

Oracle® Analytics

Migrating and Upgrading to Oracle Analytics Server



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Preface

This document describes how to update your Oracle Analytics Server environment.

Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Resources](#)
- [Conventions](#)

Audience

This document is intended for system administrators who are responsible for installing, maintaining, and upgrading Oracle Analytics Server.

Documentation Accessibility

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

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Resources

For a full list of guides, refer to the Books tab on Oracle Analytics Server Help Center.

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.

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Your company can use skins and styles to customize the look of the application, dashboards, reports, and other objects. It is possible that the videos and images included in the product documentation look different than the skins and styles your company uses.

Even if your skins and styles are different than those shown in the videos and images, the product behavior and techniques shown and demonstrated are the same.

1

Introduction to Migrating and Upgrading to Oracle Analytics Server

Upgrading from Oracle Business Intelligence or a previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server requires careful preparation, planning, and testing. Oracle provides tools and technology for the upgrade process.

Note

For general information about Fusion Middleware upgrade planning and other upgrade concepts and resources, see the following sections in *Planning an Upgrade of Oracle Fusion Middleware*:

- [Planning an Upgrade to Oracle Fusion Middleware](#)
- [About In-Place versus Out-of-Place Upgrades](#)
- [About the Basic 12c Upgrade Procedures](#)

About the Starting Points for Migration and Upgrade

This topic describes the various options available when you upgrade from Oracle Business Intelligence or a previous update of Oracle Analytics Server to the latest update of Oracle Analytics Server.

Choose your upgrade or migration path depending on the source system you're migrating from, and the operating system and server requirements for your new Oracle Analytics Server system. Python is included in the installation of Oracle Analytics Server and is used when executing Machine Learning algorithms.

Source System	Target System	Upgrade/Migration Path	More Information
Oracle Business Intelligence 12c 12.2.1.4.0 Or Oracle Analytics Server earlier updates	Same server and operating system version for Oracle Analytics Server	Use Upgrade Assistant to upgrade to Oracle Analytics Server.	Upgrading to Oracle Analytics Server
Oracle Business Intelligence 12c updates prior to 12.2.1.4.0	Same server and operating system version for Oracle Analytics Server	Upgrade first to Oracle Business Intelligence 12c 12.2.1.4.0, and then use Upgrade Assistant to upgrade to Oracle Analytics Server.	Upgrading Oracle Business Intelligence from a Previous 12c Release

Source System	Target System	Upgrade/Migration Path	More Information
Oracle Business Intelligence 12c 12.2.1.4.0 Or Oracle Analytics Server earlier updates	New server, or different operating system, or newer version of operating system for Oracle Analytics Server	Use the <code>exportarchive.sh</code> command to migrate metadata to the new Oracle Analytics Server deployment.	Migrating from Oracle Business Intelligence 12c or the Previous Release of Oracle Analytics Server
Oracle Business Intelligence 11g	New server, or different operating system, or newer version of operating system for Oracle Analytics Server	Use one of the following methods to migrate metadata and configuration to a new Oracle Analytics Server deployment: <ul style="list-style-type: none"> • Oracle Analytics Server Console • Command line 	Migrating from Oracle Business Intelligence 11g
Scaled-out Oracle Business Intelligence Or Oracle Analytics Server earlier deployment	New scaled-out Oracle Analytics Server deployment	Use Upgrade Assistant to upgrade to a new Oracle Analytics Server deployment.	Upgrading Scaled-Out Systems

About the Oracle Analytics Server Standard Topology

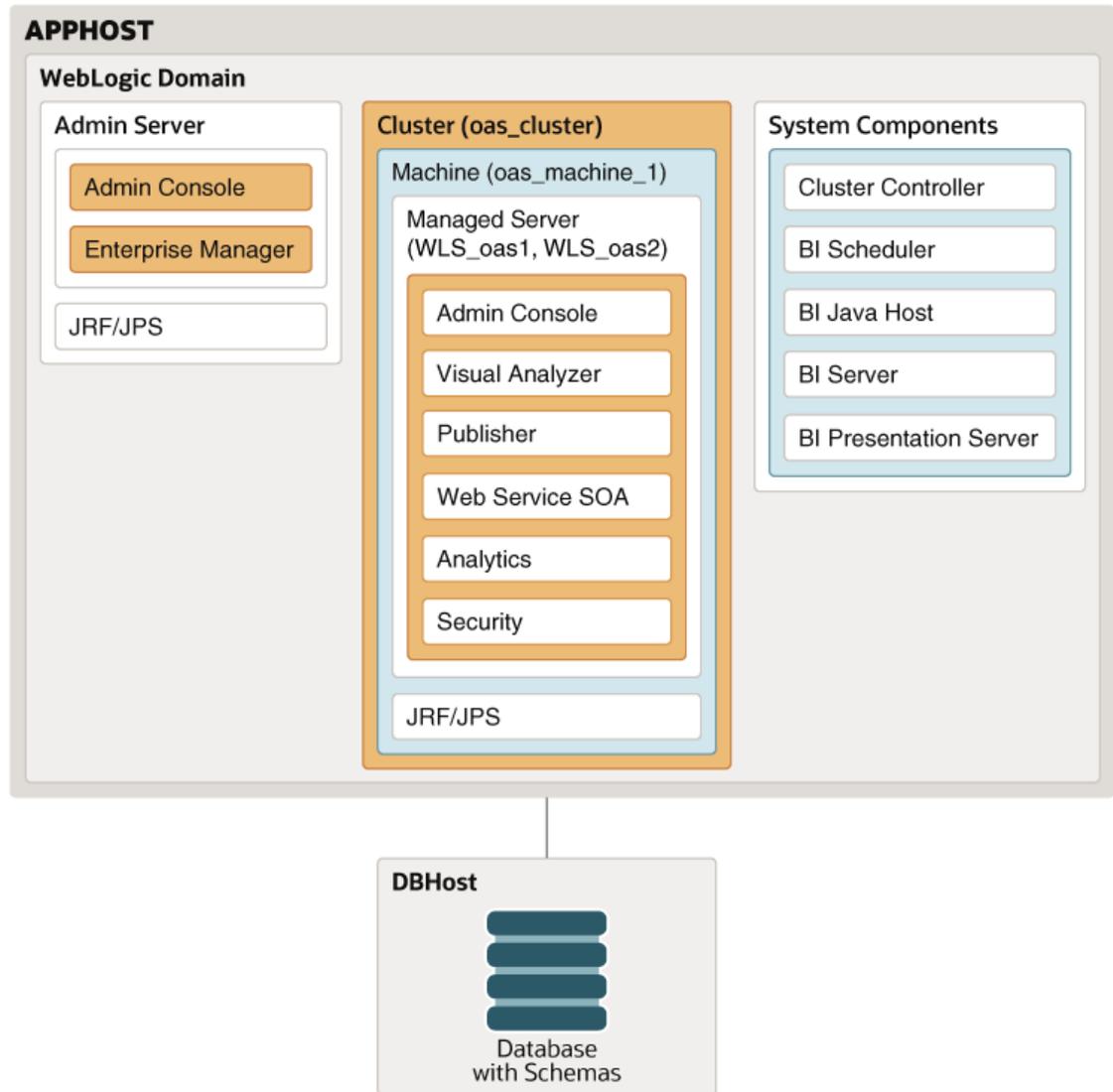
The steps to upgrade depend on your existing production topology.

