (such as AES 256), Oracle recommends that you apply these policy files to the JDK before you upgrade.

Maintaining Custom Domain Environment Settings

Every domain includes dynamically generated domain and server startup scripts, such as `setDomainEnv`. Oracle recommends that you do not modify these startup scripts, as any changes made to them are

overwritten during subsequent domain upgrade and reconfiguration operations.

Downloading and Installing the 12c Oracle Fusion Middleware Product Distributions

Oracle Fusion Middleware product distributions are available for download on Oracle Technology Network (OTN) and Oracle Software Delivery Cloud.

Creating the Required Schemas Before Upgrade

Before you upgrade, you may be required to create new schemas for your 12c deployment. To determine which additional schemas need to be created for 12c, compare the component schemas you have in your existing environment to the schemas required for your upgrade.

Creating the 12c OPSS Schema for an OID-based Security Store

The only supported LDAP-based OPSS security store is **Oracle Internet Directory** (OID). An LDAP-based policy store is typically used in production environments. If you are using an OID-based security store in 11g, you must create the new 12c schemas using the Repository Creation Utility (RCU).

Reassociating File-based Policy Stores to Database-based Policy Stores

Oracle Fusion Middleware 12c uses database-based policy stores. A database-based policy store is recommended for a production environment. If you are using a file-based or OID-based policy store, you must reassociate the store to a database-based store prior to upgrade.

Upgrading Security Stores to the Latest Version

Upgrading to the latest version of the OPSS security store enables you to use enhanced security features. The OPSS security store is a part of Oracle Fusion Middleware product installation so you can use the Upgrade Assistant to upgrade the OPSS schema.

Running a Pre-Upgrade Readiness Check

The Upgrade Assistant can be run in the **-readiness** mode to perform a read-only, pre-upgrade check on your domain. If issues are detected, you can correct them before starting the actual upgrade.

Locating the Component-Specific Upgrade Documentation

The component specific upgrade documentation provides specific upgrade procedures and information for every individual component. If you are upgrading more than one product suite, consult the upgrade guides for all of the components you are upgrading.

2.1.1 Creating a Complete Backup (Required)

Before you install any new 12c distributions and begin upgrading your Oracle Fusion Middleware 11g or 12c deployment, be sure you have backed up all system-critical files; including all of the databases that host your Oracle Fusion Middleware schemas.

Performing a complete database backup prior to performing a schema upgrade is a prerequisite for running Upgrade Assistant. In the Upgrade Assistant prerequisites GUI screen, you will be required to acknowledge that backups have been performed, before proceeding with the actual upgrade.

Note:

Your system backup must include the SYSTEM.SCHEMA_VERSION_REGISTRY\$ table.

Each Fusion Middleware schema has a row in SYSTEM.SCHEMA_VERSION_REGISTRY\$ table. If you run the Upgrade Assistant to update an existing schema and it does not succeed, you must restore the original schema before you can try again. Make sure you back up your existing database schemas before you run the Upgrade Assistant.

For more information, see *Backing Up Your Oracle Fusion Middleware Environment and Upgrading and Preparing Your Oracle Databases for 12c*.

2.1.2 Cloning Your Production Environment for Testing

Oracle strongly recommends that you create a copy of your actual production environment, upgrade the cloned environment, verify that the upgraded components work as expected, and then (and only then) upgrade your production environment.

Upgrades cannot be reversed. In most cases, if an error occurs, you must stop the upgrade and restore the entire environment from backup and begin the upgrade process from the beginning. Identifying potential upgrade issues in a development environment can eliminate unnecessary downtime.

Note: It is beyond the scope of this document to describe the cloning procedures for all components and operating systems. Cloning procedures are component and operating system-specific. At a high level, you will install the pre-upgrade version of your component domain on a test machine, create the required schemas using the Repository Creation Utility (RCU), and perform the upgrade.

Additional benefits of running an upgrade in a cloned production environment include the following:

- Uncover and correct any upgrade issues.
- Practice completing an end-to-end upgrade.
- Understand the upgrade performance and how purge scripts can help.
- Understand the time required to complete the upgrade.
- Understand the database resource usage (such as temporary tablespace; PGA, etc).

Note: You can run the pre-upgrade Readiness Check on the cloned production environment to help identify potential upgrade issues with your data, but you must perform a complete test upgrade on a cloned environment to ensure a successful upgrade.

2.1.3 Verifying Certification and System Requirements

The certification matrix and system requirements documents should be used in conjunction with each other to verify that your environment meets the necessary requirements for installation.

Note: When checking the certification, system requirements, and interoperability information, be sure to check specifically for any 32-bit or 64-bit system requirements. It is important for you to download software specifically designed for the 32-bit or 64-bit environment, explicitly.

Warning: Make sure that your current environment has been patched to the latest patch set BEFORE you begin the upgrade. Certifications are based on fully patched environments unless stated otherwise.

Verify Your Environment Meets Certification Requirements

Oracle has tested and verified the performance of your product on all certified systems and environments. Make sure that you are installing your product on a supported hardware or software configuration

Verify System Requirements and Specifications

It is important to verify that the system requirements such as disk space, available memory, specific platform packages and patches, and other operating system-specific items are met.

Verify that the database hosting Oracle Fusion Middleware is supported

You must have a supported Oracle database configured with the required schemas before you run Fusion Middleware 12c.

Verify that the JDK is certified for this release of Oracle Fusion Middleware.

Before you can install any Oracle Fusion Middleware product using a generic installer, you must download and install a supported JDK on your system.

2.1.3.1 Verify Your Environment Meets Certification Requirements

Oracle has tested and verified the performance of your product on all certified systems and environments. Make sure that you are installing your product on a supported hardware or software configuration

Whenever new certifications occur, they are added to the proper certification document right away. New certifications can occur at any time, and for this reason the certification documents are kept outside of the documentation libraries and are available on Oracle Technology Network. For more information, see Certification Matrix for 12c (12.2.1).

2.1.3.2 Verify System Requirements and Specifications

It is important to verify that the system requirements such as disk space, available memory, specific platform packages and patches, and other operating system-specific items are met.

The Oracle Fusion Middleware System Requirements and Specifications document should be used to verify that the requirements of the certification are met. For example, if the certification document indicates that your product is certified for

installation on 64-Bit Oracle Linux 7, this document should be used to verify that your Oracle Linux 7 system has met the required minimum specifications, like disk space, available memory, specific platform packages and patches, and other operating system-specific items. This document is updated as needed and resides outside of the documentation libraries. The latest version is available on Oracle Technology Network.

For a complete description of the system requirements for installing and upgrading to Oracle Fusion Middleware 12c, see Review System Requirements and Specifications.

Note: When you install the Oracle Fusion Middleware Release 12c software in preparation for upgrade, you should use the same user account that you used to install and configure the Oracle Fusion Middleware 11g software. On UNIX operating systems, this will ensure that the proper owner and group is applied to new Oracle Fusion Middleware 12c files and directories

2.1.3.3 Verify that the database hosting Oracle Fusion Middleware is supported

You must have a supported Oracle database configured with the required schemas before you run Fusion Middleware 12c.

It is assumed that you understand the Oracle Database requirements when upgrading and ensure that the database hosting Oracle Fusion Middleware is supported and has sufficient space to perform an upgrade.

2.1.3.4 Verify that the JDK is certified for this release of Oracle Fusion Middleware.

Before you can install any Oracle Fusion Middleware product using a generic installer, you must download and install a supported JDK on your system.

Make sure that the JDK is installed outside of the Oracle home. The Oracle Universal Installer validates that the designated Oracle home directory is empty, and the install does not progress until an empty directory is specified. If you install JDK under Oracle home, you may experience issues in future operations. Therefore, Oracle recommends that you use install the JDK in the `/home/oracle/products/jdk` directory. You can then use the `java -jar` command to run the installer JAR file.

For more information on the difference between generic and platform-specific installers, see Understanding the Difference Between Generic and Platform-Specific Distributions in the *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files*.

To download the required JDK, use your browser to navigate to the following URL and download the Java SE JDK:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

2.1.4 Migrating from a 32-Bit to a 64-Bit Operating System

Most Oracle Fusion Middleware 12c components require a 64-Bit operating system. If you are running a 32-bit environment, then you must migrate your 32-bit environment to a 64-bit software environment before you upgrade.

Note: When checking the certification, system requirements, and interoperability information, be sure to check specifically for any 32-bit or 64-bit system requirements. It is important for you to download software specifically designed for the 32-bit or 64-bit environment, explicitly.

Make sure to validate the migration to ensure all your Oracle Fusion Middleware 11g software is working properly on the 64-bit machine, and only then perform the upgrade to Oracle Fusion Middleware 12c.

In these tasks, **host** refers to the 32-bit source machine and **target** refers to the new 64-bit target machine.

Note: These steps assume that your database is located on a separate host and will not be moved.

Upgrading an operating system typically involves the following:

Caution: These steps are provided as an example of the operating system upgrade process and may or may not include all of the procedures you must perform to update your specific operating system. Consult your operating system's upgrade documentation for more information.

[Procure the Hardware that Supports your Upgrade's 64-bit Software Requirement](#)

Make sure that you have supported target hardware in place before you begin the upgrade process.

[Stop all processes, including the Administration Server, Managed Servers, and Node Manager](#)

You must stop all processes, including the Administration Server, Managed Servers, and Node Manager, if they are started on the host.

[Back up all Files from the 32-bit Host Machine](#)

Make sure that you have created a complete backup of your entire 11g deployment before you begin the upgrade process. These files can be used if there is an issue during the migration and you have to restart the process.

[Set up the Target 64-bit Machine with the 11g Host Name and IP Address](#)

The host name and IP address of the target machine must be made identical to the host. This requires you to change the IP address and name of the source machine or decommission the source machine to avoid conflicts in the network.

[Restore the 11g Backup from 32-bit Host to 64-bit Host](#)

Restore the files you backed up in Task 3 using the same directory structure that was used in 11g. The directory structure on the target machine must be identical to the structure of the host machine.

[Install the 12c Product Distribution\(s\) on the Target Machine](#)

Oracle recommends an Out-of-Place approach for upgrade. Therefore, you must install the 12c product distributions in a new Oracle home on the target machine.

[Upgrade the Target 64-bit Environment Using the Standard Upgrade Procedure](#)

After installing the product on the target machine, you must upgrade each component individually using an upgrade utility specified in the

component-specific upgrade guide and complete any post-upgrade tasks.

2.1.4.1 Procure the Hardware that Supports your Upgrade's 64-bit Software Requirement

Make sure that you have supported target hardware in place before you begin the upgrade process.

2.1.4.2 Stop all processes, including the Administration Server, Managed Servers, and Node Manager

You must stop all processes, including the Administration Server, Managed Servers, and Node Manager, if they are started on the host.

For example, to stop the Administration Server, enter the following command:

```
DOMAIN_HOME/bin/stopWebLogic.sh username password [admin_url]
```

2.1.4.3 Back up all Files from the 32-bit Host Machine

Make sure that you have created a complete backup of your entire 11g deployment before you begin the upgrade process. These files can be used if there is an issue during the migration and you have to restart the process.

Note: If the upgrade from 32-bit to 64-bit takes place on the same machine, there is a risk of corrupting the source environment if the upgrade fails.

For more information on backing up your 11g files, see [Backing Up Your Environment](#) in *Oracle® Fusion Middleware Administrator's Guide*.

During the upgrade you must have access to the contents of the following:

- 11g Domain Home
- 11g /nodemanager directory located in *MW_HOME/wlserver_10.3/common/*

Some of the backup and recovery procedures described in [Backing Up Your Environment](#) in *Oracle® Fusion Middleware Administrator's Guide* are product-specific. Do not proceed with the upgrade until you have a complete backup.

2.1.4.4 Set up the Target 64-bit Machine with the 11g Host Name and IP Address

The host name and IP address of the target machine must be made identical to the host. This requires you to change the IP address and name of the source machine or decommission the source machine to avoid conflicts in the network.

The process of changing an IP address and host name varies by operating system. Consult your operating system's administration documentation for more information.

2.1.4.5 Restore the 11g Backup from 32-bit Host to 64-bit Host

Restore the files you backed up in Task 3 using the same directory structure that was used in 11g. The directory structure on the target machine must be identical to the structure of the host machine.

For detailed information about restoring your 11g files to the 64-bit target machine, see [Recovering Your Environment](#) in *Oracle® Fusion Middleware Administrator's Guide*.

2.1.4.6 Install the 12c Product Distribution(s) on the Target Machine

Oracle recommends an Out-of-Place approach for upgrade. Therefore, you must install the 12c product distributions in a new Oracle home on the target machine.

For detailed instructions on how to obtain 12c distributions, identify an installation user, and understand the directory structure for installation and configuration, see *Planning an Installation of Oracle Fusion Middleware*. Refer to the component-specific installation guides for the component(s) you are installing.

2.1.4.7 Upgrade the Target 64-bit Environment Using the Standard Upgrade Procedure

After installing the product on the target machine, you must upgrade each component individually using an upgrade utility specified in the component-specific upgrade guide and complete any post-upgrade tasks.

For a complete upgrade procedure, see the component-specific upgrade guide for the component(s) you are upgrading.

Note: The Node Manager upgrade procedure requires access to the original Node Manager files. Use the 11g Node Manger files that were backed up from the 32-bit source machine as part of [Back up all Files from the 32-bit Host Machine](#).

2.1.5 Purging Unused Data

Purging unused data before an upgrade can optimize the upgrade process. Automated purge scripts are available for some components and can run before an upgrade to purge unused and obsolete data.

For Oracle Data Integrator (ODI) Components

Purge the execution logs to avoid exporting and importing excessive data as part of work repository export/import in the next step. See [Purging the Logs](#)

For SOA Suite Components

If you are using purge scripts, wait until the purge is complete before starting the upgrade process. The upgrade may fail if the purge scripts are running while using the Upgrade Assistant to upgrade your schemas.

Note: If a large amount of data needs to be purged, consider partitioning tables or employing other data optimization strategies. Using scripts to remove large amounts of data may impact performance.

See [Developing a Purging and Partitioning Methodology](#) and [Developing a Database Growth Management Strategy](#)

2.1.6 Creating an Edition on the Server for Edition-Based Redefinition (Optional)

Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12c.

Edition-based redefinition enables you to upgrade an application's database objects while the application is in use, thus minimizing or eliminating down time. This is accomplished by changing (redefining) database objects in a private environment known as an edition. Only when all changes have been made and tested do you make the new version of the application available to users.

Note: This task must be completed by an Oracle Database user with DBA privileges.

Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12c. The new edition for 12c must be a child of your existing 11g or 12c edition.

To create an edition on the database server, log in as an SYS user (or another Oracle user that has DBA privileges) and enter the following command:

```
create edition Oracle_FMW_12_2_1 as child of
Oracle_FMW_11_1_1_7_0;
```

Where, `Oracle_FMW_11_1_1_7_0` is an example of the edition name you specified in RCU 11.1.1.7 when the 11.1.1.7 schemas were created. Be sure to provide the actual name used when creating the edition.

If the edition is created successfully, you get the following message:

```
Edition created.
```

During the upgrade, you are prompted to launch the Reconfiguration Wizard to reconfigure your existing domain. Before running the Reconfiguration Wizard, you must specify the database default edition. Use the following SQL to manually setup the default edition name for the database, for example:

```
ALTER DATABASE DEFAULT EDITION = Oracle_FMW_12_2_1;
```

2.1.7 Creating a Non-SYSDBA User

Oracle recommends that you create a non-SYSDBA user to run the Upgrade Assistant. The user created using this procedure has the privileges required to complete the upgrade.

SYSDBA is an administrative privilege, required to perform high-level administrative operations such as creating, starting up, shutting down, backing up, or recovering the database. The SYSDBA system privilege is for a fully empowered database administrator. When you connect with the SYSDBA privilege, you connect with a default schema and not with the schema that is generally associated with your user name. For SYSDBA, this schema is SYS. Access to a default schema can be a very powerful privilege. For example, when you connect as user SYS, you have unlimited privileges on data dictionary tables. Therefore, Oracle recommends that you create a Non-SYSDBA user to upgrade the schemas. The privileges listed in this topic must be granted before starting the Upgrade Assistant.

Note: The v\$atrans\$ table does not exist by default. You must run the XAVIEW.SQL script to create this table before creating the user. Moreover, grant on v\$atrans\$ table is required only for Oracle Identity Manager. If you do not require Oracle Identity Manager for configuration or if you do not have the v\$atrans\$ table, then remove the following line from the script:

```
grant select on v$atrans$ to FMW with grant option;
```

Note: If you are upgrading an ORASDPM schema that was created using RCU 11g (11.1.1.1.4 or earlier), and you subsequently upgraded ORASDPM to 11g (11.1.1.6 or later), the FMW user will need to grant the CREATE TABLE privilege to user <prefix>_ORASDPM before upgrading to 12c (12.2.1).

```
grant CREATE TABLE to <prefix>_ORASDPM;
```

Where <prefix> is the name given to the schema when it was created.

In the example below, welcome1 is the password. Make sure that you specify your actual password when granting privileges.

```
create user FMW identified by welcome1;
grant dba to FMW;
grant execute on DBMS_LOB to FMW with grant option;
grant execute on DBMS_OUTPUT to FMW with grant option;
grant execute on DBMS_STATS to FMW with grant option;
grant execute on sys.dbms_aqadm to FMW with grant option;
grant execute on sys.dbms_aqin to FMW with grant option;
grant execute on sys.dbms_aqjms to FMW with grant option;
grant execute on sys.dbms_aq to FMW with grant option;
grant execute on utl_file to FMW with grant option;
grant execute on dbms_lock to FMW with grant option;
grant select on sys.V_$INSTANCE to FMW with grant option;
grant select on sys.GV_$INSTANCE to FMW with grant option;
grant select on sys.V_$SESSION to FMW with grant option;
grant select on sys.GV_$SESSION to FMW with grant option;
grant select on dba_scheduler_jobs to FMW with grant option;
grant select on dba_scheduler_job_run_details to FMW with grant option;
grant select on dba_scheduler_running_jobs to FMW with grant option;
grant select on dba_aq_agents to FMW with grant option;
grant execute on sys.DBMS_SHARED_POOL to FMW with grant option;
grant select on dba_2pc_pending to FMW with grant option;
grant select on dba_pending_transactions to FMW with grant option;
grant execute on DBMS_FLASHBACK to FMW with grant option;
grant execute on dbms_crypto to FMW with grant option;
grant execute on DBMS_REPUTIL to FMW with grant option;
grant execute on dbms_job to FMW with grant option;
grant select on pending_trans$ to FMW with grant option;
grant select on dba_scheduler_job_classes to fmw with grant option;
grant select on SYS.DBA_DATA_FILES to FMW with grant option;
grant select on SYS.V_$ASM_DISKGROUP to FMW with grant option;
grant select on v$atrans$ to FMW with grant option;
grant execute on sys.dbms_system to FMW with grant option;
grant execute on DBMS_SCHEDULER to FMW with grant option;
grant select on dba_data_files to FMW with grant option;
grant execute on UTL_RAW to FMW with grant option;
grant execute on DBMS_XMLDOM to FMW with grant option;
```

```
grant execute on DBMS_APPLICATION_INFO to FMW with grant option;
grant execute on DBMS_UTILITY to FMW with grant option;
grant execute on DBMS_SESSION to FMW with grant option;
grant execute on DBMS_METADATA to FMW with grant option;
grant execute on DBMS_XMLGEN to FMW with grant option;
grant execute on DBMS_DATAPUMP to FMW with grant option;
grant execute on DBMS_MVIEW to FMW with grant option;
grant select on ALL_ENCRYPTED_COLUMNS to FMW with grant option;
grant select on dba_queue_subscribers to FMW with grant option;
grant execute on SYS.DBMS_ASSERT to FMW with grant option;
```

Note:

Oracle Database 11.2.0.3 Database Users ONLY: You must apply **Oracle Patch 13036331** before you begin the upgrade. Go to My Oracle Support to download the patch.

If you do not apply this patch, then you will have to grant additional privileges for some schemas.

2.1.8 Using Enhanced Encryption (AES 256)

The Java platform defines a set of APIs spanning major security areas, including cryptography, public key infrastructure, authentication, secure communication, and access control. These APIs allow developers to easily integrate security mechanisms into their application code. If you plan to use enhanced encryption (such as AES 256), Oracle recommends that you apply these policy files to the JDK before you upgrade.

Some of the security algorithms used in Fusion Middleware 12c require additional policy files for the JDK. For more information, see [Java Cryptography Architecture Oracle Providers Documentation](#).

If you do not apply these policy files to the JDK before you begin the upgrade, the upgrade can fail and you need to restore the entire pre-upgrade environment and start the upgrade from the beginning.

2.1.9 Maintaining Custom Domain Environment Settings

Every domain includes dynamically generated domain and server startup scripts, such as `setDomainEnv`. Oracle recommends that you do not modify these startup scripts, as any changes made to them are overwritten during subsequent domain upgrade and reconfiguration operations.

To maintain your custom domain-level environment settings, creating a separate file to store the custom domain information before you upgrade.

For example, if you want to customize server startup parameters that apply to all servers in a domain, you can create a file called `setUserOverrides.cmd` (Windows) or `setUserOverrides.sh` (UNIX) and configure it to add custom libraries to the WebLogic Server classpath, specify additional java command line options for running the servers, or specify additional environment variables, for instance. Any custom settings you add to this file are preserved during domain upgrade operation and are carried over to the remote servers when using the `pack` and `unpack` commands.

Following is an example of startup customizations in a `setUserOverrides` file:

```
# add custom libraries to the WebLogic Server system classpath
if [ "${POST_CLASSPATH}" != "" ] ; then
    POST_CLASSPATH="${POST_CLASSPATH}${CLASSPATHSEP}${HOME}/foo/fooBar.jar"
```

```

export POST_CLASSPATH
else
  POST_CLASSPATH="${HOME}/foo/fooBar.jar"
export POST_CLASSPATH
fi

# specify additional java command line options for servers
JAVA_OPTIONS="${JAVA_OPTIONS} -Dcustom.property.key=custom.value"

```

If the `setUserOverrides` file exists during a server startup, the file is included in the startup sequence and any overrides contained within this file take effect. You must store the `setUserOverrides` file in the `domain_home/bin` directory.

Note:

If you are unable to create the `setUserOverrides` script before an upgrade, you need to reapply your settings as described in [Re-apply Customizations to Startup Scripts](#).

2.1.10 Downloading and Installing the 12c Oracle Fusion Middleware Product Distributions

Oracle Fusion Middleware product distributions are available for download on Oracle Technology Network (OTN) and Oracle Software Delivery Cloud.

For more information on which site you should visit to obtain your distribution, see the [Oracle Fusion Middleware Download, Installation, and Configuration Readme Files](#) page.

After you have downloaded all the necessary software, you can proceed to install and configure your software.

To get started with your installations, refer to the [Install, Patch, and Upgrade common tasks page](#) in the Oracle Fusion Middleware 12c (12.2.1) Documentation Library on OTN.

Note: You must install the Fusion Middleware Infrastructure distribution before installing the component-specific distributions.

[Installing the Required Oracle Fusion Middleware Distributions for WebCenter](#)

2.1.10.1 Installing the Required Oracle Fusion Middleware Distributions for WebCenter

Before you can perform and upgrade to WebCenter 12c, you must install - but do not configure - the following Fusion Middleware distributions in your existing 11g domain:

Distribution	Installation Guide
Oracle Fusion Middleware Infrastructure	<i>Installing and Configuring the Oracle Fusion Middleware Infrastructure</i>

Distribution	Installation Guide
Oracle WebCenter Content (if you are upgrading Content or Enterprise Capture)	<i>Installing and Configuring Oracle WebCenter Content</i>
Oracle WebCenter Portal (if you are upgrading Portal)	<i>Installing and Configuring Oracle WebCenter Portal</i>
Oracle SOA Suite and Business Process Management	WebCenter Content Imaging Upgrades Only: You must install Oracle SOA Suite 12c before upgrading Oracle WebCenter Content Imaging. If the 12c SOA binaries are not present, the upgrade will fail. <i>Installing and Configuring Oracle SOA Suite and Business Process Management</i>

2.1.11 Creating the Required Schemas Before Upgrade

Before you upgrade, you may be required to create new schemas for your 12c deployment. To determine which additional schemas need to be created for 12c, compare the component schemas you have in your existing environment to the schemas required for your upgrade.

Refer to the component-specific upgrade guides in order to identify the schemas that are required for your components. The Upgrade Assistant identifies all of the schemas that are available for an upgrade, and includes all the schemas in the upgrade. It also allows you to select the schemas that should be upgraded. For more information about , see Identifying Schemas that Can be Upgraded with the Upgrade Assistant.

If you are upgrading from 11g, note the following:

- In 12c, there is a new schema that must be created before you can upgrade from 11g. The new **Service Table** schema (*prefix_STB*) stores basic schema configuration information that can be accessed and used by other Oracle Fusion Middleware components during the domain creation. For more information, see Understanding the Service Table Schema.

Note: If you have not created the Service Table schema, you might encounter the error message UPGAST-00328 : The schema version registry table does not exist on this database. If that happens is it necessary to create the service table schema in order to run Upgrade Assistant.

- An OPSS schema is also required for 12c if your 11g environment is not already using an OPSS schema.
- The audit schema includes two additional schemas which also need to be created before running 12c. When upgrading audit services (*_IAU*), make sure that you select *_IAU_APPEND* and *_IAU_VIEWER* in addition to *_IAU*.

[Creating Schemas for WebCenter 12c](#)

[Determining Which Schemas Can be Upgraded for WebCenter](#)

2.1.11.1 Creating Schemas for WebCenter 12c

You must create the following schemas in 12c before you can upgrade Oracle WebCenter:

- **Service Table (_STB)**

Oracle Fusion Middleware 12c introduces a new required schema called Service Table (_STB). This schema is automatically created when you run the Repository Creation Utility (RCU) and must be created before you can upgrade your existing 11g deployment. For more information, see Understanding the Service Table Schema.

- **Oracle Platform Security Services (_OPSS)**

WebCenter does not use the _OPSS schema directly, but requires that the OPSS schema be upgraded as part of the upgrade process. If you do not have an Oracle Platform Security Services (_OPSS) schema in your 11g environment, you must create one for 12c.

- **Audit Schemas (OPSS_AUDIT_VIEWER)**

If you used an XML-based OPSS_AUDIT schema in 11g, then you will need to create a new 12c OPSS_AUDIT_VIEWER schema or the domain reconfiguration will fail.

To create the new schemas, you will use the Oracle Repository Creation Utility (RCU).

1. Set the `JAVA_HOME` variable and add `JAVA_HOME/bin` to `$PATH`, if you have not done so already.

2. Navigate to the `12cORACLE_HOME/oracle_common/bin` directory on your system.

3. Start RCU:

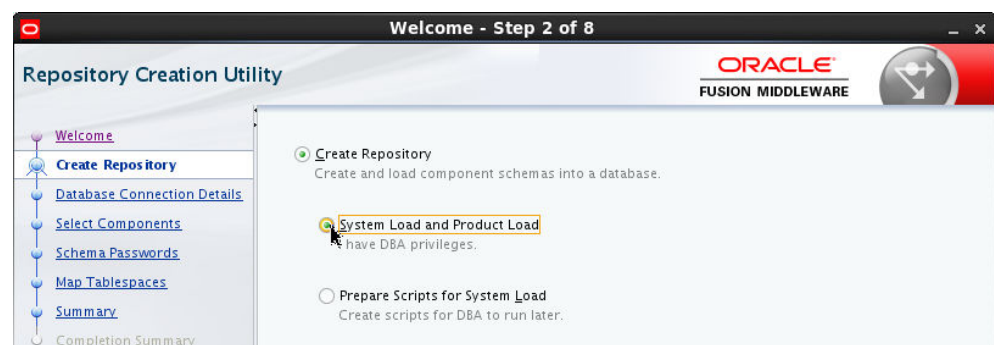
On UNIX operating systems:

```
./rcu
```

On Windows operating systems:

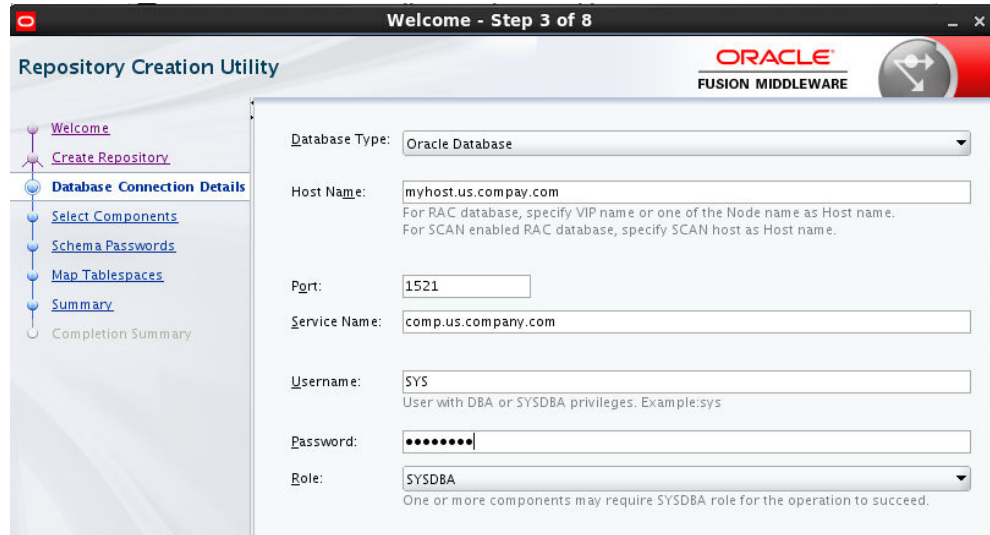
```
rcu.bat
```

4. Create the Service Table schema (and any other required schemas) by navigating the RCU screens. Select **Create Repository** and then select the appropriate load option.

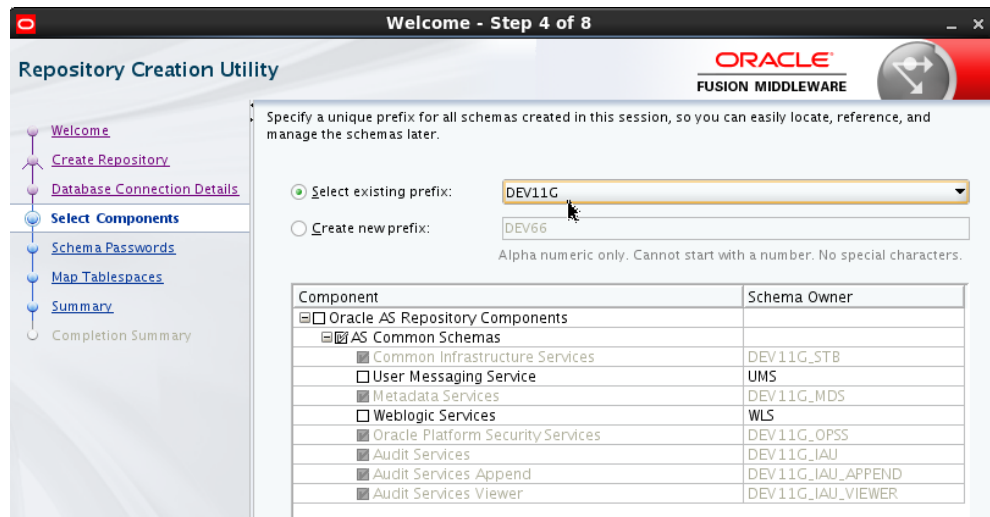


NOTE: If you do not have DBA privileges, select Prepare Scripts for System Load.

5. Provide the connection details for the database that hosts the 11g schemas.



6. Choose **Select Existing Prefix** to select the prefix that was used to create the 11g schemas. Use the drop-down menu to select the 11g prefix.



By default, the Common Infrastructure Services schema, DEV11G_STB will be greyed out, but it will be created and saved with the other DEV11G schemas already in the repository.

7. Complete the remaining Repository Creation Utility screens to create the new schema(s). If you need assistance with the screens, click **Help**.

2.1.11.2 Determining Which Schemas Can be Upgraded for WebCenter

This table describes the WebCenter schemas that can be upgraded to 12c. Your environment may or may not use all of these schemas.

Table 2-2 WebCenter Schemas that can be upgraded

Table 2-2 (Cont.) WebCenter Schemas that can be upgraded

Component Name	Schema(s)	Schema Version Before Upgrade	Schema Version After Upgrade	Dependencies
Oracle Enterprise Capture	<i>prefix_CAPTURE</i>	11.1.1.8.0 11.1.1.9.0	12.2.1	Metadata Services (<i>_MDS_</i>) Capture is an ADF application and therefore requires the MDS schema be upgraded before the WebCenter servers are started. Oracle Platform Security Services (<i>_OPSS</i>) Capture does not use the OPSS schema directly, but requires that the OPSS schema be upgraded as part of the upgrade process.
Oracle Portal	<i>prefix_PORTAL</i>	11.1.1.6.0	12.2.1	None.
WebCenter Portal (previously WebCenter Spaces)	<i>prefix_WEBCENTER</i>	11.1.1.6.0 11.1.1.7.0	12.2.1	The <i>prefix_MDS</i> schema must be upgraded first.
Discussions (WebCenter Suite)	<i>prefix_DISCUSSIONS</i>	11.1.1.7.0	12.2.1	None.
Discussions Crawler	<i>prefix_DISCUSSIONS_CRAWLER</i>	11.1.1.8.0	12.2.1	The <i>prefix_DISCUSSIONS</i> schema must be upgraded first. Note: You need to specify the password for the <i>DISCUSSION_CRAWLER</i> schema manually. However, the password for other schemas is automatically populated.
Activity Graph and Analytics	<i>prefix_ACTIVITIES</i>	11.1.1.7.0	12.2.1	None.

Table 2-2 (Cont.) WebCenter Schemas that can be upgraded

Component Name	Schema(s)	Schema Version Before Upgrade	Schema Version After Upgrade	Dependencies
Portlets	<i>prefix_PORTLET</i>	11.1.1.2.0	12.2.1	None.
Oracle Content Server 11g - Complete	<i>prefix_OCS</i>	11.1.1.6.0 11.1.1.7.0 11.1.1.8.0 11.1.1.9.0	12.2.1	None.

2.1.12 Creating the 12c OPSS Schema for an OID-based Security Store

The only supported LDAP-based OPSS security store is **Oracle Internet Directory** (OID). An LDAP-based policy store is typically used in production environments. If you are using an OID-based security store in 11g, you must create the new 12c schemas using the Repository Creation Utility (RCU).

You do not need to reassociate an OID-based security store before upgrade. While the Upgrade Assistant is running, select the OPSS schema. The Upgrade Assistant upgrades the OID-based security store automatically.

Note:

The 12c OPSS database schema is required so that you can reference the 12c schema during the reconfiguration of the domain. Your domain continues to use the OID-based security store after the upgrade is complete.

2.1.13 Reassociating File-based Policy Stores to Database-based Policy Stores

Oracle Fusion Middleware 12c uses database-based policy stores. A database-based policy store is recommended for a production environment. If you are using a file-based or OID-based policy store, you must reassociate the store to a database-based store prior to upgrade.

To reassociate file-based policy stores to database-based policy store, you must create an OPSS schema in the database and also create a data source in the WebLogic server.

If you are already using database-based policy store, then you do not have to perform these tasks.

[Creating 11g OPSS and IAU Schemas](#)

To use a database repository for the Oracle Platform Security Services (OPSS) security store, you must create the required schema and seed some initial data using the Oracle Fusion Middleware Repository Creation Utility (RCU). This setup is also required before reassociating the OPSS security store to a DB-based security store.

[Reassociating the 11g Policy Store with the Database-Based Policy Store and OPSS Schema](#)

The OPSS security store is the repository of system and application-specific policies, credentials, keys, and audit services. OPSS delegates the identity store service to the identity providers that are configured in the

WebLogic server. Out-of-the-box, the OPSS security store is file-based. You must reassociate it to a database-based security store.

Validating that the Policy Store Reassociation is Successful

Reassociation modifies the domain configuration file: `DOMAIN_HOME/config/fmwconfig/jps-config.xml`. It deletes any configuration for the old store provider, inserts a configuration for the new store provider, and moves the policy and credential information from the source to the destination store.

2.1.13.1 Creating 11g OPSS and IAU Schemas

To use a database repository for the Oracle Platform Security Services (OPSS) security store, you must create the required schema and seed some initial data using the Oracle Fusion Middleware Repository Creation Utility (RCU). This setup is also required before reassociating the OPSS security store to a DB-based security store.

Create new 11g Oracle Platform Security Services (OPSS) and Audit Schemas (IAU) schemas in a supported Database using the 11g Repository Creation Utility.

For more information about creating 11g schemas, see [Obtaining and Running Repository Creation Utility](#) in the 11g version of the *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

2.1.13.2 Reassociating the 11g Policy Store with the Database-Based Policy Store and OPSS Schema

The OPSS security store is the repository of system and application-specific policies, credentials, keys, and audit services. OPSS delegates the identity store service to the identity providers that are configured in the WebLogic server. Out-of-the-box, the OPSS security store is file-based. You must reassociate it to a database-based security store.