As a result, it is difficult to provide exact upgrade instructions. This upgrade documentation provides detailed instructions for upgrading and is referred to as standard upgrade topology.

Your actual topology may vary, but the topology described in this guide provides an example that can be used as a guide to upgrade.

[Figure 1-1](#) shows the standard upgrade topology for Oracle Analytics Server.

Figure 1-1 Oracle Analytics Server Standard Upgrade Topology



Learn About Migration and Upgrade

Before you upgrade or migrate to the latest release of Oracle Analytics Server, learn about upgrade and migration.

Oracle has introduced many enhancements to existing features in Oracle Analytics Server. Sometimes, these enhancements replace the existing functionality or reimplement it in a different way. Wherever possible, the existing prior release functionality and configuration is migrated to the corresponding Oracle Analytics Server system. Although the appearance and behavior of the Oracle Analytics Server system can be different, the end result is expected to be functionally equivalent.

An efficient upgrade or migration strategy allows you to migrate your metadata and configuration from your Oracle Business Intelligence environment. The goal of this process is to not exactly replicate the appearance and behavior of the original Oracle Business Intelligence system in the latest Oracle Analytics Server environment. Replicating the Oracle Business Intelligence appearance and behavior is time-consuming and sometimes difficult, if

not impossible. For example, the dashboards and prompts are represented differently in Oracle Analytics Server and would require significant manual intervention to recreate the Oracle Business Intelligence appearance. It also undermines the rationale behind moving on to Oracle Analytics Server; namely, to take advantage of the enhancements that are introduced in Oracle Analytics Server.

About Upgrade Restrictions

If you are using two or more Oracle Fusion Middleware products of the same or different versions in a single, supported, Oracle Fusion Middleware configuration, you must consider the interoperability and compatibility factors before planning the upgrade.

Interoperability

In the context of Oracle Fusion Middleware products, interoperability is defined as the ability of two Oracle Fusion Middleware products or components of the same version (or release) to work together (interoperate) in a supported Oracle Fusion Middleware configuration. Specifically, interoperability applies when the first 4 digits of the release or version number are the same. For example, Oracle Fusion Middleware 12c (12.2.1.0) components are generally interoperable with other 12c 12.2.1.4.0 components.

Compatibility

In the context of Oracle Fusion Middleware products, compatibility is defined as the ability of two Oracle Fusion Middleware components of different versions (or releases) to interoperate.

For a list of products and features available in Oracle Fusion Middleware Release 12.2.1.4.0, see Products and Features Available in Oracle Fusion Middleware in *Understanding Interoperability and Compatibility*.

When performing the upgrade of your hardware or software, verify that your Oracle Fusion Middleware software is certified to support the new operating system or computer hardware. For more information, refer to the following resources:

- Oracle Fusion Middleware Supported System Configurations
- Oracle® Fusion Middleware System Requirements and Specifications

Note

When you upgrade your system to Oracle Analytics Server, Oracle Analytics Server grants some new permissions to the existing application roles so that your users automatically get access to the new features in Oracle Analytics Server.

If you migrate your system using a snapshot (BAR file) that was created in an earlier release, you must review how Oracle Analytics Server assigned permissions to application roles.

To review the permission sets available for Oracle Analytics Server or to change any of the default assignments, see Grant or Revoke Permissions Assignments in *Managing Security for Oracle Analytics Server*.

2

Upgrading to Oracle Analytics Server

You can upgrade your Oracle Business Intelligence 12c 12.2.1.4.0 system or a previous update of Oracle Analytics Server to the latest update of Oracle Analytics Server.

If your existing Oracle Business Intelligence system is earlier than the 12c 12.2.1.4.0 release, you must first upgrade your software to the 12c 12.2.1.4.0 release before you upgrade to Oracle Analytics Server.

About the Upgrade Process

The table lists the high-level steps that you need to perform to upgrade to the latest release of Oracle Analytics Server:

Table 2-1 Tasks for Upgrading Oracle Business Intelligence 12.2.1.4.0 or a previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server

Task	Required or Optional	Description
Learn about the interoperability and compatibility factors that could affect how you upgrade to the latest release of Oracle Analytics Server.	Optional	It is important to understand how two or more Oracle Fusion Middleware products of the same version or different versions work together (interoperate) in a supported Oracle Fusion Middleware configuration. You can learn more about interoperability and compatibility in Oracle® Fusion Middleware Understanding Interoperability and Compatibility.
If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.	Required	The pre-upgrade tasks include cloning your production environment, verifying system requirements and certifications, purging unused data, and creating a non-SYSDBA user. For a complete list of pre-upgrade tasks, see Pre-Upgrade Requirements
Download and install the 12.2.1.4.0 Fusion Middleware Infrastructure and Oracle Analytics Server distributions.	Required	The Infrastructure distribution combines the WebLogic Server and the Java Required Files (JRF) that are required to set up the foundation to install other Fusion Middleware products. You must install the Infrastructure in a new Oracle home. See About the Oracle Analytics Server Standard Topology . You must install the latest release of Oracle Analytics Server in the Oracle home that is created when you installed the Oracle Analytics Server Infrastructure. To install the product distributions, follow the procedure described in Installing the Product Distributions .
Run the Readiness Check.	Optional	See Running a Pre-Upgrade Readiness Check .

Table 2-1 (Cont.) Tasks for Upgrading Oracle Business Intelligence 12.2.1.4.0 or a previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server

Task	Required or Optional	Description
Shut down the servers and Oracle BI instance.	Required	Before starting the upgrade process, shut down the Administration Server, the Managed Servers, and your existing Oracle BI instance. However, keep the database (RDBMS) running. See Stopping Servers and Processes .
Upgrade the existing schemas with the Upgrade Assistant.	Required	The schemas that you created in Oracle BI 12.2.1.4.0 or the previous release of Oracle Analytics Server are supported in the latest release of Oracle Analytics Server. Therefore, you don't need to create the schemas again. You must upgrade all the schemas within your domain using the Upgrade Assistant. For the complete procedure, see Upgrading Product Schemas Using the Upgrade Assistant .
Back up the mapViewerConfig.xml File.	Required	The mapViewerConfig.xml file is overwritten by the reconfiguration templates when you run the Reconfiguration Wizard. Therefore, you must back up the mapViewerConfig.xml file before reconfiguring your existing domain. See Backing Up the mapViewerConfig.xml File .
Reconfigure the existing domain with the Reconfiguration Wizard.	Required	When you run the Reconfiguration Wizard on your existing domain, it prepares your domain for upgrade by selecting and applying the reconfiguration templates. It also tests the JDBC data sources and component schemas that are present within your domain. To reconfigure you domain, follow the procedure described in Reconfiguring the Oracle BI Domain with the Reconfiguration Wizard .
Restore the mapViewerConfig.xml File.	Required	You must restore the original file that you backed up before upgrading your domain with the Upgrade Assistant. See Restoring the mapViewerConfig.xml File .
Upgrade the existing domain configurations with the Upgrade Assistant.	Required	After you have reconfigured your existing domain, you must run the Upgrade Assistant to upgrade all configurations used by your existing domain. You can see all the components within your domain that will be upgraded on the Component List screen when you run the Upgrade Assistant. For the complete procedure, see Upgrading Domain Components Using the Upgrade Assistant .
Restart the servers and Oracle Analytics Server instance.	Required	The upgrade process is complete. You can now restart the Administration Server, the Managed Servers, and your Oracle Analytics Server instance. See Starting Servers and Processes .

Table 2-1 (Cont.) Tasks for Upgrading Oracle Business Intelligence 12.2.1.4.0 or a previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server

Task	Required or Optional	Description
Verify your upgrade.	Required	It is important to compare your existing environments and verify that the data and configuration settings are consistent in the newly upgraded environment.
Perform the post-upgrade tasks.	Required	For a list of post-upgrade tasks, see Post-Upgrade Tasks .

Pre-Upgrade Requirements

Before you begin the upgrade to the latest release of Oracle Analytics Server, you must perform pre-upgrade tasks such as backing up, cloning your current environment, and verifying that your system meets certified requirements.

Upgrade is performed while the servers are down. The pre-upgrade tasks are often time-consuming. Oracle recommends that you plan and prepare your environment for upgrade by completing these pre-upgrade tasks, so that you have a successful upgrade and a limited downtime.

Pre-Upgrade Checklist

The Pre-Upgrade Checklist identifies tasks that you must perform before you start your upgrade to ensure you have a successful upgrade and limited downtime.

Upgrades are performed while the servers are down. This checklist is meant to identify important — and often time-consuming — pre-upgrade tasks that you can perform before the upgrade to limit your downtime. The more preparation you can do before you begin the upgrade process, the less time you will spend offline.

Note

If the DISPLAY environment variable is not set up properly to allow for GUI mode, you may encounter the following error:

```
Xlib: connection to ":1.0" refused by server
Xlib: No protocol specified
```

To resolve this issue, set the DISPLAY environment variable to the system name or IP address of your local workstation, and rerun Upgrade Assistant.

If you continue to receive these errors after setting DISPLAY, try launching another GUI tool, such as `vnconfig`. If you see the same errors, your DISPLAY environment variable may still not be set correctly.

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. Complete only those tasks that apply to your configurations or use cases.