For complete information about reassociating the 11g OPSS schema with database-based repository, see [Reassociating the OPSS Security Store](#).

2.1.13.3 Validating that the Policy Store Reassociation is Successful

Reassociation modifies the domain configuration file: `DOMAIN_HOME/config/fmwconfig/jps-config.xml`. It deletes any configuration for the old store provider, inserts a configuration for the new store provider, and moves the policy and credential information from the source to the destination store.

Validating the Policy Store Reassociation using the Enterprise Manager Fusion Middleware Control

To verify that the policy store reassociation is successful:


1. Log in to Enterprise Manager Fusion Middleware Control.
2. Navigate to **Domain > Security > Security Provider Configuration**.
3. Click **Audit Service > Configure**.
4. Verify that the Provider Type is set to **Oracle Database**. If the Provider Type displays **File**, the reassociation is unsuccessful.

Security Provider Configuration

Use this page to configure WebLogic Domain policy and credential store providers, keystore and login modules used by Web Services Manager.

Security Stores

Current policy and credential store providers are shown below. To change the current policy and credential providers use the Change Association button.

Change Association 		
Name	Provider Type	Location
Policy Store Credential Store Keystore	Oracle Database	./system-jazn-data.xml

Validating the Policy Store Reassociation by Viewing the jps-config.xml File

Alternatively, you can check the jps-config.xml file. The credstore.db, polycystore.db, and the keystore.db service instances refer to the database via the props.db.1 property.

After the reassociation, the jps-config.xml file must display:

```
<jpsContext name="default"
<serviceInstanceRef ref="credstore.db"/>
<serviceInstanceRef ref="keystore.db"/>
<serviceInstanceRef ref="polycystore.db"/>
<serviceInstanceRef ref="audit"/>
<serviceInstanceRef ref="idstore.ldap"/>
<serviceInstanceRef ref="trust"/>
<serviceInstanceRef ref="pdp.service"/>
</jpsContext>

<serviceInstance provider="polycystore.provider" name="polycystore.db"
  <property value="DB_ORACLE" name="polycystore.type"/>
  <propertySetRef ref="props.db.1"/>
</serviceInstance>

<propertySet name="props.db.1">
  <property value="cn=soa_domain" name="oracle.security.jps.farm.name"/>
  <property value="cn=jpsroot" name="oracle.security.jps.ldap.root.name"/>
  <property value="jdbc/opss" name="datasource.jndi.name"/>
</propertySet>
```

2.1.14 Upgrading Security Stores to the Latest Version

Upgrading to the latest version of the OPSS security store enables you to use enhanced security features. The OPSS security store is a part of Oracle Fusion Middleware product installation so you can use the Upgrade Assistant to upgrade the OPSS schema.

Before upgrading the OPSS security store, it is important to create a back up so that it can be recovered in case the upgrade fails. For details about backing up the security store, see [Backing Up and Recovering the OPSS Security Store](#).

To check the version of the OPSS schema present on your system, run the following query on the database:

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

where, *schema_name* is the name of the OPSS schema. For example, DEV_OPSS.

To upgrade an OPSS schema using the Upgrade Assistant:

1. Start Upgrade Assistant by entering the following command:

```
cd oracle_common/upgrade/bin
./ua
```

2. On the left pane, select **Schemas** and click **Next**.
3. On the Schemas page, choose **Schemas** and click **Next**.
4. On the Available Components page, check **Oracle Platform Security Services** and click **Next**.
5. On the **Prerequisites** page, verify that all the listed prerequisites are met. Then check all boxes, and click **Next**.
6. Enter the correct IAU and OPSS schema details carefully.
7. On the left pane, click **Upgrade Summary**. The Upgrade Summary page displays the schemas to be upgraded.
8. Click **Upgrade**. The Upgrade Progress page displays the upgrading progress and the final status.

After the upgrade is complete, click **Finish** to dismiss the installer.

If you have already created a domain, then you can follow the procedure available in the topic: Upgrading Schemas with Upgrade Assistant.

2.1.15 Running a Pre-Upgrade Readiness Check

The Upgrade Assistant can be run in the **-readiness** mode to perform a read-only, pre-upgrade check on your domain. If issues are detected, you can correct them before starting the actual upgrade.

Note: You can run the readiness check while the system is online. Depending on the comprehensiveness of the checks, the readiness checks can take more time to complete.

To perform a readiness check on your pre-upgrade environment, launch the Upgrade Assistant in **-readiness** mode:

1. On a UNIX system, change directory to `ORACLE_HOME/oracle_common/upgrade/bin`. on Unix operating systems or `ORACLE_HOME\oracle_common\upgrade\bin` on Windows operating systems.
2. Enter the following command to start the Upgrade Assistant.

On UNIX operating systems:

```
./ua -readiness
```

On Windows operating systems:

```
ua.bat -readiness
```

Provide the required information in each of the Upgrade Assistant screens. The screens you see will vary depending on the upgrade options you select.

Table 2-3 Upgrade Assistant Screens: Readiness Check

Screen	When Screen Appears	Description
Welcome	Always.	This screen provides an overview of the readiness check.
Readiness Check Type: <ul style="list-style-type: none"> Individually Selected Schemas Domain Based 	Always.	<p>Readiness checks are only performed on schemas or component configurations that are at a supported upgrade starting point. There are two options to choose from. These options are described below:</p> <ul style="list-style-type: none"> Use the Individually Selected Schemas option to be able to select the schemas you want to review prior to upgrade. Use the Domain Based option to let the Upgrade Assistant perform a readiness check per domain.
Available Components	When Individually Selected Schemas option is selected.	This screen lists the available components for which the schemas will be selected. If you select something here, readiness check will be performed on that component's schema.
All Schemas Component List	Any time a schema readiness check is done.	This screen is shown any time a schema readiness check is done. This could be when you select Individually Selected Schemas or Domain Based with the Include checks for all schemas option.
Schema Credentials	Always.	Use this screen to enter information required to connect to the selected schema and the database that hosts the schema. If the schema that is to be upgraded was created by RCU in a prior Fusion Middleware release then you will see a drop-down menu listing the possible schema names.
Readiness Summary	Always.	<p>This screen provides a high-level overview of the readiness checks to be performed based on your selections.</p> <p>Click Save Response File if you plan to run the Upgrade Assistant again in —response (or silent) mode.</p>

Table 2-3 (Cont.) Upgrade Assistant Screens: Readiness Check

Screen	When Screen Appears	Description
Readiness Check	Always.	<p>This screen displays the current status of the readiness check. Depending on what you have selected to check, the process can take several minutes.</p> <p>For a detailed report, click View Readiness Report. This button appears only after all the readiness checks are complete.</p>
		<hr/> Caution : To prevent performance degradation, consider running the readiness check during off-peak hours. <hr/>
Readiness Success	If the readiness check completes successfully.	<p>You can now review the complete report.</p> <p>If the readiness check encounters an issue or error, review the log file to identify the issues, correct the issues, and then restart the readiness check.</p>

2.1.16 Locating the Component-Specific Upgrade Documentation

The component specific upgrade documentation provides specific upgrade procedures and information for every individual component. If you are upgrading more than one product suite, consult the upgrade guides for all of the components you are upgrading.

The following table helps you determine which upgrade-specific tasks you will need to complete for your 12c upgrade:

Table 2-4 Component-Specific Upgrade Documentation

Product Area	If you are upgrading...	Use this upgrade document...
Oracle WebLogic Server - Standalone	An Oracle WebLogic Server that is not being managed by or registered to an existing Fusion Middleware 11g domain.	<i>Upgrading Oracle WebLogic Server</i>

Table 2-4 (Cont.) Component-Specific Upgrade Documentation

Product Area	If you are upgrading...	Use this upgrade document...
Custom Oracle Application Developer Framework Applications with Oracle WebLogic Server (referred to as Infrastructure in 12c)	A managed 11g WebLogic Server domain that has been deployed with a set of custom Oracle Application Developer Framework applications.	<i>Upgrading to the Oracle Fusion Middleware Infrastructure</i>
Oracle HTTP Server - Managed or Standalone	An Oracle HTTP Server that is configured to work with a WebLogic domain for management functions is a managed server. An Oracle HTTP Server that is not managed by or registered to an Oracle WebLogic domain is a standalone server.	<i>Upgrading Oracle HTTP Server</i>
Oracle SOA Suite and BPM	SOA Suite components including: Business Process Management (BPM), Oracle Service Bus (OSB), Enterprise Security Services (ESS), Managed File Transfer (MFT), Business Activity Monitoring (BAM), and workflow instance data.	<i>Upgrading Oracle SOA Suite and Business Process Management</i>
User Messaging Service	User Messaging Service.	<i>Administering Oracle User Messaging Service</i>
Oracle Data Integrator	Data Integrator.	<i>Upgrading Oracle Data Integrator</i>
Oracle WebCenter	WebCenter suite components including Content, Portal and Sites.	<i>Upgrading Oracle WebCenter</i>
Oracle Business Intelligence	Oracle Business Intelligence including BI Enterprise Edition, BI Publisher, and Essbase.	<i>Upgrading Oracle Business Intelligence</i>
Oracle Forms	Oracle Forms.	<i>Upgrading Oracle Forms</i>

2.2 Performing the Oracle WebCenter Pre-Upgrade Tasks

This section includes pre-upgrade tasks that apply to Oracle WebCenter products being upgraded to 12c (12.2.1). Perform only those tasks that apply to your environment.

The pre-upgrade tasks for Oracle WebCenter include the following:

Pre-Upgrade Task	More Information
Disable all deprecated or obsolete components before upgrade.	Disabling Obsolete Components Before Upgrade

Pre-Upgrade Task	More Information
<p>Install Oracle Fusion Middleware 12c distributions into a new Oracle Home:</p> <ul style="list-style-type: none">• Infrastructure (WebLogic Server and JRF)• WebCenter Portal, Capture and Content• Other Fusion Middleware distributions• Oracle SOA Suite 12c and Business Process Management (BPM) <p>WebCenter Content Imaging Users Only: Make sure that you have installed Oracle SOA Suite 12c in the 11g WebCenter Content Imaging domain before starting the upgrade.</p>	Installing the Required Oracle Fusion Middleware Distributions for WebCenter
<p>Create the required WebCenter schemas for 12c</p>	Creating Schemas for WebCenter 12c Determining Which Schemas Can be Upgraded for WebCenter
<p>Complete the pre-upgrade tasks for Oracle WebCenter Content (if you will be upgrading Content or WebCenter Content Web UI.)</p>	Performing Pre-Upgrade Tasks for WebCenter Content
<p>Complete the pre-upgrade tasks for Oracle WebCenter Enterprise Capture (if you will be upgrading Enterprise Capture).</p>	Performing Pre-Upgrade Tasks for Oracle WebCenter Enterprise Capture
<p>Complete the pre-upgrade tasks for Oracle WebCenter Portal (if you will be upgrading WebCenter Portal)</p>	Performing Pre-Upgrade Tasks for Oracle WebCenter Portal

Upgrading an Oracle WebCenter Domain to 12c (12.2.1)

This section describes the general upgrade procedures for Oracle WebCenter 11g to Oracle WebCenter 12c. Additional component-specific tasks may be required.

The procedures outlined in the following sections describe the high-level process of upgrading a basic WebCenter 11g domain to 12c. Most upgrades follow these general procedures, but the actual upgrade procedures you will perform depend on which components are being upgraded. There may be additional pre- or post- upgrade procedures associated with your components. Therefore, you will need to locate the upgrade procedures for each component in your pre-upgrade environment to complete the domain upgrade.

For example, if your Oracle WebCenter 11g domain includes Oracle WebCenter Content and WebCenter Portal, you would need to follow the procedures described in [Upgrading Oracle WebCenter Content to 12c](#) and [Upgrading Oracle WebCenter Portal 11g Installations](#).

Table 3-1 Standard Upgrade Procedures

Step	Task
1	Performing a Readiness Check with the Upgrade Assistant As part of your pre-upgrade testing, you ran a readiness check on your pre-upgrade environment. If any changes were made to the pre-upgrade environment, Oracle recommends that you run the pre-upgrade readiness check again.
2	Upgrading Schemas with the Upgrade Assistant
3	Reconfiguring the WebCenter Domain with the Reconfiguration Wizard
4	Upgrading the Component Configuration with the Upgrade Assistant
5	Performing Post-Upgrade Configuration Tasks

[Performing a Readiness Check with the Upgrade Assistant](#)

[Upgrading Schemas with the Upgrade Assistant](#)

[Reconfiguring the WebCenter Domain with the Reconfiguration Wizard](#)

[Upgrading the Component Configuration with the Upgrade Assistant](#)

Performing Post-Upgrade Configuration Tasks

3.1 Performing a Readiness Check with the Upgrade Assistant

The Upgrade Assistant Readiness Check performs a **read-only**, pre-upgrade review of your existing Oracle Fusion Middleware schemas and Oracle WebLogic component configurations.

Caution:

Do not start the readiness check until you have completed the required pre-upgrade tasks. Specifically, make sure that you have disabled all obsolete components or the readiness check will fail.

1. Change directory to `ORACLE_HOME/oracle_common/upgrade/bin` on Unix operating systems or `ORACLE_HOME\oracle_common\upgrade\bin` on Windows operating systems.
2. Enter the following command to start the Upgrade Assistant.

On UNIX operating systems:

```
./ua -readiness
```


On Windows operating systems:

```
ua.bat -readiness
```


Provide the required information in each of the Upgrade Assistant screens. The screens you see will vary depending on the upgrade options you select. Use the online help for more information.
3. Review the Readiness Report to determine if there are any issues with your pre-upgrade environment. If so, correct the issues and re-run the Upgrade Assistant in `-readiness` mode.

3.2 Upgrading Schemas with the Upgrade Assistant

The Upgrade Assistant allows you to upgrade individually selected schemas or all schemas associated with a domain. The option you select determines which Upgrade Assistant screens you will use.

To determine which schemas can be upgraded to this version, see [Determining Which Schemas Can be Upgraded for WebCenter](#).

For more information about using the Upgrade Assistant to upgrade schemas, see "Upgrading Schemas with the Upgrade Assistant".

To launch the Upgrade Assistant:

1. Change directory to `ORACLE_HOME/oracle_common/upgrade/bin` on Unix operating systems or `ORACLE_HOME\oracle_common\upgrade\bin` on Windows operating systems.
2. Enter the following command to start the Upgrade Assistant.

On UNIX operating systems:

```
./ua
```


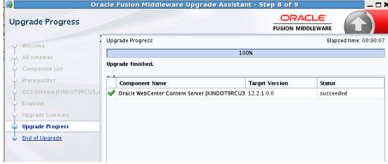
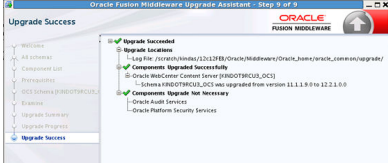
On Windows operating systems:

ua.bat

Provide the required information in each of the Upgrade Assistant screens.

Note: The screens you see will vary depending on the upgrade options you select. The screens in the table below should be used as reference only.

Screen	Description	Sample Screen												
Upgrade Options	<p>You have three options on this screen. When upgrading schemas (not configurations), you can select Individually Selected Schemas or All Schemas Used by a Domain.</p> <p>Select Individually Selected Schemas only when the domain uses schemas that cannot be upgraded to this version of Fusion Middleware or schemas that you do not want to upgrade at this time.</p>													
Component List	<p>UA automatically detects the products installed in the domain directory.</p> <p>The Component List varies depending on what you currently have deployed in your domain.</p>													
Prerequisites	<p>You must read and select each option before you continue. Note that Upgrade Assistant does not validate that they prerequisites have been met.</p>													
Schema Credentials	<p>Provide the connection details for the schema. Be sure to use the correct schema prefix for the schemas you are upgrading. The default prefix is DEV_.</p>													
Examine	<p>The Examine phase scans the component versions to determine if an upgrade is needed.</p>	<table border="1"> <thead> <tr> <th>Component Name</th> <th>Source Version</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Oracle Audit Services</td> <td>unavailable</td> <td>upgrade not necessary</td> </tr> <tr> <td>Oracle Platform Security Services</td> <td>unavailable</td> <td>upgrade not necessary</td> </tr> <tr> <td>Oracle WebCenter Content Server (WDOCUCS_OCS)</td> <td>11.1.9.0</td> <td>required</td> </tr> </tbody> </table>	Component Name	Source Version	Status	Oracle Audit Services	unavailable	upgrade not necessary	Oracle Platform Security Services	unavailable	upgrade not necessary	Oracle WebCenter Content Server (WDOCUCS_OCS)	11.1.9.0	required
Component Name	Source Version	Status												
Oracle Audit Services	unavailable	upgrade not necessary												
Oracle Platform Security Services	unavailable	upgrade not necessary												
Oracle WebCenter Content Server (WDOCUCS_OCS)	11.1.9.0	required												

Screen	Description	Sample Screen
Upgrade Summary	Review the summary and then click Upgrade to begin the actual upgrade process.	
Upgrade Progress	Monitor the upgrade progress from this screen.	
End of Upgrade	This screen returns the upgrade status: Success or Failure. Review the log report if the upgrade fails for any reason.	

3.3 Reconfiguring the WebCenter Domain with the Reconfiguration Wizard

Note:

Do not start the domain reconfiguration process until you have created all of the required schemas. See [Creating Schemas for WebCenter 12c](#)

Start the Reconfiguration Wizard in graphical mode by doing the following:

1. Log in to the system on which the domain resides.

Open the command shell (on UNIX operating systems) or open a command prompt window (on Windows operating systems).

Edition Based Database Users Only: If your schemas are configured with EBR database, a default edition name must be manually supplied before you run the Reconfiguration Wizard.

Run the following SQL command to set the default edition:

```
ALTER DATABASE DEFAULT EDITION = edition_name;
```

where `edition_name` is the name of the child edition name.

2. Navigate to the following directory:

(UNIX) `ORACLE_HOME/oracle_common/common/bin`

(Windows) `ORACLE_HOME\oracle_common\common\bin`

where ORACLE_HOME is your Oracle home directory.

```
(UNIX) ./reconfig.sh -log=<log_file> -log_priority=ALL
(Windows) reconfig.cmd -log=<log_file> -log_priority=ALL
```

Replace log_file with the absolute path of the log file you'd like to create for the domain reconfiguration session. This can be helpful if you need to troubleshoot the reconfiguration process.

The parameter -log_priority=ALL ensures that logs are logged in fine mode.