Table 2-2 Tasks to Perform Before You Upgrade

Task	Description
<p>Required</p> <p>Create a complete backup of your existing environment.</p>	<p>Back up all system-critical files and databases that contain any schemas that are to be upgraded. If the upgrade fails, you must restore your pre-upgrade environment and begin the upgrade again.</p> <p>See Creating a Complete Backup.</p> <ul style="list-style-type: none"> Make sure that your backup includes the schema version registry table. See Backing Up the Schema Version Registry Table. If you modified any of the startup scripts in your existing domain, you must copy them to temporary directory location (outside of the existing domain) during the upgrade and redeploy them after the upgrade. See Maintaining Custom Domain Environment Settings.
<p>Optional</p> <p>Clone your production environment to use as an upgrade testing platform.</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> <p>See Cloning Your Production Environment for Testing.</p>
<p>Required</p> <p>Verify that you are installing and upgrading your product on a supported hardware and software configuration.</p> <p>Warning: 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>Verify that your hardware and software configurations (including operating systems) are supported by the latest certifications and requirements documents. Also make sure to use a supported JDK version before you install the Oracle Analytics Server product distributions.</p> <p>Oracle recommends that you verify this information right before you start the upgrade as the certification requirements are frequently updated.</p> <p>Make sure that you have applied the latest patches to your components before you upgrade.</p> <p>See Verifying Certification and System Requirements.</p>
<p>Required for 32-bit Operating Systems Only</p> <p>Migrate to a 64-bit operating system before you can upgrade.</p>	<p>For more information, see Migrating from a 32-Bit to a 64-Bit Operating System.</p>
<p>Optional</p> <p>Update security policy files if you use enhanced encryption (AES 256).</p>	<p>Some of the security algorithms used in Fusion Middleware 12c require additional policy files for the JDK.</p> <p>If you plan to use enhanced encryption, such as AES 256, Oracle recommends that you apply the latest required policy files to the JDK before you upgrade.</p> <p>See Updating Policy Files when Using Enhanced Encryption (AES 256).</p>
<p>Optional</p> <p>Purge any outdated or unused data before you upgrade.</p>	<p>To optimize performance, consider purging data and objects that will not be used in the upgraded environment.</p> <p>Use the purge scripts before you start the instance upgrade to purge the closed BI instances that you do not need in the latest Oracle Analytics Server environment.</p> <p>See Purging Unused Data.</p>
<p>Optional</p> <p>Create a Non-SYSDBA user to run the Upgrade Assistant.</p>	<p>Oracle recommends that you create the FMW user to run Upgrade Assistant. User FMW can run the Upgrade Assistant without system administration privileges.</p> <p>See Creating a Non-SYSDBA User to Run the Upgrade Assistant</p>

Table 2-2 (Cont.) Tasks to Perform Before You Upgrade

Task	Description
Required Disable internal SSL.	It is important that you disable SSL on the internal communication links before you start the upgrade process. See Disabling Internal SSL .

Creating a Complete Backup

Before you start an upgrade, back up all system-critical files, including the databases that host your Oracle Fusion Middleware schemas.

The backup must include the `SYSTEM.SCHEMA_VERSION_REGISTRY$` table so that you can restore the contents back to its pre-upgrade state if the upgrade fails.

The Upgrade Assistant Prerequisites screen prompts you to acknowledge that backups have been performed before you proceed with the actual upgrade. However, note that the Upgrade Assistant does not verify that a backup has been created.

Backing Up the Schema Version Registry Table

Your system backup must include the `SYSTEM.SCHEMA_VERSION_REGISTRY$` table or the `FMWREGISTRY.SCHEMA_VERSION_REGISTRY$` table.

Each Fusion Middleware schema has a row in the `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. Before you run the Upgrade Assistant, make sure you back up your existing database schemas and the schema version registry.

Note

Before you upgrade a schema using the Upgrade Assistant, you must perform a complete database backup. During the upgrade, you are required to acknowledge that backups have been performed.

Maintaining Customized Domain and Environment Settings

If you have modified any domain-generated, server startup scripts, or configuration files in your pre-upgrade environment, it is important to note that these changes are overwritten during the installation, domain upgrade, and reconfiguration operations. Save your customized files to a shared library location so that you can continue to use them after the upgrade.

Every domain installation includes dynamically-generated domain and server startup scripts, such as `setDomainEnv`. These files are replaced by newer versions during the installation and upgrade process. To maintain your custom domain-level environment settings, Oracle recommends that you create a separate file to store the custom domain information before you upgrade, instead of modifying the scripts directly.

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` (Linux) and configure it to add custom libraries to the WebLogic Server classpath, specify additional command-line options for running the servers, or specify additional environment variables.

When using the `pack` and `unpack` commands, any custom settings that you add to this file are preserved during the domain upgrade operation and are carried over to the remote servers.

The following example illustrates 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 `EXISTING_DOMAIN_HOME/bin` directory.

Note

If you can't create the `setUserOverrides` script before an upgrade, you need to reapply your settings as described in *Re-apply Customizations to Startup Scripts in Upgrading Oracle WebLogic Server*.

Cloning Your Production Environment for Testing

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.

Cloning your production environment for testing is recommended, but not required.

Note

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. 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 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, and so on).

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.

Verifying Certification and System Requirements

Review the certification matrix and system requirements documents 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 64-bit environment, explicitly. 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.

Whenever new certifications occur, they are added to the appropriate certification document right away. New certifications can occur at any time. See the Certification Information in *Administering Oracle Analytics Server*.

Verify System Requirements and Specifications

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

To verify the requirements of the certification are met, see the *Oracle Fusion Middleware System Requirements and Specifications* document. For example, if the Certification Information indicates that your product is certified for installation on 64-Bit Oracle Linux 7, you must use System Requirements and Specifications document to verify that your Oracle Linux 7 system meets the required minimum specifications such as disk space, available memory, specific platform packages and patches, and other operating system-specific items.

Note

When you install the Oracle Analytics Server software in preparation for upgrade, you should use the same user account that you used to install and configure the existing, pre-upgrade Oracle Fusion Middleware software. This ensures that the proper owner and group is applied to new Oracle Analytics Server files and directories.

If you are running a 32-bit environment, you must perform an additional set of steps:

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

If you have a 32-bit operating system, then you must migrate your 32-bit environment to a 64-bit software environment before you upgrade.

Make sure to validate the migration to ensure all your Oracle Fusion Middleware 12c (12.2.1.4.0) software is working properly on the 64-bit machine, and only then perform the upgrade to Oracle Analytics Server.

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:

Warning

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.

Stop All Processes

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

Stop the Managed Servers

To stop a WebLogic Server Managed Server, use the `stopManagedWebLogic` script:

- (UNIX) `EXISTING_DOMAIN_HOME/bin/stopManagedWebLogic.sh managed_server_name admin_url`
(Windows) `EXISTING_DOMAIN_HOME\bin\stopManagedWebLogic.cmd managed_server_name admin_url`

When prompted, enter your user name and password.

Stop the Administration Server

When you stop the Administration Server, you also stop the processes running in the Administration Server, including the WebLogic Server Administration Console and Fusion Middleware Control.

To stop the Administration Server, use the `stopWebLogic` script:

- (UNIX) `EXISTING_DOMAIN_HOME/bin/stopWebLogic.sh`
(Windows) `EXISTING_DOMAIN_HOME\bin\stopWebLogic.cmd`

When prompted, enter your user name, password, and the URL of the Administration Server.

Stop Node Manager

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

Alternatively, after having set the `nodemanager.properties` attribute `QuitEnabled` to `true` (the default is `false`), you can use WLST to connect to Node Manager and shut it down. See [stopNodeManager](#) in *WLST Command Reference for Oracle WebLogic Server*.

Back Up All Files from the 32-bit Host Machine

Make sure that you have created a complete backup of your entire 12c (12.2.1.3.0) 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.

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:

- `12c_DOMAIN_HOME`
- `12c/nodemanager` directory located in `12c_ORACLE_HOME/wlserver/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.

Set Up the Target 64-bit Machine with the 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 vary by operating system. Consult your operating system's administration documentation for more information.

Restore the 12c (12.2.1.3.0) Backup from 32-bit Host to 64-bit Host

Restore the files you backed from the 32-bit host using the same directory structure that was used in 12c (12.2.1.3.0). The directory structure on the target machine must be identical to the structure of the host machine.

See [Recovering Your Environment](#) in *Oracle Fusion Middleware Administrator's Guide*.

Install the Product Distributions on the Target Machine

You must install the product distributions in a new Oracle home on the target machine.

Refer to the component-specific installation guides for the component(s) you are installing.

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

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

Note

The Node Manager upgrade procedure requires access to the original Node Manager files. Use the Node Manager files that you backed up from the 32-bit source machine.

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 Oracle Analytics Server.

Review the Fusion Middleware database requirements before starting the upgrade to ensure that the database hosting Oracle Fusion Middleware is supported and has sufficient space to perform an upgrade. See the Certification Matrix.

Note

If your database version is no longer supported, you must upgrade to a supported version before starting an upgrade. See [Upgrading and Preparing Your Oracle Databases for 12c \(12.2.1.4.0\)](#) in *Planning an Upgrade of Oracle Fusion Middleware*.

Verify that the JDK Is Certified for This Release of Oracle Fusion Middleware

At the time this document was published, the certified JDK was 1.8.0_221.

Refer to the Oracle Fusion Middleware Supported System Configurations information on the Oracle Technology Network (OTN) to verify that the JDK you are using is supported.

If your JDK is not supported, or you do not have a JDK installed, you must download the required Java SE JDK, from the following website:

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

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 installation 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 install the JDK in the following directory (UNIX): `/usr/java`.

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](#).

Updating Policy Files when Using Enhanced Encryption (AES 256)

If you plan to use enhanced encryption, such as Advanced Encryption Standard (AES) 256, in your upgraded environment, Oracle recommends that you apply the latest required policy files to the JDK before you upgrade.

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.

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

Note

If you attempt to use enhanced encryption without applying these policy files to the JDK before you begin the upgrade, the upgrade can fail and you must restore the entire pre-upgrade environment and start the upgrade from the beginning.

Purging Unused Data

Purging unused data and maintaining a purging methodology before an upgrade can optimize the upgrade process.

Some components have automated purge scripts. 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.

Creating a Non-SYSDBA User to Run the Upgrade Assistant

Oracle recommends that you create a non-SYSDBA user called FMW to run the Upgrade Assistant. This user has the privileges required to modify schemas, but does not have full administrator privileges.

SYSDBA is an administrative privilege that is 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 below must be granted to user FMW before starting the Upgrade Assistant.

Notes

The non-SYSDBA user FMW is created solely for the purpose of running the Upgrade Assistant. After this step is complete, drop the FMW user. Note that privileges required for running the Upgrade Assistant may change from release to release.

By default, the `v$atrans` table does not exist. You must run the `XAVIEW.SQL` script to create this table before creating the user. Moreover, the `grant select` privilege on the `v$atrans` table is required only by Oracle Identity Governance. If you don't require Oracle Identity Governance 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;
```

In the example below, `<password>` is the password that you set for the FMW user. When granting privileges, make sure that you specify your actual password.