When you run the reconfig.cmd or reconfig.sh command, the following error message might be displayed to indicate that the default cache directory is not valid:

```
*sys-package-mgr*: can't create package cache dir
```


You can change the cache directory by setting the environment variable CONFIG_JVM_ARGS. For example:

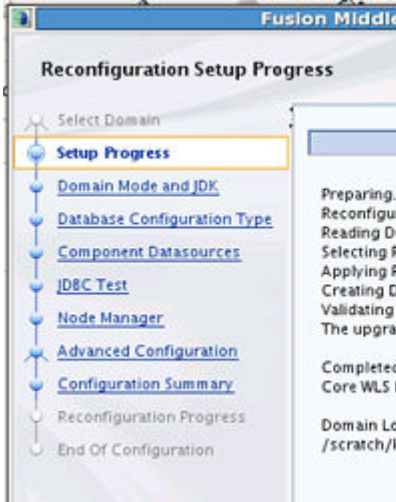
```
CONFIG_JVM_ARGS=-Dpython.cachedir= valid_directory
```

3. Complete the Reconfiguration Screens as described in the table below.

The Reconfiguration Wizard displays a sequence of screens listed in Reconfiguration Wizard Screens. Perform the respective action(s) for each of the screens. Note that you may not see every screen listed below. In addition, you may need to complete additional screens based on your environment setup. For more information, see "Reconfiguring WebLogic Domains" in *Upgrading Oracle WebLogic Server*.

Reconfiguration Screens:

Screen	Description	Screen
Select Domain	Provide the location of the 11g domain to be reconfigured.	

Screen	Description	Screen
Reconfiguration Setup Progress	During the reconfiguration setup process, the WebLogic Server core infrastructure is reconfigured for 12c, templates are applied, and views are created and validated.	

Domain Mode and JDK

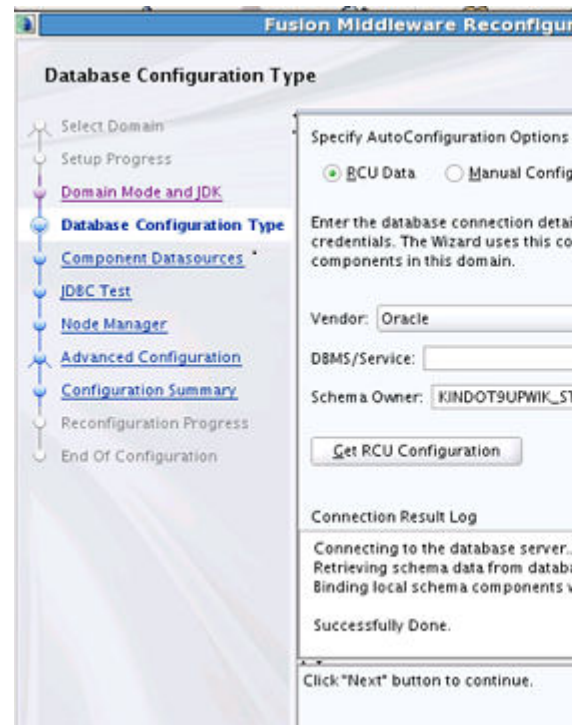
The JDK and other information can be provided on this screen (if not auto-populated with the JDK you want to use).



Screen	Description	Screen
--------	-------------	--------

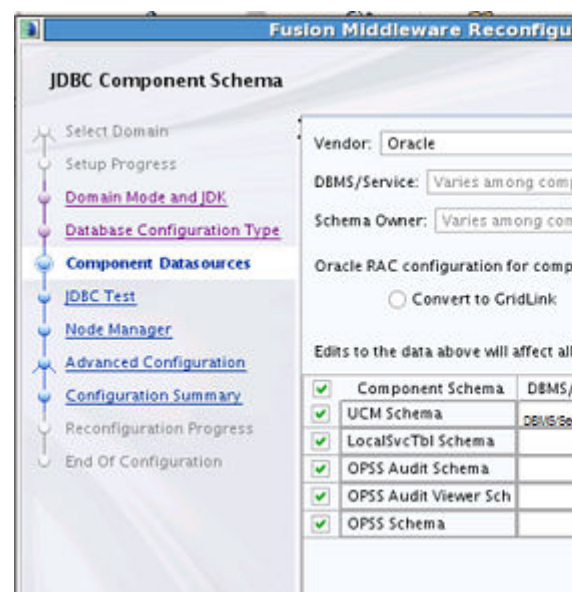
Database Configuration Type

Use this screen to provide the 11g database details for the *prefix_MDS* schema, 12c database details to load the new *prefix_STB* schema, and to ensure *prefix_OCS* and *prefix_MDS* schemas are pointing to the 11g environment.



JDBC Component Schema

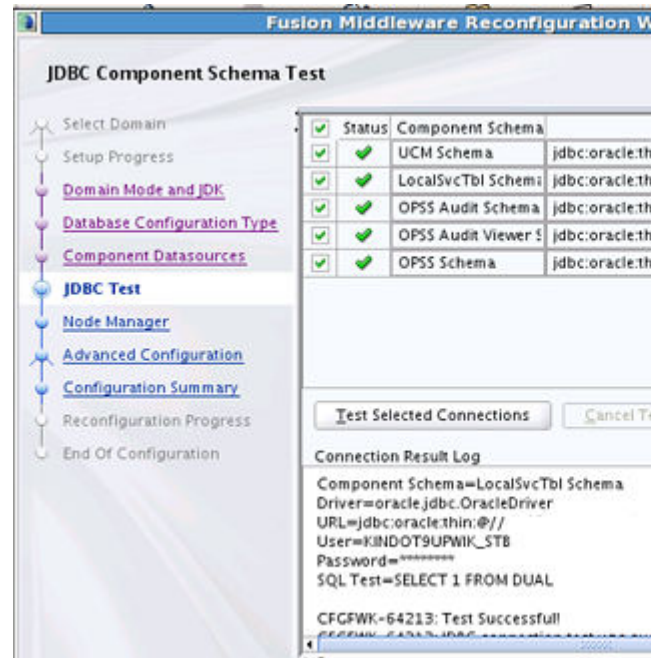
Once you provide the correct STB schema credentials and 11g schema owners, the information should auto-populate. Individual schema passwords must be updated in the auto-populated screen.



Screen	Description	Screen
--------	-------------	--------

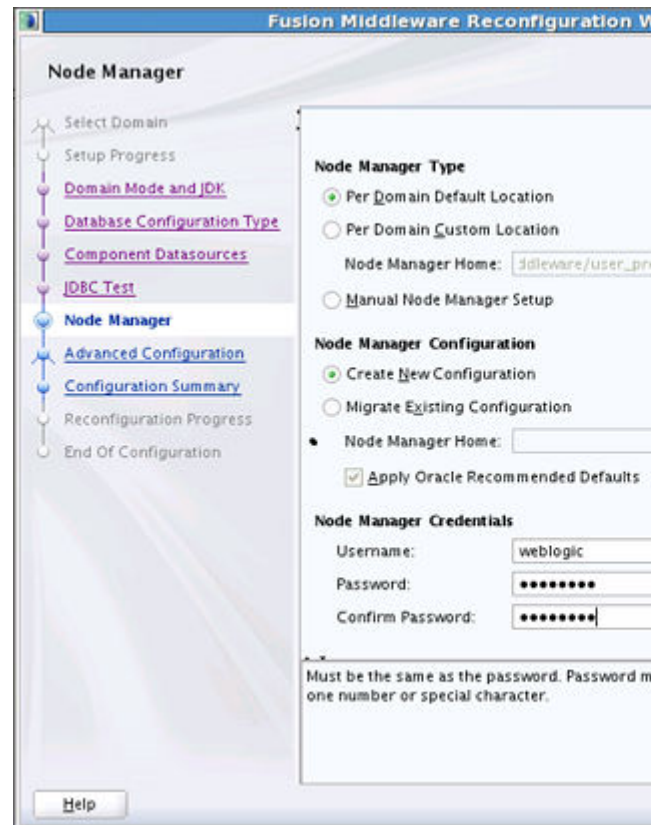
JDBC Component Schema Test


The Reconfiguration Wizard uses the information you provide to conduct a test connection.



Node Manager

Even though there was no node manager configuration in 11g, it must be configured for 12c. Provide the required details as shown below:



Screen	Description	Screen
Reconfiguration Progress	Monitor the progress and status of the domain reconfiguration.	

3.4 Upgrading the Component Configuration with the Upgrade Assistant

The Upgrade Assistant is used to update the location of the WebCenter component binaries in the 11g domain to point to the new 12c binaries. This ensures that when the Administration and managed servers start they will use the upgraded binaries.

If you already upgraded schemas, you will run the Upgrade Assistant again to upgrade the component configurations. Navigate to the 12c Upgrade Assistant.

On UNIX operating systems:

```
./ua
```

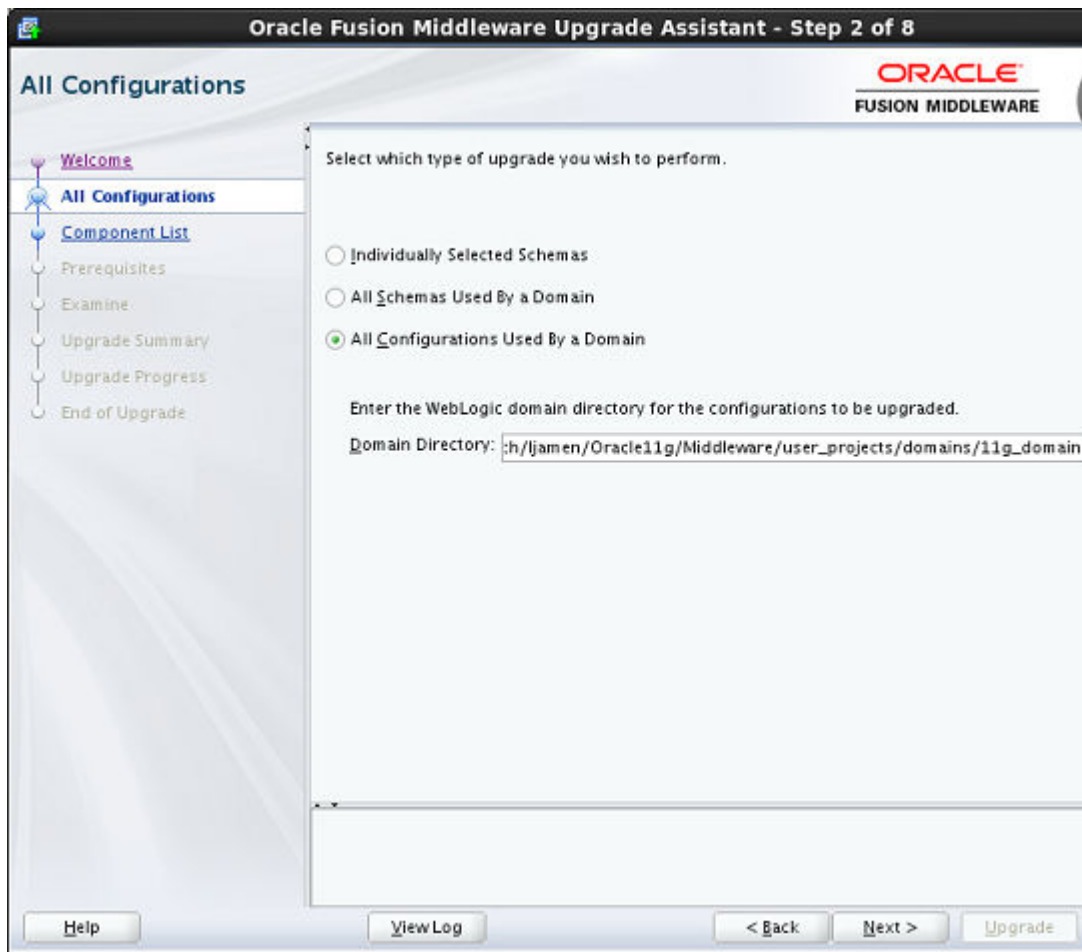
On Windows operating systems:

```
ua.bat
```

Provide the required information in each of the Upgrade Assistant screens. The screens you see will vary depending on the upgrade options you select.



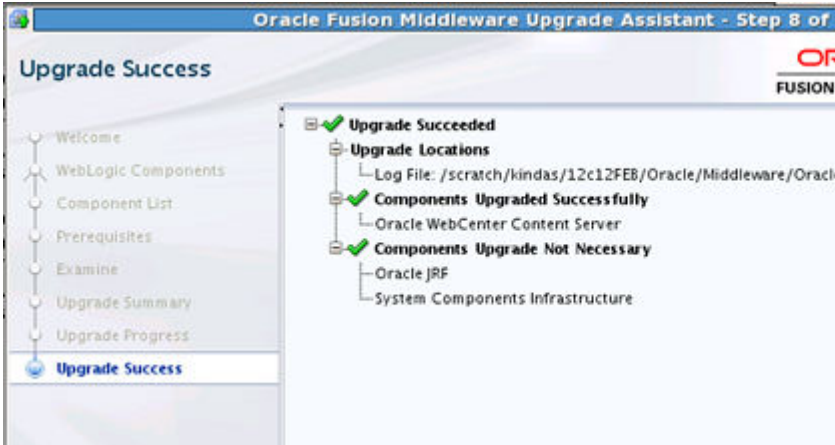
Screen	Description	Sample Screen
--------	-------------	---------------

All Configurations
 Use this screen to provide the location of the 11g domain so that the Upgrade Assistant can update the location of WebCenter binaries in the 11g domain. This enables the Administration server to pick up the 12c binaries when it is started. Provide the location of the 11g domain.



Component List
 The Upgrade Assistant scans the domain and identifies the components that will be upgraded.



Screen	Description	Sample Screen								
Examine	Reviews the components in the domain and determines if an upgrade is necessary.	 <table border="1"> <thead> <tr> <th>Component Name</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Oracle JRF</td> <td>upgrade not</td> </tr> <tr> <td>System Components Infrastructure</td> <td>upgrade not</td> </tr> <tr> <td>Oracle WebCenter Content Server</td> <td>succeeded</td> </tr> </tbody> </table>	Component Name	Status	Oracle JRF	upgrade not	System Components Infrastructure	upgrade not	Oracle WebCenter Content Server	succeeded
Component Name	Status									
Oracle JRF	upgrade not									
System Components Infrastructure	upgrade not									
Oracle WebCenter Content Server	succeeded									
Upgrade Summary	Review the information and click Upgrade.	 <pre> Domain ├── Directory: /scratch/kindas/DOT916FEB/Oracle/Middleware/user_projects/domains/ba └── Oracle WebCenter Content Server </pre>								
Upgrade Success	The 11g domain configurations are now upgraded for 12c.	 <pre> Upgrade Succeeded ├── Upgrade Locations │ └── Log File: /scratch/kindas/12c12FEB/Oracle/Middleware/Oracle_home/oracle_com ├── Components Upgraded Successfully │ └── Oracle WebCenter Content Server ├── Components Upgrade Not Necessary │ └── Oracle JRF │ └── System Components Infrastructure </pre>								

3.5 Performing Post-Upgrade Configuration Tasks

You may have to perform additional configuration tasks after an upgrade depending on which components are in your deployment.

Note:

You may have additional post-upgrade tasks if your deployment contains the following:

[Performing Post Upgrade Tasks for WebCenter Content](#)

[Performing Post-Upgrade Tasks for Oracle WebCenter Portal](#)

[Starting and Stopping Administration Server](#)

[Starting and Stopping the Node Manager](#)

[Starting and Stopping the Managed Servers](#)

[Verifying the New Applications Work as Expected](#)

3.5.1 Starting and Stopping Administration Server

You can start and stop the Oracle WebLogic Server Administration Server using the WLST command line or a script. When you start or stop the Administration Server, you also start or stop the processes running in the Administration Server, including the WebLogic Server Administration Console and Fusion Middleware Control.

For example, to start an Administration Server, use the following script:

```
DOMAIN_HOME/bin/startWebLogic.sh
```

To stop an Administration Server, use the following script:

```
DOMAIN_HOME/bin/stopWebLogic.sh  
username password [admin_url]
```

3.5.2 Starting and Stopping the Node Manager

You can start Node Manager using the WLST command line or a script.

To start Node Manager, use the following script:

```
(UNIX) DOMAIN_HOME/bin/startNodeManager.sh  
(Windows) DOMAIN_HOME\bin\startNodeManager.cmd
```

To stop Node Manager, close the command shell in which it is running.

3.5.3 Starting and Stopping the Managed Servers

To start or stop a WebLogic Server Managed Server using Fusion Middleware Control:

1. From the navigation pane, expand the domain.
2. Select the Managed Server.
3. From the WebLogic Server menu, choose **Control**, then **Start Up** or **Shut Down**.

Alternatively, you can right-click the server, then choose **Control**, then **Start Up** or **Shut Down**.

You can use a script or WLST to start and stop a WebLogic Server Managed Server.

For example, to start a WebLogic Server Managed Server, use the following script:


```
(UNIX) DOMAIN_HOME/bin/startManagedWebLogic.sh
      managed_server_name admin_url
(Windows) DOMAIN_HOME\bin\startManagedWebLogic.cmd
      managed_server_name admin_url
```

When prompted, enter your user name and password.

To stop a WebLogic Server Managed Server, use the following script:

```
(UNIX) DOMAIN_HOME/bin/stopManagedWebLogic.sh
      managed_server_name admin_url username password
(Windows) DOMAIN_HOME\bin\stopManagedWebLogic.cmd
      managed_server_name admin_url username password
```

3.5.4 Verifying the New Applications Work as Expected

Once all of the servers have been successfully started and stopped, open your component applications and make sure that everything is working as expected. Use your component-specific Administration and Developers guides to help you navigate the new features of your upgraded environment.

Upgrading Oracle WebCenter Content to 12c

The following sections describe the process of upgrading Oracle WebCenter Content from a supported 11g environment to an Oracle WebCenter Content 12c (12.2.1) environment.

[Understanding an Upgrade to Oracle WebCenter Content 12c](#)

[Performing Pre-Upgrade Tasks for WebCenter Content](#)

[Performing Pre-Upgrade Tasks for Oracle WebCenter Enterprise Capture](#)

[Performing an Upgrade of Oracle WebCenter Content Imaging](#)

[Performing an Upgrade of Oracle WebCenter Content](#)

[Performing Post Upgrade Tasks for WebCenter Content](#)

4.1 Understanding an Upgrade to Oracle WebCenter Content 12c

An upgrade of Oracle WebCenter Content domain to 12c can include WebCenter Content, WebCenter Enterprise Capture, WebCenter Content Imaging, and WebCenter Content Web UI. You may be required to perform additional pre- or post-upgrade tasks depending on the components you are upgrading.

What's New in WebCenter Content 12c

WebCenter Content 12c now supports a single WebLogic Server domain for all WebCenter Content and Capture components. It does not, however, support a direct upgrade of the domain hosting the Oracle WebCenter Content - Web UI from Release 11g to 12c. You will need to decommission the existing 11g Web UI domain and then extend the target upgraded WebCenter Content 12c domain with the Web UI component.

4.2 Performing Pre-Upgrade Tasks for WebCenter Content

The following tasks must be completed before you can upgrade your existing Oracle WebCenter Content and Content server environment:

Note:

You must complete all of the required Oracle WebCenter pre-upgrade tasks before performing the WebCenter Content-specific tasks. See [Performing the Oracle WebCenter Pre-Upgrade Tasks](#)

[Disabling Obsolete Components Before Upgrade](#)

[Changing Application Name for 11g \(11.1.1.6\) Instances](#)

[Upgrading the Metadata Schema \(_MDS\) Before Upgrading WebCenter Content Web UI 11g Domain](#)

If you are upgrading an Oracle WebCenter Content Web UI 11g domain to 12c, then you must upgrade the _MDS schema before starting the domain upgrade.

[Installing the Latest Inbound Refinery \(IBR\) Before an Upgrade](#)

4.2.1 Disabling Obsolete Components Before Upgrade

The following components should be disabled before the upgrade because they are obsolete or disabled as of Release 12c (12.2.1).

Failure to disable these components may cause the upgrade to fail and content servers will not be able to start.

- CIS_Helper,
- ContentTrackerReports
- SiteStudioExternalApplications
- AppAdapterUniversa
- FormEditor (which uses the now deprecated FCKEditor)
- proxyconnections8
- UrmAgent
- SiteStudioExternalApplications

For more information, see "Enabling or Disabling a Component Using the Component Manager" in *Administering Oracle WebCenter Content*.

4.2.2 Changing Application Name for 11g (11.1.1.6) Instances

If you are upgrading an 11g instance, and you have not yet applied the patch for changing the Content Server application name, or have not yet configured the server with the new application name, then you should not upgrade the domain. If you do, the Oracle Universal Content Management - Content Server schema will not be discovered.

To ensure a successful upgrade and to configure the server correctly complete the following tasks before you begin the upgrade:

1. Install the patch which contains the fix for the application name change to: Oracle Universal Content Management - Content Server.
2. Verify the patch install by redeploying the Content Server application in the existing domain. If there is no existing Content Server application in the domain, then the new Content Server application will be created with the new application name. This will ensure that the Content Server schema gets discovered.

4.2.3 Upgrading the Metadata Schema (_MDS) Before Upgrading WebCenter Content Web UI 11g Domain

If you are upgrading an Oracle WebCenter Content Web UI 11g domain to 12c, then you must upgrade the _MDS schema before starting the domain upgrade.

Note:

This step is required **ONLY** if you are upgrading a WebCenter Content **Web UI domain** Release 11g to Release 12c.

If you are only upgrading a WebCenter Content server domain, see [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#).

The 12c (12.2.1) Web UI is not compatible with WebCenter Content 11g. You must use an Oracle WebCenter Content 12c (12.2.1) and Application Developer Framework (ADF) 12c (12.2.1) container with Web UI 12c (12.2.1).

The MDS schema upgrade must be completed before upgrading WebCenter Content Web UI 11g because during the upgrade, the Upgrade Assistant will attempt to upgrade all schemas that are referenced from the domain. Because the MDS schema (which is not used by WebCenter Content proper) is only referenced in the 11g (decommissioned) domain, the upgrade process will not see it (nor upgrade it). By upgrading the MDS schema before starting the WebCenter Content domain upgrade, the Upgrade Assistant will upgrade that content as well.

Note:

Once the _MDS schema is upgraded, proceed to the standard 12c upgrade process: [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#). After the upgrade you may have to update the WccAdf.ear file as described in [Updating the WccAdf.ear File \(Optional\)](#) and extend the domain to include the Web UI as described in [Configuring the Oracle WebCenter Content Server Domain to Include WebCenter Content - Web UI](#)

Change directory to `ORACLE_HOME/oracle_common/upgrade/bin` on Unix operating systems or `ORACLE_HOME\oracle_common\upgrade\bin` on Windows operating systems.

Enter the following command to start the Upgrade Assistant.

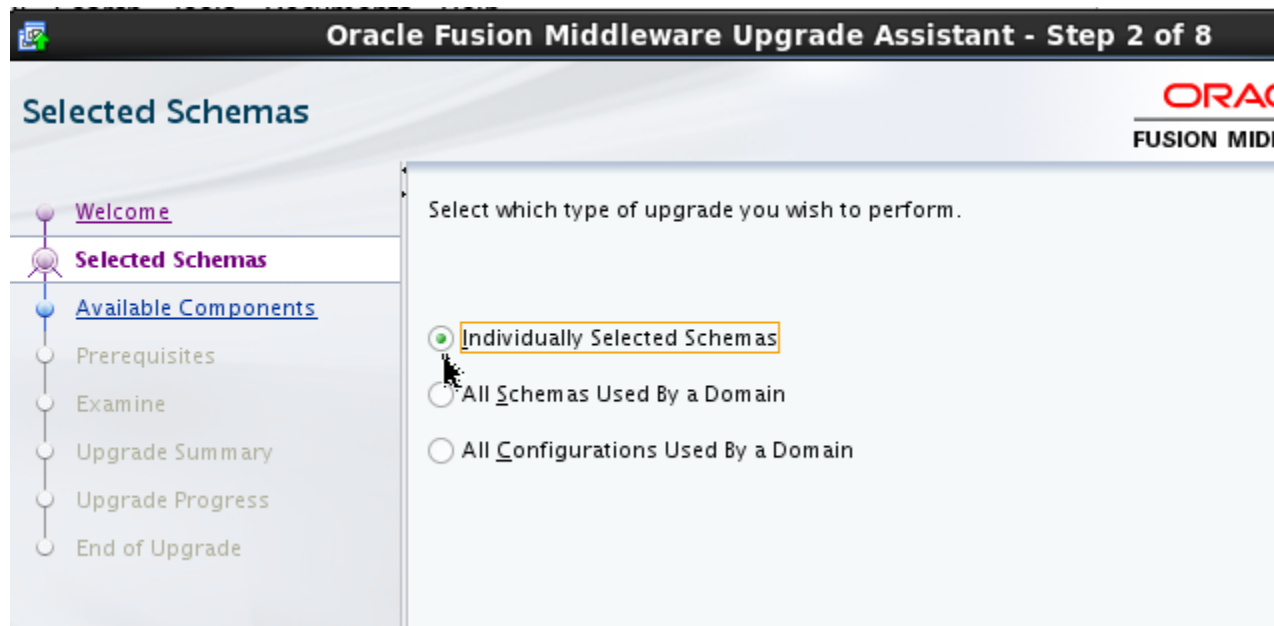
On UNIX operating systems:

```
./ua
```

On Windows operating systems:

```
ua.bat
```

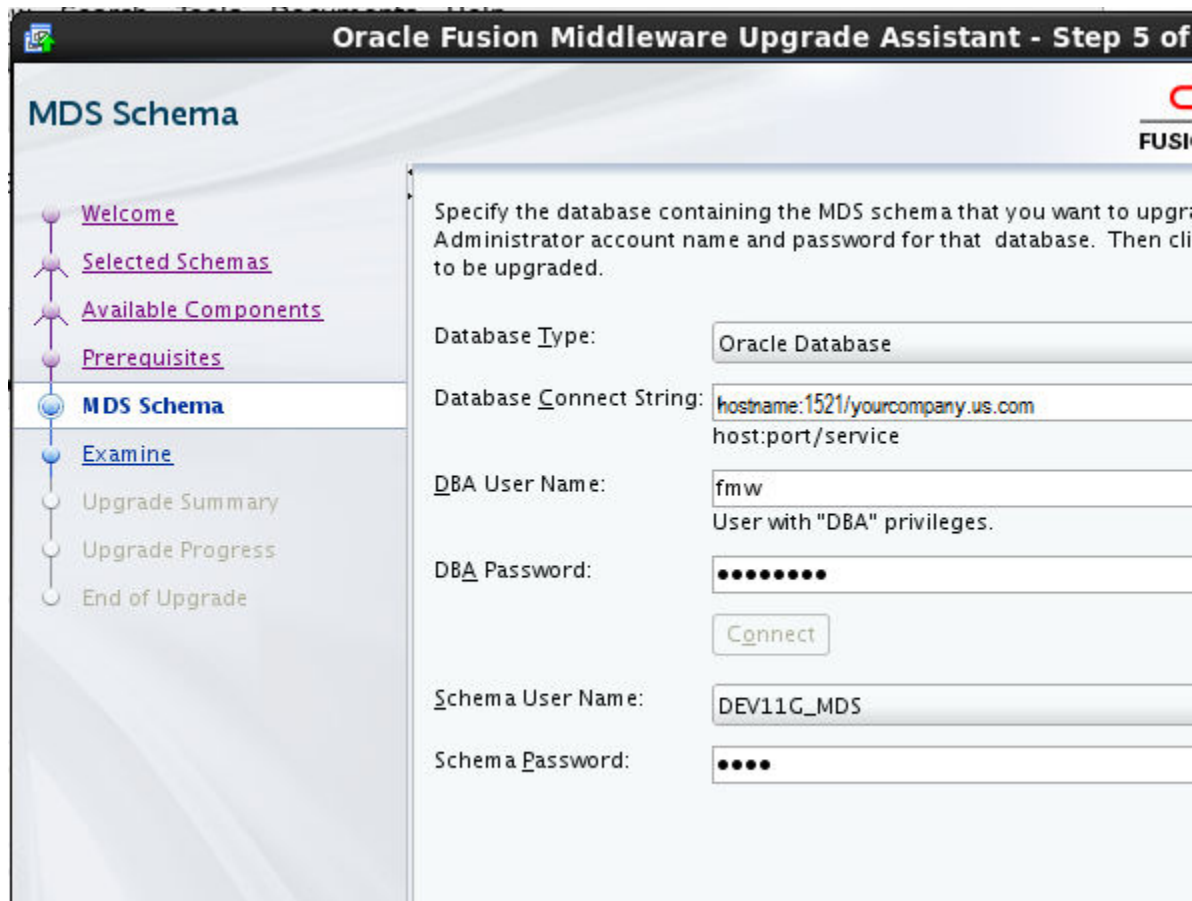
To upgrade the MDS schema, start the Upgrade Assistant and select **Individually Selected Schemas**.



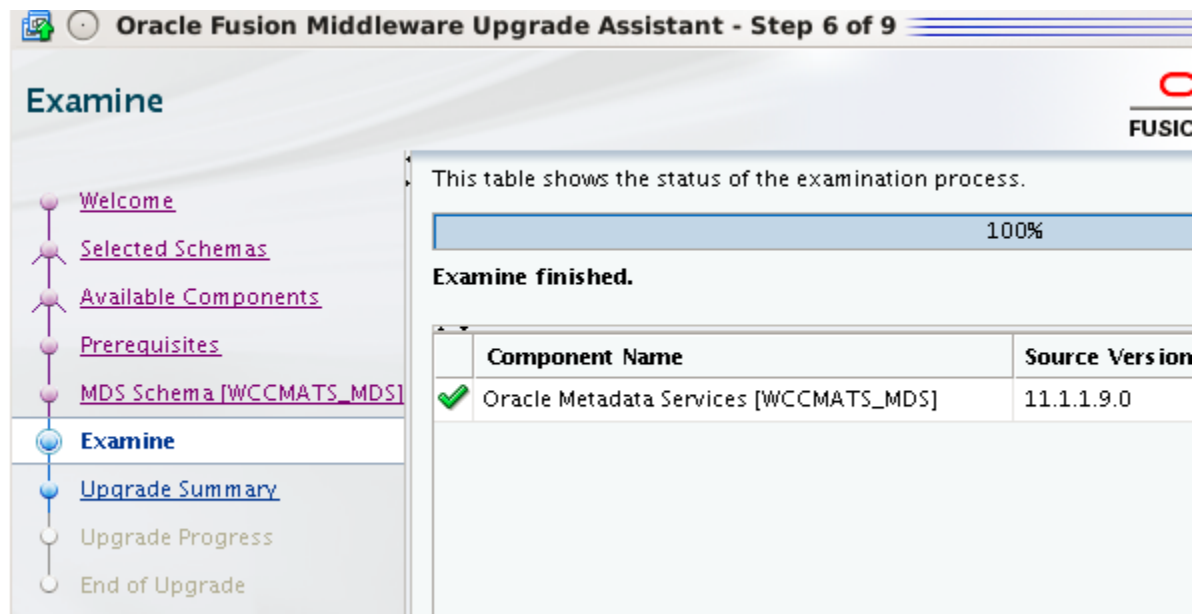
Choose Oracle Metadata Services from the component list.



Provide the database credentials and the 11g schema owner name and password.



During the Examine phase, make sure that the correct source version is being upgraded:



If the correct source version is displayed, continue with the upgrade.

4.2.4 Installing the Latest Inbound Refinery (IBR) Before an Upgrade

Currently, it is not possible to upgrade older versions of the Inbound Refinery (IBR) to this release. Instead, install and configure the latest 12c version of Inbound Refinery and adjust the Content Server provider to use the newly installed application after the 12c upgrade of Oracle WebCenter Content.

4.3 Performing Pre-Upgrade Tasks for Oracle WebCenter Enterprise Capture

Before upgrading Oracle WebCenter Enterprise Capture, review the following and complete all applicable tasks.

Once you have completed the Oracle WebCenter Enterprise Capture pre-upgrade tasks, go to section [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#).

- Upgrade only standard (non Fusion Application) environments already running Oracle WebCenter Enterprise Capture 11.1.1.8.0 or 11.1.1.9.0.
- Upgrade all Oracle WebCenter Enterprise Capture systems within a clustered environment simultaneously. You can upgrade independent Oracle WebCenter Enterprise Capture systems separately.
- Identify a time to perform the updates that will not interfere with operations. The services will be unavailable while the update is being performed.
- Stop the Oracle WebCenter Enterprise Capture server before upgrading.
- [Verify the Batch Processing has Completed and Capture JMS Queues are Empty](#)
[Verify the Batch Processing has Completed and Capture JMS Queues are Empty](#)

4.3.1 Verify the Batch Processing has Completed and Capture JMS Queues are Empty

Verify all batch processing completes and ensure that the Capture JMS queues are empty.

1. Open the Administration Console for this domain.

`http://<AdminServerName>:7001/console`

Where:

`<AdminServerName>` = is the name or IP address of the administration server associated with the Capture domain

7001 = the communication port associated with the administration server

2. In the "Domain Structure" navigation panel on the left, expand "Services".
3. Expand the "Messaging" node.
4. Select the "JMS Servers" item in the tree list.
5. Select the "capture-jms-server" item in the "JMS Servers" list in the main panel.
6. Select the "Monitoring" tab.

7. Select the "Monitoring" sub-tab.
8. Verify that the "Messages Current" and "Messages Pending" values in the table are both "0".

If either of these values is greater than zero, indicating pending jobs, wait until all jobs have been processed and these counters show "0" before proceeding.

4.4 Performing an Upgrade of Oracle WebCenter Content Imaging

Note:

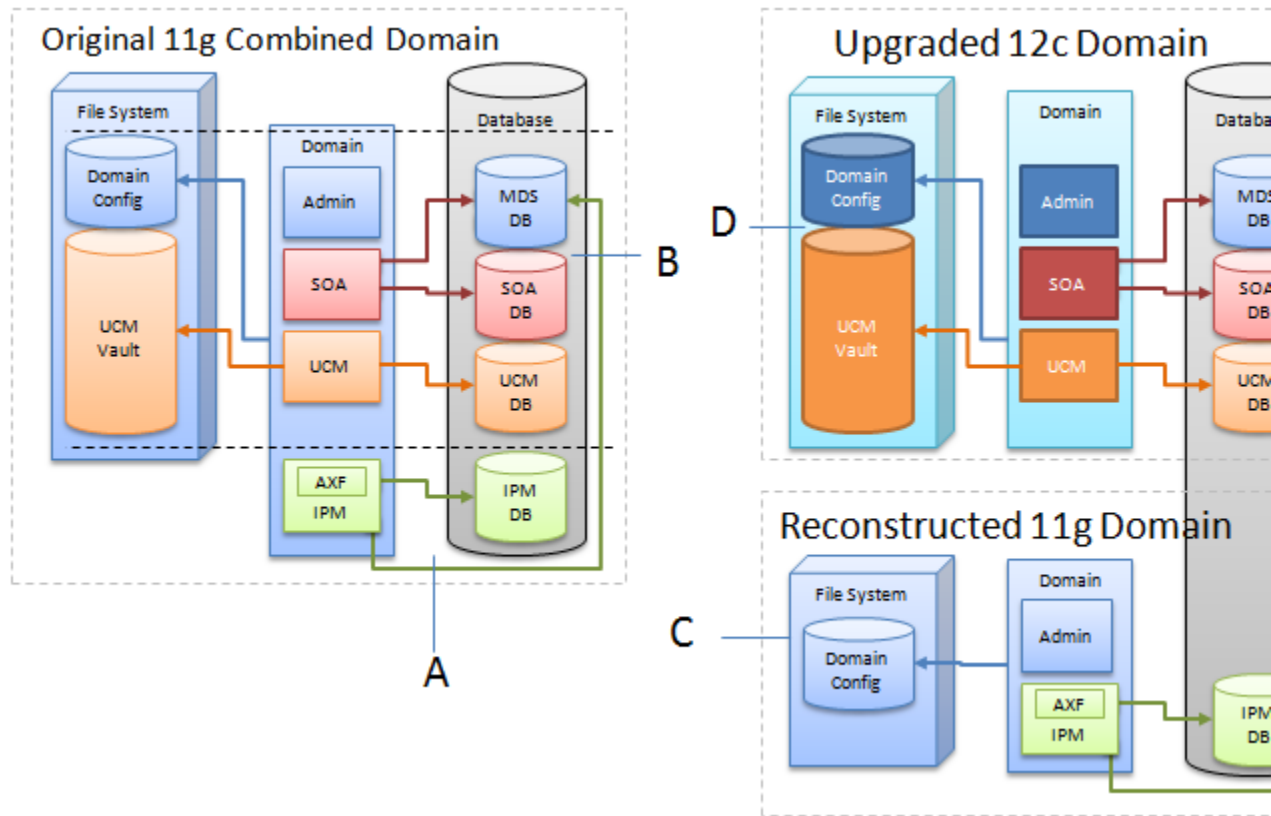
Oracle recommends that Oracle WebCenter Content Imaging 11g users should not upgrade to this release of Imaging. The full functionality of Imaging will not be available until a future release.