```
create user FMW identified by <password>;
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;
grant select on dba_subscr_registrations to FMW with grant option;
grant manage scheduler to FMW;
```

If you are upgrading Oracle Identity Manager (OIM) schema, ensure that the FMW user has the following additional privileges:

```
grant execute on SYS.DBMS_FLASHBACK to fmw with grant option;
grant execute on sys.DBMS_SHARED_POOL to fmw with grant option;
grant execute on SYS.DBMS_XMLGEN to FMW with grant option;
grant execute on SYS.DBMS_DB_VERSION to FMW with grant option;
grant execute on SYS.DBMS_SCHEDULER to FMW with grant option;
grant execute on SYS.DBMS_SQL to FMW with grant option;
grant execute on SYS.DBMS_UTILITY to FMW with grant option;
grant ctxapp to FMW with admin option;
grant execute on SYS.DBMS_FLASHBACK TO FMW with grant option;
grant create MATERIALIZED VIEW to FMW with admin option;
grant all on SCHEMA_VERSION_REGISTRY TO FMW with grant option;
grant create SYNONYM to FMW with admin option;
grant execute on CTXSYS.CTX_ADM to FMW with grant option;
grant execute on CTXSYS.CTX_CLS TO FMW with grant option;
grant execute on CTXSYS.CTX_DDL TO FMW with grant option;
grant execute on CTXSYS.CTX_DOC TO FMW with grant option;
grant execute on CTXSYS.CTX_OUTPUT TO FMW with grant option;
grant execute on CTXSYS.CTX_QUERY TO FMW with grant option;
grant execute on CTXSYS.CTX_REPORT TO FMW with grant option;
grant execute on CTXSYS.CTX_THES TO FMW with grant option;
grant execute on CTXSYS.CTX_ULEXER TO FMW with grant option;
grant create JOB to FMW with admin option;
```

Disabling Internal SSL

You must disable SSL on the internal communication links before you start the upgrade process.

To disable internal SSL:

1. Stop the system by entering the following command:
 (Linux) `EXISTING_DOMAIN_HOME/bitools/bin/stop.sh`
 (Windows) `EXISTING_DOMAIN_HOME\bitools\bin\stop.cmd`
2. Enter the following command to disable SSL on WebLogic internal channels and internal components:
 (Linux) `EXISTING_DOMAIN_HOME/bitools/bin/ssl.sh internalssl false`
 (Windows) `EXISTING_DOMAIN_HOME\bitools\bin\ssl.cmd internalssl false`

3. Restart the system by entering the following command:

(Linux) `EXISTING_DOMAIN_HOME/bitools/bin/start.sh`

(Windows) `EXISTING_DOMAIN_HOME\bitools\bin\start.cmd`

Upgrading to the Latest Release of Oracle Analytics Server

This topic describes how to upgrade from Oracle Business Intelligence 12.2.1.4.0 or the previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server.

The upgrade operations are performed on the existing domain.

Note

Before you upgrade from Oracle Business Intelligence or Oracle Analytics Server installed with Oracle Fusion Middleware 12.2.1.4.0, see the steps and requirements documented in [Installing the Product Distributions](#).

Installing the Product Distributions

Before you begin your upgrade, download Oracle Fusion Middleware infrastructure 12.2.1.4 and Oracle Analytics Server distributions on the target system and install them by using Oracle Universal Installer.

Note

When Infrastructure is required for the upgrade, you must install the Oracle Fusion Middleware distribution first before you install other Fusion Middleware products.

Detailed instructions to install and configure Oracle Analytics Server is available in the *Installing and Configuring Oracle Analytics Server* guide.

To install the Oracle Analytics Server distributions:

1. Prepare to install and configure Oracle Analytics Server. See *Preparing to Install and Configure Oracle Analytics Server*.
2. Review the Critical Patch Update (CPU) Advisor for Oracle Analytics Server and apply the required patches. See Doc ID [2832967.2](#) and [Critical Patch Updates, Security Alerts and Bulletins](#).
3. Install Oracle Analytics Server. See *Installing the Oracle Analytics Server Software*.

Running a Pre-Upgrade Readiness Check

To identify potential issues with the upgrade, Oracle recommends that you run a readiness check before you start the upgrade process. Be aware that the readiness check may not be able to discover all potential issues with your upgrade. An upgrade may still fail, even if the readiness check reports success.

About Running a Pre-Upgrade Readiness Check

You can run the Upgrade Assistant in `-readiness` mode to detect issues before you perform the actual upgrade. You can run the readiness check in GUI mode using the Upgrade Assistant or in silent mode using a response file.

The Upgrade Assistant readiness check performs a read-only, pre-upgrade review of your Fusion Middleware schemas and WebLogic domain configurations that are at a supported starting point. The review is a read-only operation.

The readiness check generates a formatted, time-stamped readiness report so you can address potential issues before you attempt the actual upgrade. If no issues are detected, you can begin the upgrade process. Oracle recommends that you read this report thoroughly before performing an upgrade.

You can run the readiness check while your existing Oracle Fusion Middleware domain is online (while other users are actively using it) or offline.

You can run the readiness check any number of times before performing any actual upgrade. However, do not run the readiness check after an upgrade has been performed, as the report results may differ from the result of pre-upgrade readiness checks.

Note

To prevent performance from being affected, Oracle recommends that you run the readiness check during off-peak hours.

Starting the Upgrade Assistant in Readiness Mode

Use the `-readiness` parameter to start the Upgrade Assistant in readiness mode.

To perform a readiness check on your pre-upgrade environment with the Upgrade Assistant:

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant.
 - (Linux) `./ua -readiness`