The WebCenter Content Imaging feature set is being merged from an independent component into the primary WebCenter Content server. This is part of an effort to simplify and consolidate the WebCenter product footprint. Users have the option to continue to run the 11g Imaging component independently while upgrading their other WebCenter and SOA components to 12c.

Note:

An in depth explanation of these changes is provided in the My Oracle Support document *WebCenter Imaging & Enterprise Capture 12c Upgrade Guidance To Customers* (Doc ID 2064485.1).

Users who want to transition to 12c now, while maintaining their 11g Imaging environment, will upgrade their core 12c domain and reconstruct a new 11g domain to host the Imaging components. That process is outlined below.



1. Create a complete backup copy of your existing 11g environment.
2. Create a new, reconstructed 11g Imaging (IPM) instance in a new Oracle Home. Install only Imaging (IPM) into this new home (C).

For more information, see your 11g WebCenter Content Imaging installation documentation.

This new instance is created from the original 11g product distribution and should be patched equivalently to the existing instance (A). The Opatch inventory command can provide a list of existing patches applied to the system.

Operation of this new, reconstructed domain (C) can be confirmed by connecting it to the existing Imaging and Process Management (IPM) database (C) and the 11g Universal Content Manager (UCM) and 11g SOA managed servers (A).

3. Upgrade in-place the original IPM, UCM, and SOA 11g domain (B) to create the new upgraded 12c domain (D). See [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#).

Imaging Process Management is deprecated in 12.2.1, so IPM configurations will be removed as part of the 12c domain upgrade and reconfiguration process (D). You may need to manually remove IPM/Viewer JMS servers and the original IPM server.

See [Performing Post Upgrade Tasks for WebCenter Content](#)

4. The existing IPM database will not be affected by the upgrade, so the connection will still be in place (D). Connect the reconstructed 11g Imaging domain (C) to the new 12c managed servers (E).

4.5 Performing an Upgrade of Oracle WebCenter Content

Once all of the pre-upgrade configuration tasks are complete, you can upgrade the WebCenter Content domain using the standard Fusion Middleware procedures described in [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#).

4.6 Performing Post Upgrade Tasks for WebCenter Content

Complete these tasks after you have upgraded Oracle WebCenter Content.

Note:

These post-upgrade tasks should be done in addition to the general WebCenter post-upgrade tasks in [Performing Post-Upgrade Configuration Tasks](#).

[Updating the WccAdf.ear File \(Optional\)](#)

[Removing IPM/Viewer JMS Servers for Oracle WebCenter Content: Imaging](#)

[Removing the IPM Server for Oracle WebCenter Content: Imaging](#)

[Configuring the Oracle WebCenter Content Server Domain to Include WebCenter Content - Web UI](#)

[Reconfiguring the Content Server Connection Settings](#)

[Migrating Custom Skins for WebCenter Content Web UI](#)

[Upgrading Oracle Application Adapters for Oracle WebCenter Content](#)

[Configuring the Report Library for Records Management in Content Server](#)

[Using Fusion Middleware Control to Monitor IBR](#)

[Starting Oracle WebCenter Content Server with SOA or BAM](#)

4.6.1 Updating the WccAdf.ear File (Optional)

After the domain has been upgraded, you can manually modify the wccadf.ear file with the correct MDS partition details (those provided during the 11g installation.)

To update the wccadf.ear file, navigate to the following 11g directory and launch WLST in OFFLINE mode:

```
cd /<11g_MW_HOME>/oracle_common/common/bin/wlst.sh
wls:/offline> archive = getMDSArchiveConfig ('/ <12.2.1
wccadf.ear location>')
wls:/offline> archive.setAppMetadataRepository(repository='mds-
<mds_repo_name>', partition='<11g_partition_name>', type='DB',
jndi='jdbc/mds/<mds_repo_name>')
wls:/offline> archive.save()
```

For example:

```
archive = getMDSArchiveConfig('/12.2.1_Oracle_Home/wccontent/wccadf/WccAdf.ear')
archive.setAppMetadataRepository(repository='mds-WCCUIMDSREPO',
partition='11.1.1.9.0_MDS_PARTITION', type='DB', jndi='jdbc/mds/WCCUIMDSREPO')
archive.save()
```

4.6.2 Removing IPM/Viewer JMS Servers for Oracle WebCenter Content: Imaging

After the domain reconfiguration is complete, you may still have old servers displayed in your console. These JMS servers must be manually deleted after an upgrade.

To remove the IPM/Viewer JMS Servers:

1. Log in to the console of the newly upgraded Administration Server:
`http://host:port/console`
2. From the console's navigation panel, click **Messaging** and select **JMS Servers**.
3. Select all JMS servers starting with `IpmJmsServer` and `ViewerJmsServer` and click **Delete**.

4.6.3 Removing the IPM Server for Oracle WebCenter Content: Imaging

After the domain reconfiguration is complete, you may still have old IPM servers displayed in your console. These servers must be manually deleted after an upgrade.

To remove the IPM Server:

1. Log in to the console of the newly upgraded Administration Server:
`http://host:port/console`
2. From the console's navigation panel, click **Environment** and select **Servers**.
3. Select the IPM server(s) (`IPM_server1`) and click **Delete**.

4.6.4 Configuring the Oracle WebCenter Content Server Domain to Include WebCenter Content - Web UI

Extending the upgraded WebCenter Content Server domain to include the WebCenter Content Web UI components follows the standard WebLogic Server configuration procedures.

See "Extending WebLogic Domains" for detailed information about extending the domain with the Fusion Middleware Configuration Wizard.

To launch the Configuration Wizard:

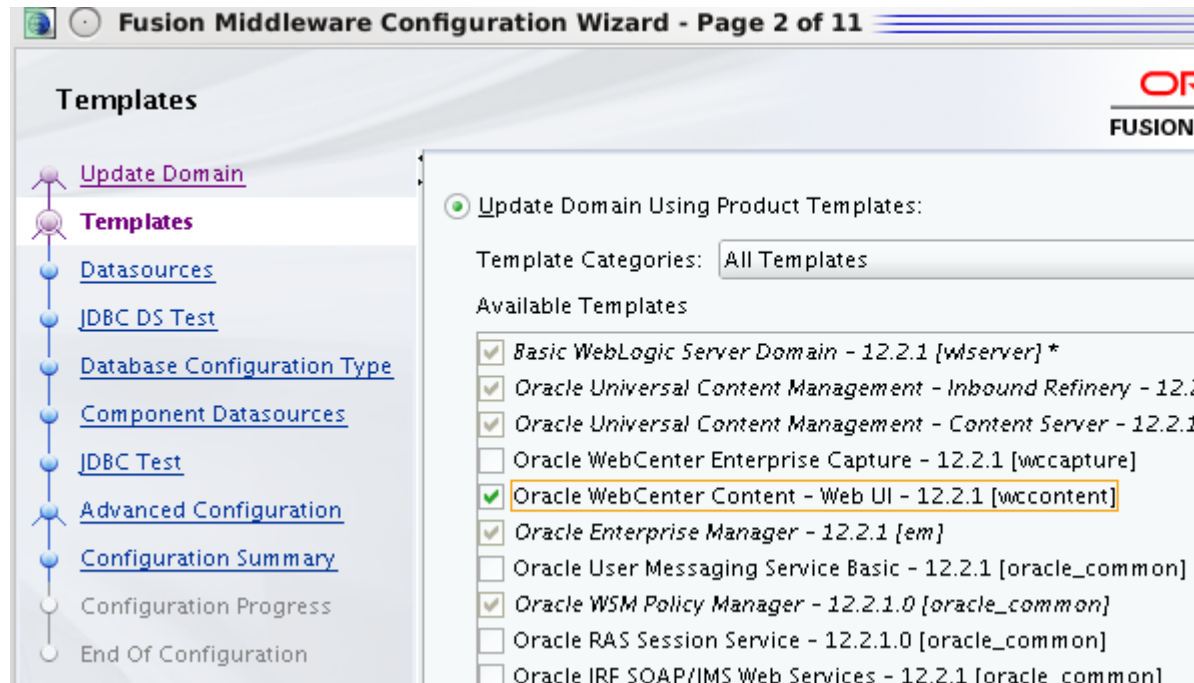
On UNIX Operating Systems:

```
cd /12c_Oracle_Home/oracle_common/common/bin
./config.sh
```

On Windows Operating Systems:

```
cd \12c_Oracle_Home\oracle_common\common\bin
```

When prompted, select the **WebCenter Content - Web UI - 12.2.1** template as shown below:



4.6.5 Reconfiguring the Content Server Connection Settings

During the upgrade, the pre-upgrade connection settings for the Content Server URL are reset to the default server location and protocol: `idc://localhost:4444`.

If you modified the URL to point to a different Content Server port, or changed the protocol from `idc`, then you must make those changes in the upgraded environment. This step is only required if you want to continue to use the modified settings in your upgraded environment.

To change the default Content Server connection settings you can use Oracle Enterprise Manager or WLST. The following example shows how to use WLST.

1. Start WLST.

```
cd <12.2.1_Oracle_Home> /oracle_common/common/bin/wlst.sh
```

2. Locate the `connections.xml` file and modify the `WccAdfServerConnection` parameter. Note that the 11g connection parameter `Serv` has been renamed to `WccAdfServerConnection` in 12c.
3. Save and test your connections.

4.6.6 Migrating Custom Skins for WebCenter Content Web UI

If you applied a custom skin to the WebCenter Content - Web UI in 11g, then you will need to migrate to the new 12c deployment, the custom skins JAR file after the upgrade.

1. Uninstall the Oracle WebCenter Content -Web UI application from the 12.2.1 deployment. Use the Oracle Universal Installer (OUI) in `-deinstall` mode.
2. Delete the 12.2.1 `oracle.wcc.adf.skin.custom` library.

3. Deploy the 11g custom skin JAR file, oracle.wcc.adf.skin.custom (11.1, 11.1.1.8.1), to the 12.2.1 environment.
4. Reinstall the Oracle WebCenter Content - Web UI 12c application to pick up the new custom skin JAR file contents.

4.6.7 Upgrading Oracle Application Adapters for Oracle WebCenter Content

The Oracle WebCenter Content application adapters as described in *Administering the Application Adapters for Oracle WebCenter* contain manual steps for installing the adapters to their respective ERP system (EBS and PeopleSoft). In order to upgrade to from any previous release, these adapters must be reinstalled.

To reinstall the EBS adapter:

1. Follow the instructions in Compiling Oracle E-Business Suite Forms in *Administering the Application Adapters for Oracle WebCenter* to upgrade the AXF_CUSTOM.PLL module.
2. If you are configured for SSL, follow the instructions in Configuring the Integration for SSL in *Administering the Application Adapters for Oracle WebCenter*.

To reimport the PeopleSoft project, follow the instructions (steps 1-6) in Importing the Oracle PeopleSoft Project in *Administering the Application Adapters for Oracle WebCenter*.

4.6.8 Configuring the Report Library for Records Management in Content Server

If you plan to configure the Records Management feature in Content Server, you need configure the report library for Records Management after creating the domain that includes the WebCenter Content Managed Server, before starting it for the first time. Without this library, you cannot check in any templates to Content Server.

For more information on configuring the report library for Records Management, see "Configuring the Report Library for Records Management in Content Server" in the *Installing and Configuring Oracle WebCenter Content*.

4.6.9 Using Fusion Middleware Control to Monitor IBR

If Inbound Refinery (IBR) is used, then the domain must be expanded to use the Oracle Enterprise Manager Plug-in for IBR template with Enterprise Manager Fusion Middleware Control to monitor IBR.

Note: Inbound Refinery (IBR) 11g cannot be upgraded to 12c. You must install a new IBR to be used with your 12c environment.

The steps below describe how to expand the domain to include the Oracle Enterprise Manager Plug-in for IBR template.

1. Navigate to ECM_Home/common/bin/
2. Execute `config.sh`
`./config.sh`
3. Select **Extend an existing Weblogic domain**
4. Select the domain to be extended.

5. In the next screen, select **Oracle Enterprise Manager Plugin for IBR**
6. Click **Extend** to extend the domain with the IBR template.

4.6.10 Starting Oracle WebCenter Content Server with SOA or BAM

When WebCenter Content is integrated with Oracle SOA or Oracle Business Activity Monitoring (BAM), you must start SOA and BAM before starting Oracle WebCenter Content or Oracle Inbound Refinery (IBR).

For more information on launching WebCenter Content server from Fusion Middleware Control, see "Getting Started with Oracle WebCenter Content" in *Oracle Fusion Middleware Administering Oracle WebCenter Content*.

If you attempt to start the WebCenter Content server or IBR before starting Oracle SOA or BAM servers, then you may see the following error:

```
oracle.wsm.policymanager.PolicyManagerException:  
WSM-02120 : Unable to connect to the policy access service.
```

Upgrading Oracle WebCenter Portal

You can upgrade your existing Oracle WebCenter Portal 11.1.1.7.0, 11.1.1.8.0, and 11.1.1.9.0 installations to release 12.2.1.

This chapter includes the following topics:

Note:

This chapter describes the WebCenter Portal-specific upgrade steps listed in [Understanding the Oracle WebCenter Upgrade Procedures](#). Ensure that you have performed the required generic steps before you perform the upgrade tasks listed in this chapter.

[Performing Pre-Upgrade Tasks for Oracle WebCenter Portal](#)

[Upgrading Oracle WebCenter Portal 11g Installations](#)

[Performing Post-Upgrade Tasks for Oracle WebCenter Portal](#)

[Understanding the Impact of Upgrade on Deprecated Features](#)

[Troubleshooting Oracle WebCenter Portal Upgrade Issues](#)

5.1 Performing Pre-Upgrade Tasks for Oracle WebCenter Portal

Before you upgrade your existing Oracle WebCenter Portal environment, complete the following tasks:

[Deleting Oracle SOA Suite 11g Libraries](#)

[Ensuring OID is Up and Running](#)

[Exporting Metadata for Portlet Producer Applications](#)

[Saving OmniPortlet and Web Clipping Configuration](#)

5.1.1 Deleting Oracle SOA Suite 11g Libraries

Note: This pre-upgrade task is not applicable if you are upgrading from Oracle WebCenter Portal release 12.2.1 to release 12.2.1.1.

Delete Oracle SOA Suite libraries from the 11g domain if the domain is an Oracle WebCenter Portal-only domain, that is, where Oracle SOA Suite and Oracle WebCenter Content are not installed in the same domain.

1. Ensure all managed servers are down and only the Admin Server is running.

2. Log on to the WebLogic Server Administration Console:

```
http://host:port/console
```

Where, *host:port* refer to the host name and port number of the Administration Server. By default, the port number is 7001.

3. Select **Deployments** under Domain Structure in the left pane.
4. Select the following libraries and click **Delete**.
 - oracle.soa.workflow.wc(11.1.1,11.1.1)
 - oracle.soa.worklist.webapp(11.1.1,11.1.1)

5.1.2 Ensuring OID is Up and Running

Ensure that Oracle Internet Directory (OID) is up and running if your WebCenter Portal environment uses the OID-based policy store.

5.1.3 Exporting Metadata for Portlet Producer Applications

Oracle WebCenter Portal 11g provides various preconfigured portlet producers, which include OmniPortlet, Web Clipping, WSRP Parameter Form Portlet, sample WSRP portlet producers, and sample PDK-Java portlet producers. To migrate customizations or metadata of your 11g portlet producer applications, you must export the data from your 11g application before upgrading Oracle WebCenter Portal. In the upgraded instance, you can then import these customizations back into portlet producer applications.

You can export producer metadata to an EAR file by using the `exportPortletClientMetadata WLST` command. For information, see `exportPortletClientMetadata` in *WebCenter WLST Command Reference*.

5.1.4 Saving OmniPortlet and Web Clipping Configuration

If your 11g Oracle WebCenter Portal instance contains Web Clipping and OmniPortlets portlets, keep a copy of their HTTP proxy entries before you upgrade your WebCenter Portal instance.

1. Navigate to the `provider.xml` file in the 11g domain at the following location:

Web Clipping: `11g_DOMAIN_HOME/servers/WC_Portlet/tmp/_WL_user/portalTools_11.1.1.x.0/randomly_generated_directory/war/WEB-INF/providers/webClipping/provider.xml`

OmniPortlet: `11g_DOMAIN_HOME/servers/WC_Portlet/tmp/_WL_user/portalTools_11.1.1.x.0/randomly_generated_directory/war/WEB-INF/providers/omniPortlet/provider.xml`

2. Copy the HTTP proxy entries for Web Clipping and omniPortlet from the 11g `provider.xml`. For example:

```
<proxyInfo class="oracle.portal.provider.v2.ProxyInformation">
  <httpProxyHost>proxy.example.com</httpProxyHost>
  <httpProxyPort>80</httpProxyPort>
  <dontProxyFor>*.example.com</dontProxyFor>
</proxyInfo>
```

You will need to add these entries to the `provider.xml` files in your upgraded WebCenter Portal instance.

5.2 Upgrading Oracle WebCenter Portal 11g Installations

The following table describes the tasks required to upgrade Oracle WebCenter Portal 11g to 12c.

Note: In Oracle WebCenter Portal 11g, the default names of managed servers are `WC_Spaces`, `WC_Portlet`, `WC_Collaboration`, and `WC_Uutilities`. In a fresh Oracle WebCenter Portal 12c installation, `WC_Uutilities`, which hosted Analytics, is deprecated, and `WC_Spaces` is replaced by `WC_Portal` and hosts Analytics. When you upgrade from Oracle WebCenter Portal 11g to 12c, the default managed server names are not changed. Further, Analytics remains deployed on the `WC_Uutilities` managed server.

Table 5-1 Upgrading from Oracle WebCenter Portal 11g

Step	Description	More Information
Add the <code>DisableQueryTimeoutSupport=true</code> attribute	Add the <code>DisableQueryTimeoutSupport=true</code> attribute on Content Server	Setting the DisableQueryTimeoutSupport Attribute
Run the <code>upgradeWebCenterPortal</code> WLST command if the node manager is set up and managed servers can be started from the Admin console	Run the <code>upgradeWebCenterPortal</code> WLST command to move the metadata from MDS to DB and upgrade security permissions.	Running the upgradeWebCenterPortal WLST Command
If the node manager is not set up: <ul style="list-style-type: none"> If upgrading from release 11.1.1.7.0 or 11.1.1.8.0 configured to use <code>Folders_g</code>-based Content Server: Migrate to <code>FrameworkFolders</code> and then run the <code>upgradeWebCenterPortal</code> WLST command If upgrading from 11.1.1.7.0 or 11.1.1.8.0 with no Content Server configured, or if upgrading from release 11.1.1.8.3+ using <code>FrameworkFolders</code>-based Content Server: Run the <code>upgradeWebCenterPortal</code> WLST command 	Ensure that you migrate WebCenter Portal from <code>Folders_g</code> to <code>FrameworkFolders</code> and then run the <code>upgradeWebCenterPortal</code> WLST command.	<ul style="list-style-type: none"> "Migrating <code>Folders_g</code> to <code>FrameworkFolders</code>" in <i>Administering Oracle WebCenter Portal</i> Running the upgradeWebCenterPortal WLST Command
Access the upgrade metrics	Optional. Access the upgrade metrics for Oracle WebCenter Portal to analyze the upgrade performance. This must be done before you restart the servers.	Accessing Upgrade Metrics

Table 5-1 (Cont.) Upgrading from Oracle WebCenter Portal 11g

Step	Description	More Information
Enable additional components on Content Server and restart the server	On Content Server, enable additional components like AutoSuggestConfig, DynamicConverter, and Imaging. Enable PortalVCRHelper if Site studio is configured. Then, restart Content Server.	Enabling or Disabling a Component Using the Component Manager
Restart the Administration Server and all the managed servers	Start your Oracle Fusion Middleware environment. This involves starting your Oracle WebLogic Server, Node Manager, Administration Server, managed servers, OPMN, and all system components.	Performing Post-Upgrade Configuration Tasks
Run the upgrade audit tool by running the <code>listDeprecatedFeaturesUsage</code> WLST command	Run the <code>listDeprecatedFeaturesUsage</code> WLST command to run the upgrade audit tool to view the list of deprecated features in your upgraded WebCenter Portal 12c installation.	“Running the Upgrade Audit Tool”

[Setting the DisableQueryTimeoutSupport Attribute](#)

[Running the upgradeWebCenterPortal WLST Command](#)

[Running the Upgrade Audit Tool](#)

[Accessing Upgrade Metrics](#)

5.2.1 Setting the `DisableQueryTimeoutSupport` Attribute

Set the `DisableQueryTimeoutSupport` attribute to `true` on the Content Server that WebCenter Portal is configured to use.

1. Log on to Content Server as an administrator.
2. Navigate to **Administration > Admin Server > General Configuration**.
3. In the **Additional Configuration Variables** box, add the following entry:

```
DisableQueryTimeoutSupport=true
```

4. Click **Save**.

5.2.2 Running the `upgradeWebCenterPortal` WLST Command

Run the `upgradeWebCenterPortal` WLST command to move metadata from MDS to database and upgrade security permissions in your upgraded Oracle WebCenter Portal 11g installation.

To run the `upgradeWebCenterPortal` WLST command:

1. Navigate to your WebCenter Portal Oracle home directory and invoke the WLST script:

(UNIX) `ORACLE_HOME/common/bin/wlst.sh`

(Windows) `ORACLE_HOME\common\bin\wlst.cmd`

2. At the WLST command prompt, enter the following command to connect to the Administration Server for Oracle WebCenter Portal:

```
wls:/offline>connect('user_name','password','host_name:port_number')
```

where

- `user_name` is the username of the operator who is connecting to the Administration Server
- `password` is the password of the operator who is connecting to the Administration Server
- `host_name` is the host name of the Administration Server
- `port_number` is the port number of the Administration Server

For example:

```
connect(username='weblogic', password='mypassword', url='myhost.example.com:7001')
```

For help with this command, type `help('connect')` at the WLST command prompt.

3. Run the `upgradeWebCenterPortal` WLST command. For information about the command syntax, see `upgradeWebCenterPortal` in *WebCenter WLST Command Reference*. For information about the messages displayed and reports generated, see [Output Generated by the upgradeWebCenterPortal WLST command](#).

[Output Generated by the upgradeWebCenterPortal WLST command](#)

5.2.2.1 Output Generated by the `upgradeWebCenterPortal` WLST command

The `upgradeWebCenterPortal` WLST command generates the following reports:

- `UpgradeSummary.txt`: Lists the total number of portals or portal templates for which upgrade was attempted, succeeded, and failed.
- `UpgradeDetails.txt`: Shows detailed upgrade information for each portal, listing the details such as the number of pages, resource catalogs, navigations upgraded. Also shows the details of any upgrade errors reported for a portal.
- `UpgradeDiagnostic.log`: Shows the diagnostic information for the `upgradeWebCenterPortal` WLST command.

Each time you run the `upgradeWebCenterPortal` command, the reports get updated with the additional details from the last run. If there are upgrade errors reported at any step, fix the errors and run `upgradeWebCenterPortal` again. The upgrade process is considered complete when `upgradeWebCenterPortal` does not report any more failed attempts to upgrade any portals or portal templates, and its last output shows the message "WebCenter Portal application upgrade is complete."

For information about troubleshooting the upgrade issues, see [Troubleshooting Oracle WebCenter Portal Upgrade Issues](#).

Sample Command 1

When running the `upgradeWebCenterPortal WLST` command, you can specify the parameters depending on your requirements.

For example, the following command moves the metadata from MDS to DB and upgrades security permissions:

```
upgradeWebCenterPortal(appName='webcenter', server='WC_Spaces', migrationDirectory='/scratch/upgrade_log')
```

The following is the sample message displayed when you run this command:

```
Starting WebCenter Portal application upgrade.
Already in Domain Runtime Tree
```

To effect connection changes, you must restart the managed server on which the WebCenter application is deployed.

If you have set `adminPassword`, `keystorePassword`, or `privateKeyPassword` in your content server connection, then set the values again in the underlying RIDC connection. Do this by running `setContentServerConnection` and specifying the values, if applicable.

```
Starting data migration from MDS to database...
```

```
[TRACE]: Upgrade may take some time to complete depending on the number of portals
and pages in your Oracle WebCenter Portal installation. To monitor the upgrade
progress, refer to the diagnostic log file WC_Portal-diagnostic.log at the location
"/scratch/software/user_projects/domains/base_domain/servers/WC_Spaces/logs".
```

```
#####
Upgrade Run: 1
#####
Upgrade of 44 Portals/Portal Templates attempted.
Upgrade of 44 Portals/Portal Templates succeeded.
Upgrade of 0 Portals/Portal Templates failed.
```

```
Data migration from MDS to database is successfully completed.
```

```
Policy URI For Authenticated Access: oracle/wss10_saml_token_service_policy
```

```
Already in Domain Runtime Tree
```

```
Command FAILED, Reason: JPS-04207: Matching Grantee not found: [GranteeEntry:
codeSource=file:${common.components.home}/modules/oracle.wsm.agent.common_11.1.1/wsm-agent-core.jar principals=[]].
```

```
Already in Domain Runtime Tree
```

```
Command FAILED, Reason: JPS-04201: Cannot grant permission(s). Grant already exists
for grantee [GranteeEntry: codeSource=null principals=[[AppRole: appID=webcenter
name=s5f9c65ed_c93c_4467_96cf_06a82f3dad22#-#Spaces-User displayName=null
description=null category=null uniqueness=cn=s5f9c65ed_c93c_4467_96cf_06a82f3dad22\#-
\#Spaces-User,cn=Roles,cn=webcenter,cn=opssSecurityStore,cn=JPSContext,cn=opssRoot
guid=108CDE506D8A11E5BFE5CF1BB12B2942 members=[]
classname=oracle.security.jps.service.policystore.ApplicationRole
type=JPS_APPLICATION_ROLE]]].
```

```
Starting upgrade for portal roles...
Upgrade of the portal roles is complete.

Permissions upgrade completed with warnings

WebCenter Portal application upgrade is complete.
```

Note:

Running the `upgradeWebCenterPermissions WLST` command displays certain error messages that permissions already exist. For example:

```
Already in Domain Runtime Tree
```

```
Command FAILED, Reason: JPS-04201: Cannot grant permission(s). Grant already
exists for grantee [GranteeEntry: codeSource=null principals=[[AppRole:
appID=webcenter name=s5f9c65ed_c93c_4467_96cf_06a82f3dad22#-#Spaces-User
displayName=null description=null category=null
uniquename=cn=s5f9c65ed_c93c_4467_96cf_06a82f3dad22\#-\#Spaces-
User,cn=Roles,cn=webcenter,cn=opssSecurityStore,cn=JPSContext,cn=opssRoot
guid=108CDE506D8A11E5BFE5CF1BB12B2942 members=[]
classname=oracle.security.jps.service.policystore.ApplicationRole
type=JPS_APPLICATION_ROLE]]].
```

Such error messages do not affect any functionality. You can safely ignore the error messages and proceed with upgrading your WebCenter Portal instance.

Sample Command 2

The following sample command upgrades WebCenter Portal configured to use Content Server:

```
upgradeWebCenterPortal(appName='webcenter', server='WC_Spaces', migrationDirectory='/
scratch/upgrade_log', contentServerName='UCM_server1',
contentDbConnectionUrl='wccdbhost:wccdbport:wccdbsid',contentDbUserName='DEV_OCS')
```

The following is the sample message displayed when you run this command:

```
Starting WebCenter Portal application upgrade.

Restarting Content Server to verify whether the Node Manager is configured properly.
Already in Domain Runtime Tree

Shutting down the server UCM_server1 with force=true while connected to
AdminServer ...
.

Starting server
UCM_server1 .....
....
Server with name UCM_server1 started
successfully

Already in Domain Runtime Tree

Enter the password for OCS Schema owner : XXXXX

Starting migration to FrameworkFolders.

Starting export of Folders_g data.
```

```
Already in Domain Runtime Tree

Export of Folders_g data is complete.

Starting migration of WebCenter Content Server to FrameworkFolders.

Enabling 'FrameworkFolders' server components.
Already in Domain Runtime Tree

Enabling 'FrameworkFolders' server components is complete.

Starting update of Content Server general configuration.
Already in Domain Runtime Tree

Updating Content Server general configuration is complete.

Restarting Content Server.
Already in Domain Runtime Tree

Shutting down the server UCM_server1 with force=true while connected to
AdminServer ...
..

Starting server
UCM_server1 .....
.....
Server with name UCM_server1 started
successfully

Restarting Content Server is complete.

Migration of 'PersonalSpaces' folder and content from Folders_g to the
FrameworkFolders data structure started.
Already in Domain Runtime
Tree

Migration of 'PersonalSpaces' folder and content from Folders_g to the
FrameworkFolders data structure is complete.
Already in Domain Runtime
Tree

Migration of 'WebCenterSpaces-Root' folder and content from Folders_g to the
FrameworkFolders data structure started.
Already in Domain Runtime
Tree

Migration of 'WebCenterSpaces-Root' folder and content from Folders_g to the
FrameworkFolders data structure is complete.

Starting update of Content Server general configuration.
Already in Domain Runtime Tree

Updating Content Server general configuration is complete.

Restarting Content Server.
Already in Domain Runtime Tree
```



```

Shutting down the server UCM_server1 with force=true while connected to
AdminServer ...
..

Starting server
UCM_server1 .....
Server with name UCM_server1 started
successfully

WebCenter Content Server migration to FrameworkFolders is complete.

Starting migration of WebCenter Portal data to FrameworkFolders.
Already in Domain Runtime Tree

Migration of WebCenter Portal data to FrameworkFolders is complete.
Already in Domain Runtime Tree

Shutting down the server UCM_server1 with force=true while connected to
AdminServer ...
...
Starting server
UCM_server1 .....
.....
Server with name UCM_server1 started successfully

Already in Domain Runtime Tree

Shutting down the server WC_Portal with force=true while connected to AdminServer ...
.....
Starting server
WC_Spaces .....
.....
Server with name WC_Spaces started successfully

Migration to FrameworkFolders is complete.

Starting WebCenter Portal application upgrade.
Already in Domain Runtime Tree

To effect connection changes, you must restart the managed server on which the
WebCenter application is deployed.
If you have set adminPassword, keystorePassword, or privateKeyPassword in your
content server connection, then set the values again in the underlying RIDC
connection. Do this by running setContentServerConnection and specifying the values,
if applicable.

Starting data migration from MDS to database...

[TRACE]: Upgrade may take some time to complete depending on the number of portals
and pages in your Oracle WebCenter Portal installation. To monitor the upgrade
progress, refer to the diagnostic log file WC_Portal-diagnostic.log at the location
"/scratch/software/user_projects/domains/base_domain/servers/WC_Spaces/logs".

#####
Upgrade Run: 1
#####
Upgrade of 44 Portals/Portal Templates attempted.
Upgrade of 44 Portals/Portal Templates succeeded.
Upgrade of 0 Portals/Portal Templates failed.

```

Data migration from MDS to database is successfully completed.

Policy URI For Authenticated Access: oracle/wss10_saml_token_service_policy

Already in Domain Runtime Tree

Command FAILED, Reason: JPS-04207: Matching Grantee not found: [GranteeEntry: codeSource=file:\${common.components.home}/modules/oracle.wsm.agent.common_11.1.1/wsm-agent-core.jar principals=[]].

Already in Domain Runtime Tree

Command FAILED, Reason: JPS-04201: Cannot grant permission(s). Grant already exists for grantee [GranteeEntry: codeSource=null principals=[[AppRole: appID=webcenter name=s5f9c65ed_c93c_4467_96cf_06a82f3dad22#-#Spaces-User displayName=null description=null category=null uniqueness=cn=s5f9c65ed_c93c_4467_96cf_06a82f3dad22\#-\#Spaces-User,cn=Roles,cn=webcenter,cn=opssSecurityStore,cn=JPSText,cn=opssRoot guid=108CDE506D8A11E5BFE5CF1BB12B2942 members=[] classname=oracle.security.jps.service.policystore.ApplicationRole type=JPS_APPLICATION_ROLE]]].

Starting upgrade for portal roles...
Upgrade of the portal roles is complete.

Permissions upgrade completed with warnings

WebCenter Portal application upgrade is complete.

5.2.3 Running the Upgrade Audit Tool

In Oracle WebCenter Portal 12c, certain features such as polls and document task flows have been deprecated. Post upgrade, you can run the upgrade audit tool to list down the usage of all deprecated features in your upgraded WebCenter Portal installation.

Run the `listDeprecatedFeaturesUsage WLST` command to list the usage of deprecated features in your upgraded Oracle WebCenter Portal installation:

```
listDeprecatedFeaturesUsage(appName='webcenter', server='WC_Spaces',
reportDirectory='/scratch/audit', portal='portall, portal2')
```

where:

- `appName` is the WebCenter Portal application where deprecated features need to be audited.
- `server` is the managed server on which WebCenter Portal is deployed.
- `reportDirectory` is the path to the writable directory where audit report will be generated.
- `portal` is the list of specific portals that you want to audit. You can pass comma separated list of portal names. It is an optional parameter. If you do not specify this parameter, report is generated for the entire WebCenter Portal application.

For example, the following command generates the audit report for the WebCenter Portal application deployed on the `WC_Spaces` managed server and stores the report in the `/scratch/audit` folder:

```
listDeprecatedFeaturesUsage(appName='webcenter', server='WC_Spaces',
reportDirectory='/scratch/audit')
```

When you generate the upgrade audit report for the entire WebCenter Portal application, the following files are generated in the `auditReport` subdirectory under the directory specified for the `reportDirectory` parameter in the WLST command:

- `summary.txt`: Lists the portals and portal templates that contain deprecated features and specifies the number of artifacts that contain deprecated features, as shown in [Figure 5-1](#).
- `connections.txt`: Lists the deprecated connections in WebCenter Portal.

Note:

You must remove the deprecated connections otherwise there might be some functionality issues.

- A `.txt` file for each portal and portal template containing deprecated features: Lists the artifacts (such as pages, page templates, and resource catalogs) that contain deprecated features and specifies name of the deprecated feature. [Figure 5-3](#) shows the audit report for a specific portal.

Figure 5-1 Upgrade Audit Report - `summary.txt`

```
The deprecated features are being used in your installation as described below. See the specific portal file for more details.
Portal Server
  - 1 Connection(s)
  - 10 Portal(s)/Portal Template(s)
Home Portal
  - 2 Page(s)
  - 3 Resource Catalog(s)
DeprecationPortal
  - 6 Page(s)
  - 1 Page Template(s)
  - 1 Resource Catalog(s)
MontysDocumentExchangeSubPortal
  - 1 Page(s)
MontysHiddenDiscussionSitePortal
  - 1 Resource Catalog(s)
MontysPortal
  - 1 Page(s)
```

Figure 5-2 Upgrade Audit Report - connections.txt

```
Listed below are connection artifacts that are deprecated.

-----
Action
-----
1. Login as Portal administrator into EM or WLST.
2. Delete or Modify the listed connection accordingly.

-----
Connection(s)
-----

Documents
-----
Name: myFS
JcrConnection: JCRAdapterType=FileSystemConnection

Name: myOraclePortal
JcrConnection: JCRAdapterType=PortalConnection

Microsoft Exchange 2003
-----
Name: exchange-2003
AdapterName: MSeX2003

Live Communication Server
-----
Name: LCS2005-STPORT13
AdapterName: LCS

WebClipping Producers
-----
Name: wc-WebClipping
URL: http://wcdevportlet.us.oracle.com:8899/portalTools/webClipping/providers/webClipping
```

Figure 5-3 Upgrade Audit Report for a Portal

```
Listed below are DeprecationPortal artifacts that use deprecated features.

-----
Summary
-----
- 6 Page(s)
- 1 Page Template(s)
- 1 Resource Catalog(s)

-----
Action
-----
1. Login as Portal moderator.
2. Locate listed page and edit it and remove the taskflows and portlets usages listed.
3. Locate the listed catalog under Portal Assets, edit the catalog to remove the taskflow usages listed.
4. Locate the listed page template under Portal Assets, edit the template to remove the taskflow usages listed.

-----
Page(s)
-----
Name: ActivityGraph
URL: /portal/DeprecationPortal/page1
Usage(s):
Similar Items
Recommended Connections
Similar Portals
Top Items
Top Contributions

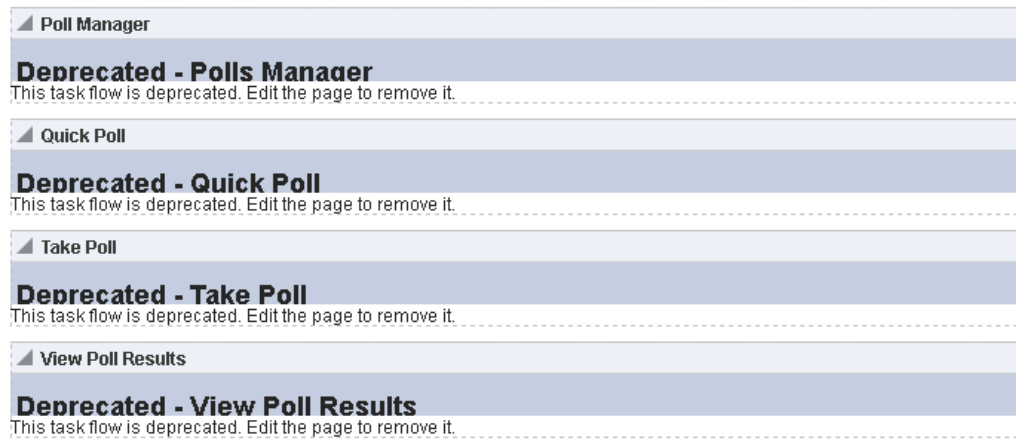
Name: Documents
URL: /portal/DeprecationPortal/page19
Usage(s):
Documents Explorer
Documents Manager
Folder Viewer
Recent Documents
"Portal_DeprecationPortal.txt" 92L, 1735C
```

The following example generates the audit report only for a portal named `MyPortal`. This will generate only the `MyPortal.txt` file. The connections and summary files are not generated for a portal.

```
listDeprecatedFeaturesUsage(appName='webcenter', server='WC_Spaces',
reportDirectory='/scratch/audit', portal='MyPortal')
```

In your upgraded WebCenter Portal, if a portal page contains a deprecated feature, the feature appears blank in the page view mode. In the page edit mode, a message displays that the feature is deprecated and lists the action required. For example, [Figure 5-4](#) shows deprecated Polls task flows listed in the page editor. Note that the message specifies that you should remove the deprecated task flows.

Figure 5-4 *Deprecated Task Flows in Page Editor in the Upgraded WebCenter Portal Instance*



5.2.4 Accessing Upgrade Metrics

You can use Oracle Dynamic Monitoring Service (DMS) to view upgrade metrics and analyze how much time was taken for the overall upgrade process and for each portal and its WebCenter Service handlers.

To access upgrade metrics:

1. Access DMS Spy Servlet using the following URL format:

```
http://host:port/dms/Spy
```

Where `host:port` refer to the location where Oracle WebCenter Portal is installed.

2. Log on as an administrator.
3. Locate the **webcenter_upgrade** metric in the left pane.

The upgrade metrics for each portal are displayed in milliseconds.

4. View the upgrade processing time for your portal. For each portal, the following metrics are relevant: `upgradeProcessingTime` and `cleanupProcessingTime`.

The metrics also display the total processing time taken for the entire upgrade of Portal Server

If required, you can save this report as a PDF for future reference. The upgrade metrics are lost when you restart the servers.

5. Locate **webcenter_upgrade_portal** metric in the left column.

The upgrade metrics shows how long each WebCenter Service handler took for upgrade processing per portal. It shows the breakdown of the time taken for upgrading each portal.

5.3 Performing Post-Upgrade Tasks for Oracle WebCenter Portal

Complete the post-upgrade tasks after you have upgraded Oracle WebCenter Portal.

[Upgrading 11g Portlet Producers](#)

[Restoring OmniPortlet and Web Clipping Configuration](#)

[Removing Duplicate Portal Pages](#)

[Verify the Content Server Connection is Upgraded](#)

[Upgrading WebCenter Portal 11g Assets to 12c](#)

5.3.1 Upgrading 11g Portlet Producers

In an upgraded Oracle WebCenter Portal instance, 11g portlets are not accessible. To ensure that portlets are available, you must migrate the required portlet producer applications to release 12.2.1. You must also import portlet producer customizations and redeploy your portlet producer applications.

This topic includes the following:

[Migrating a Portlet Producer Application](#)

[Redeploying a Portlet Producer Application](#)

[Migrating Customizations](#)

5.3.1.1 Migrating a Portlet Producer Application

To migrate an 11g portlet producer application to release 12c:

1. Install Oracle JDeveloper 12c.

Oracle JDeveloper provides an integrated development environment (IDE) for developing portals and custom portal components. For information on obtaining and installing Oracle JDeveloper, see the Oracle JDeveloper page on OTN at:

<http://www.oracle.com/technetwork/developer-tools/jdev/overview/index.html>

2. Install the Oracle WebCenter Portal extension bundle. For information, see *Installing the WebCenter Portal Extensions for JDeveloper in Developing WebCenter Portal Assets and Custom Components with Oracle JDeveloper*.
3. Start JDeveloper 12c.
4. Open your 11g portlet producer application.

This invokes the migration wizard, which is displayed every time an 11g application is opened in JDeveloper 12c.

5. On the Confirmation page, the **Yes** option is selected by default. Click **Next** to confirm that you want to migrate your application.
6. On the Java Web Projects page, click **Next** to specify that you want to migrate projects created using JavaServer Pages JSTL to the latest versions.
7. Click **Finish** to begin upgrading your application.

A progress dialog displays while the upgrade process executes.

8. When the application upgrade is complete, the Migration Status dialog displays the list of projects that have been upgraded. Click **OK**.

The upgraded application is opened and its projects are listed in the Application Navigator. If there are any errors during application upgrade, they are listed in the Message - Log window.

5.3.1.2 Redeploying a Portlet Producer Application

You can deploy your upgraded portlet producer application to any Oracle WebLogic Server managed server configured to support Oracle WebCenter Portal's portlet producers. For deployment, you can use Oracle Enterprise Manager Fusion Middleware Control, Oracle WebLogic Server Administration Console, or Oracle WebLogic Scripting Tool (WLST). For information, see *Deploying Portlet Producer Applications* in *Administering Oracle WebCenter Portal*.

You can also deploy portlet producer applications to an Oracle WebLogic Server instance directly from a development environment by using JDeveloper, provided you have the required credentials to access the WebLogic server. For information, see *Deploying the Preconfigured Portlet Producers* in *Developing WebCenter Portal Assets and Custom Components with Oracle JDeveloper*.

5.3.1.3 Migrating Customizations

After upgrading portlet producers, you must import their customizations if the customizations are not shared or accessible to the upgraded portlet producers. You import customizations from the EAR that you exported as described in [Performing Pre-Upgrade Tasks for Oracle WebCenter Portal](#).

To import customizations, use the `importPortletClientMetadata` WLST command. For information, see `importPortletClientMetadata` in *WebCenter WLST Command Reference*.

5.3.2 Restoring OmniPortlet and Web Clipping Configuration

After you saved your OmniPortlet and Web Clipping configuration (as described in [Saving OmniPortlet and Web Clipping Configuration](#)) and successfully upgraded Oracle WebCenter Portal instance, you must restore them.

1. Navigate to the `provider.xml` file in the upgraded domain at the following location:

Web Clipping: `ORACLE_HOME/servers/WC_Portlet/tmp/_WL_user/portalTools/randomly_generated_directory/war/WEB-INF/providers/webClipping/provider.xml`

OmniPortlet: `ORACLE_HOME/servers/WC_Portlet/tmp/_WL_user/portalTools/randomly_generated_directory/war/WEB-INF/providers/omniPortlet/provider.xml`

2. Paste the HTTP proxy entries for Web Clipping and omniPortlet from the 11g `provider.xml` file. For example:

```
<proxyInfo class="oracle.portal.provider.v2.ProxyInformation">
  <httpProxyHost>proxy.example.com</httpProxyHost>
  <httpProxyPort>80</httpProxyPort>
  <dontProxyFor>*.example.com</dontProxyFor>
</proxyInfo>
```

3. Save the files.

5.3.3 Removing Duplicate Portal Pages

In Release 11.1.1.7.0, pages in the navigation of a portal (previously referred to as a space) are from a page query. When you upgrade to 12c, each of those pages is added to the navigation, which leads to duplicate pages getting created in your portal. You can delete the duplicate pages as described in *Deleting a Page in Building Portals with Oracle WebCenter Portal*.

5.3.4 Verify the Content Server Connection is Upgraded

After you have run the `upgradeWebCenterPortal` command successfully, verify that the Content Server connection has been upgraded by running the `listContentServerConnections` WLST command. For information, see `listContentServerConnections` in *WebCenter WLST Command Reference*.

If the output of the `listContentServerConnections` WLST command shows the following message, run `upgradeWebCenterPortal` again to upgrade the Content Server connection.

The underlying RIDD connection is missing.

5.3.5 Upgrading WebCenter Portal 11g Assets to 12c

To use WebCenter Portal 11g assets in your upgraded WebCenter Portal 12c instance, you must upgrade the assets. For example, you can upgrade your 11g skins, page templates, or page styles to use them in your upgraded 12c portals.

To upgrade an 11g WebCenter Portal asset to 12c:

1. In Oracle JDeveloper 11g, open the application that contains the asset you want to upgrade.
2. Copy the source code of the required asset. For example, copy the source code of a skin from its CSS file.
3. In Oracle JDeveloper 12c, create a WebCenter Portal asset application, specifying the required asset type. For example, if you want to upgrade a skin asset, create an asset application specifying `Skin` as the Asset Type.

For information, see *Creating a WebCenter Portal Asset Application in Developing WebCenter Portal Assets and Custom Components with Oracle JDeveloper*.

4. Remove the source code from the newly created asset application, and paste the 11g source code of the asset, which you copied in step 2. For example, in your skin asset application, remove the source code and paste the source code that you copied from the 11g CSS file.
5. Save the asset application.

6. Deploy the asset application to WebCenter Portal 12c as a shared asset or to a specific portal. For information, see *Publishing WebCenter Portal Assets in Developing WebCenter Portal Assets and Custom Components with Oracle JDeveloper*.

5.4 Understanding the Impact of Upgrade on Deprecated Features

This topic describes the upgrade impact on 11g features that have been deprecated in release 12.2.1.

It includes the following topics:

[Portal-Level Device Settings](#)

[Hierarchical Portals](#)

[Deprecated Portlets](#)

5.4.1 Portal-Level Device Settings

Device settings control how portals render on different kinds of devices including desktop browsers, smart phones, and tablets. In release 12c, device settings can be configured only at the WebCenter Portal application level, and not for individual portals. When you upgrade to release 12.2.1, any portal-level customizations done for device settings are lost. Only application-level device settings are applied to the upgraded WebCenter Portal instance.

5.4.2 Hierarchical Portals

Release 11g supported portal hierarchy consisting of a parent portal and its subportals, where by default subportals inherited security defined in the parent portal. When you upgrade WebCenter Portal to release 12c, subportals are moved as top-level portals. During upgrade, for each such upgraded portal, the following two attributes are added:

- `11g.upgraded.portal.parent.guid` - Specifies the ID of the parent portal.
- `11g.upgraded.portal.parent.security.id` - If present, specifies the portal from which security was inherited. If the value is null, it indicates that the subportal did not inherit the security from a parent portal and the subportal managed its own security.

5.4.3 Deprecated Portlets

In 12c, Web Clipping portlets and the rich text portlets have been deprecated. If an upgraded portal page includes a deprecated portlet, the page displays the Remote Portlet Error. You must either remove the deprecated portlets from the page or replace them with their 12c equivalent.

In 12c, Pagelet Producer replaces the functionality of Web Clipping portlets available in earlier releases of WebCenter Portal. Content contribution and publishing components replace the functionality of rich text portlets.

5.5 Troubleshooting Oracle WebCenter Portal Upgrade Issues

This topic describes the solutions to the issues you might encounter while upgrading WebCenter Portal to the latest release.

[Extra Entries Appear for the ACTIVITIES Schema](#)

[Floating Toolbar Not Available for Custom Page Templates](#)

[Running the Predeployment Tool does not Update 11g Portlet Producers](#)

[Handling Errors While Upgrading Oracle WebCenter Portal](#)

[Errors on Accessing Documents/Blogs/Wiki Pages in an Upgraded Portal](#)

[Viewing Wiki Documents in an Upgraded Portal](#)

5.5.1 Extra Entries Appear for the `ACTIVITIES` Schema

Problem

In the upgraded WebCenter Portal 12.2.1 instance, extra entries are shown for the `ACTIVITIES` schema.

Solution

In release 12.2.1, Activity Graph is deprecated. When you upgrade from an 11g release, the existing Activity Graph entries are not removed. However, these entries are not present in the `ACTIVITIES` schemas when you install a fresh instance of Oracle WebCenter Portal 12.2.1.

5.5.2 Floating Toolbar Not Available for Custom Page Templates

In your upgraded WebCenter Portal instance, for upgraded portals that include pages supporting content contribution and use a custom page template developed in a prior release, the floating toolbar is not available. To enable the floating toolbar, add it to the custom page template. For information, see *Adding a Floating Toolbar to a Page Template* in *Developing WebCenter Portal Assets and Custom Components with Oracle JDeveloper*.

5.5.3 Running the Predeployment Tool does not Update 11g Portlet Producers

WebCenter Portal provides a predeployment tool that adds the required configuration to a portlet producer application's EAR file to expose the portlets over WSRP. You cannot directly run the predeployment tool on portlet EARs from 11g versions. You need to migrate the portlet producer application in Oracle JDeveloper, regenerate the EAR, and then run the predeployment tool. For information about migrating portlet producers, see [Upgrading 11g Portlet Producers](#). For information about running the predeployment tool, see *Managing Portlet Producers* in *Administering Oracle WebCenter Portal*.

5.5.4 Handling Errors While Upgrading Oracle WebCenter Portal

While upgrading Oracle WebCenter Portal, you might encounter error messages. The following are some of the error messages displayed when you run the `upgradeWebCenterPortal WLST` Command.

Error Message 1

Upgrade ends with one of the following messages:

- Migration of Content Server from `Folders_g` to `FrameworkFolders` failed, Check `MigrationDiagnostic.log` for further details.
- An error occurred during migration, Check `MigrationDiagnostic.log` for further details.

Error Message 2

Upgrade ends with following message:

- Export of Folders_g data failed.
- Updating Content Server general configuration failed.
- Migration of <folder name> folder and content from Folders_g to the FrameworkFolders data structure failed.
- Migration of WebCenter Portal data to FrameworkFolders failed.
- Enabling <component name> server components failed.
- Disabling <component name> server components failed.
- Migration to FrameworkFolders failed.

Error Message 3

Upgrade ends with following message:

- WebCenter Content Server foldering service is not supported. Supported foldering service is FrameworkFolders version 2.1 and above.

Solution

To fix the issues, you need to:

1. Restore WebCenter Content Server.
2. Migrate from Folders_g to FrameworkFolders manually, as described in "Migrating Folders_g to FrameworkFolders" in *Administering Oracle WebCenter Portal*.
3. Run the following command:

```
upgradeWebCenterPortal(appName='webcenter', server='WC_Spaces',
migrationDirectory='/tmp/upgrade',contentServerName='UCM_server1')
```

For more information about the command, see `upgradeWebCenterPortal` in *WebCenter WLST Command Reference*.

5.5.5 Errors on Accessing Documents/Blogs/Wiki Pages in an Upgraded Portal

After upgrade, on accessing the Documents, Blogs, or Wiki pages of an upgraded portal, if there are any errors, check the Content Server whether the upgrade has completed properly using the following steps:

1. Log in to Content Server using the following URL format: `host:port/cs`
2. Navigate to Enterprise Libraries, and identify the portal's folder name.
3. Access the following URL format:
`host:port/cs/idcplg?IdcService=FLD_INFO&path=/EnterpriseLibraries/portal-folder-name&IsSoap=1`
4. In the resulting output, search for `fApplicationGUID`. If it contains uppercase GUID, contact Oracle Support.

5.5.6 Viewing Wiki Documents in an Upgraded Portal

After upgrade, a system page link named Wikis is created in the portal navigation of the portals that contain wikis. In your upgraded portals, all existing wiki documents are displayed under the Wikis page link.

If required, you can change the name of the Wikis page link. In the portal editor, select the Wikis page link in the left navigation pane to rename it. For more information, see [Setting Properties for a Portal Navigation Item in *Building Portals with Oracle WebCenter Portal*](#).

Upgrading WebCenter in a Clustered Topology

Use this process to upgrade a clustered WebCenter topology. If you are upgrading a single node topology, see the other sections of this guide.

To upgrade a WebCenter cluster topology, where your domain has servers running on more than one machine, you will perform the entire upgrade process on the first node (Node 1) and then pack and unpack the domain on the other node(s) as described below.

To upgrade a clustered topology:

1. Perform a complete upgrade on Node 1. [Upgrading an Oracle WebCenter Domain to 12c \(12.2.1\)](#)
 - a. Perform all post-upgrade configuration tasks. [Performing Post-Upgrade Configuration Tasks](#)
 - b. Verify that the upgrade was successful. [Verifying the New Applications Work as Expected](#)

2. Pack the Administration Server:

```
cd ORACLE_HOME/common/bin
./pack.sh -managed=true -domain=DOMAIN_HOME -template=wcdomaintemplate.jar -
template_name=wc_domain_template
```

3. Copy wcdomaintemplate.jar to the `ORACLE_HOME/common/bin` on the other machines.
4. Remove or move the old domain directories (`DOMAIN_HOME` and `APPLICATION_HOME`) on the other machines.
5. Unpack the domain on each of the other machines:

```
cd ORACLE_HOME/common/bin
./unpack.sh -domain=DOMAIN_HOME -template=wcdomaintemplate.jar -
overwrite_domain=true
```

[Troubleshooting a WebCenter Cluster Upgrade](#)

Troubleshooting a WebCenter Cluster Upgrade

If you encounter errors while upgrading your WebCenter clustered topology, review these post-upgrade tasks.

6.1 Troubleshooting a WebCenter Cluster Upgrade

If you encounter errors while upgrading your WebCenter clustered topology, review these post-upgrade tasks.

Accessing WebCenter Content URLs Post Upgrade

This step is only necessary when you cannot access WebCenter Content URLs after a clustered topology upgrade.

6.1.1 Accessing WebCenter Content URLs Post Upgrade

This step is only necessary when you cannot access WebCenter Content URLs after a clustered topology upgrade.

After performing pack and unpack on secondary nodes, you may not be able to access WebCenter Content URLs on secondary nodes. This happens when the pack and unpack process does not completely propagate the WebCenter Content Server on the secondary node.

1. Modify the variables in the Intradoc.cfg file.
 - a) Navigate to <Domain_Home>/ucm/cs/bin
 - b) Locate the Intradoc.cfg file and update the server directory: IdcHomeDir with the new 12.2.1 install location instead of the11g install location.

NOTE: You will need to do this for each WebCenter Content managed server.

2. Modify the idcs_components.hda file.
 - a) Navigate to <Domain_Home>/ucm/cs/data
 - b) Locate the idcs_components.hda file and remove all deprecated components.

TIP: To quickly update the file, create a copy of the existing idcs_components.hda file on Node1 and paste it on Node2 in the same location (<Domain_Home>/ucm/cs/data). This will overwrite the file on Node2.

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