 - (Windows) `ua.bat -readiness`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 2-3 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-readiness	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the -examine parameter.
-threads	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
-response	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).
-examine	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the -readiness parameter.
-logLevel <i>attribute</i>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> TRACE NOTIFICATION WARNING ERROR INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the -logLevel TRACE attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if -logLevel TRACE is used.

Table 2-3 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-logDir <i>location</i>	Optional	<p>Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files.</p> <p>The default locations are:</p> <p>(Linux)</p> <p><i>ORACLE_HOME</i>/oracle_common/upgrade/logs <i>ORACLE_HOME</i>/oracle_common/upgrade/temp</p> <p>(Windows)</p> <p><i>ORACLE_HOME</i>\oracle_common\upgrade\logs <i>ORACLE_HOME</i>\oracle_common\upgrade\temp</p>
-help	Optional	Displays all of the command-line options.

Performing a Readiness Check with the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to complete the pre-upgrade readiness check.

Readiness checks are performed only on schemas or component configurations that are at a supported upgrade starting point.

To complete the readiness check:

1. On the Welcome screen, review information about the readiness check. Click **Next**.
2. On the Readiness Check Type screen, select the readiness check that you want to perform:
 - **Individually Selected Schemas** allows you to select individual schemas for review before upgrade. The readiness check reports whether a schema is supported for an upgrade or where an upgrade is needed. When you select this option, the screen name changes to Selected Schemas.
 - **Domain Based** allows the Upgrade Assistant to discover and select all upgrade-eligible schemas or component configurations in the domain specified in the **Domain Directory** field. When you select this option, the screen name changes to Schemas and Configuration.

Leave the default selection if you want the Upgrade Assistant to check all schemas and component configurations at the same time, or select a specific option:

- **Include checks for all schemas** to discover and review all components that have a schema available to upgrade.
- **Include checks for all configurations** to review component configurations for a managed WebLogic Server domain.

Click **Next**.

3. If you selected **Individually Selected Schemas**: On the Available Components screen, select the components that have a schema available to upgrade for which you want to perform a readiness check.

If you selected **Domain Based**: On the Component List screen, review the list of components that are present in your domain for which you want to perform a readiness check.

If you select a component that has dependent components, those components are automatically selected. For example, if you select Oracle Platform Security Services, Oracle Audit Services is automatically selected.

Depending on the components you select, additional screens may display. For example, you may need to:

- Specify the domain directory.
- Specify schema credentials to connect to the selected schema: **Database Type**, **DBA User Name**, and **DBA Password**. Then click **Connect**.

Note

Oracle database is the default database type. Make sure that you select the correct database type before you continue. If you discover that you selected the wrong database type, do not go back to this screen to change it to the correct type. Instead, close the Upgrade Assistant and restart the readiness check with the correct database type selected to ensure that the correct database type is applied to all schemas.

- Select the **Schema User Name** option and specify the **Schema Password**.

Note

The Upgrade Assistant automatically enables default credentials. If you are unable to connect, make sure that you manually enter the credentials for your schema before you continue.

Click **Next** to start the readiness check.

4. On the Readiness Summary screen, review the summary of the readiness checks that will be performed based on your selections.

If you want to save your selections to a response file to run the Upgrade Assistant again later in response (or silent) mode, click **Save Response File** and provide the location and name of the response file. A silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again.

For a detailed report, click **View Log**.

Click **Next**.

5. On the Readiness Check screen, review the status of the readiness check. The process can take several minutes.

If you are checking multiple components, the progress of each component displays in its own progress bar in parallel.

When the readiness check is complete, click **Continue**.

6. On the End of Readiness screen, review the results of the readiness check (**Readiness Success** or **Readiness Failure**):
 - If the readiness check is successful, click **View Readiness Report** to review the complete report. Oracle recommends that you review the Readiness Report before you perform the actual upgrade even when the readiness check is successful. Use the **Find** option to search for a particular word or phrase within the report. The report also indicates where the completed Readiness Check Report file is located.
 - If the readiness check encounters an issue or error, click **View Log** to review the log file, identify and correct the issues, and then restart the readiness check. The log file is managed by the command-line options you set.

Understanding the Readiness Report

After performing a readiness check for your domain, review the report to determine whether you need to take any action for a successful upgrade.

The format of the name of the readiness report file is:

```
readiness<timestamp>.txt
```

Where, *timestamp* indicates the date and time of when the readiness check was run.

A readiness report contains the following information:

Table 2-4 Readiness Report Elements

Report Information	Description	Required Action
Overall Readiness Status: SUCCESS or FAILURE	The top of the report indicates whether the readiness check passed or completed with one or more errors.	If the report completed with one or more errors, search for FAIL and correct the failing issues before attempting to upgrade. You can re-run the readiness check as many times as necessary before an upgrade.
Timestamp	The date and time that the report was generated.	No action required.
Log file location /oracle_common/upgrade/logs	The directory location of the generated log file.	No action required.
Domain Directory	Displays the domain location	No action required.
Readiness report location /oracle_common/upgrade/logs	The directory location of the generated readiness report.	No action required.
Names of components that were checked	The names and versions of the components included in the check and status.	If your domain includes components that cannot be upgraded to this release, such as SOA Core Extension, do not attempt an upgrade.
Names of schemas that were checked	The names and current versions of the schemas included in the check and status.	Review the version numbers of your schemas. If your domain includes schemas that cannot be upgraded to this release, do not attempt an upgrade.
Individual Object Test Status: FAIL	The readiness check test detected an issue with a specific object.	Do not upgrade until all failed issues have been resolved.

Table 2-4 (Cont.) Readiness Report Elements

Report Information	Description	Required Action
Individual Object Test Status: PASS	The readiness check test detected no issues for the specific object.	If your readiness check report shows only the PASS status, you can upgrade your environment. Note, however, that the Readiness Check cannot detect issues with externals such as hardware or connectivity during an upgrade. You should always monitor the progress of your upgrade.
Completed Readiness Check of <Object> Status: FAILURE	The readiness check detected one or more errors that must be resolved for a particular object such as a schema, an index, or datatype.	Do not upgrade until all failed issues have been resolved.
Completed Readiness Check of <Object> Status: SUCCESS	The readiness check test detected no issues.	No action required.

Stopping Servers and Processes

Before you run the Upgrade Assistant to upgrade your schemas and configurations, you must shut down all of the pre-upgrade processes and servers, including the Administration Server and any managed servers.

Note

The procedure in this section describe how to stop servers and processes using the WLST command-line utility or a script. You can also use the Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See Starting and Stopping Administration and Managed Servers and Node Manager.

To stop your Fusion Middleware environment:

1. Change to the following directory:
 - (Linux) `DOMAIN_HOME/bitools/bin`
 - (Windows) `DOMAIN_HOME\bitools\bin`
2. To stop the Oracle BI instance and servers, enter the following command:
 - (Linux) `stop.sh`
 - (Windows) `stop.cmd`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle BI domain.

Upgrading Product Schemas

After stopping servers and processes, use the Upgrade Assistant to upgrade supported product schemas to the current release of Oracle Fusion Middleware.

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.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to Oracle Analytics Server.

To start the Upgrade Assistant:

Note

Before you start the Upgrade Assistant, make sure that the JVM character encoding is set to UTF-8 for the platform on which the Upgrade Assistant is running. If the character encoding is not set to UTF-8, then you will not be able to download files containing Unicode characters in their names. This can cause the upgrade to fail.

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant:
 - (Linux) `./ua`
 - (Windows) `ua.bat`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 2-5 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-readiness</code>	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the <code>-examine</code> parameter.

Table 2-5 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-threads	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
-response	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).
-examine	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the <i>-readiness</i> parameter.
-logLevel <i>attribute</i>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> • TRACE • NOTIFICATION • WARNING • ERROR • INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the <i>-logLevel TRACE</i> attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if <i>-logLevel TRACE</i> is used.

Table 2-5 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-logDir location</code>	Optional	<p>Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files.</p> <p>The default locations are:</p> <p>(Linux)</p> <p><code>ORACLE_HOME/oracle_common/upgrade/logs</code> <code>ORACLE_HOME/oracle_common/upgrade/temp</code></p> <p>(Windows)</p> <p><code>ORACLE_HOME\oracle_common\upgrade\logs</code> <code>ORACLE_HOME\oracle_common\upgrade\temp</code></p>
<code>-help</code>	Optional	Displays all of the command-line options.

Upgrading Product Schemas Using the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to upgrade the product schemas.

If you are using DB2 in your existing BI instance, then perform the following before starting the upgrade process:

1. Sign in to the WebLogic Console.
2. Go to **Datasources** under **Services** and select **wlsservices_datasource**.
3. Change the user for data source 'wlsservices_datasource' from `<PREFIX>_WLS_RUNTIME` to `<PREFIX>_WLS`.

For example: Change the user from `L1_WLS_RUNTIME` to `L1_WLS`.

You can now proceed with the upgrade process.

To upgrade product schemas with the Upgrade Assistant:

1. On the Welcome screen, review an introduction to the Upgrade Assistant and information about important pre-upgrade tasks. Click **Next**.

Note

For more information about any Upgrade Assistant screen, click **Help** on the screen.

2. On the Selected Schemas screen, select option:
 - **All Schemas Used by a Domain** to allow the Upgrade Assistant to discover and select all components that have a schema available to upgrade in the domain specified

in the **Domain Directory** field. This is also known as a *domain assisted schema upgrade*. Additionally, the Upgrade Assistant pre-populates connection information on the schema input screens.

Note

Oracle recommends that you select **All Schemas Used by a Domain** for most upgrades to ensure all of the required schemas are included in the upgrade.

- **Individually Selected Schemas** if the domain uses the Oracle ATP (Autonomous Transaction Processing) database.

Click **Next**.

3. If you selected **All Schemas Used by a Domain**: On the Component List screen you will see two lists of schemas. The first list shows the components whose schemas are present in the domain and will be upgraded. The second list shows the list of missing schemas that may need to be created. If none of the required schemas are missing, you will only see the first list. Review both lists and click **Next**.

The Upgrade Assistant will attempt to create any missing schemas using the schema credentials used to create the existing domain schemas. You do not need to launch the Repository Creation Utility.

If you want to exclude some components or schemas from the list, navigate back to the All Schemas screen and select **Individually Selected Schemas**. This option allows you to select only those schemas you want included in the upgrade.

4. If you selected **Individually Selected Schemas** to upgrade the schema for the Oracle ATP database, perform these steps:
 - a. Select all the components including Oracle Business Intelligence.
 - b. In the schema details screen, input the full TNS connect string in the database connection string field, enter other details, and then click **Next** to proceed.

See TNS connect string examples in *Configuring the Oracle Analytics Server Domain when using Oracle ATP Database*.

5. On the Prerequisites screen, acknowledge that the prerequisites have been met by selecting all the check boxes. Click **Next**.

Note

The Upgrade Assistant does not verify whether the prerequisites have been met.

6. On the BIPLATFORM Schema [BIEE_PLATFORM] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_PLATFORM schema and click **Connect**.

When you see the message "Connection to database successfully completed", click **Next**.

7. On the IAU Schema [BIEE_IAU] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_IAU schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

8. On the OPSS Schema [BIEE_OPSS] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_OPSS schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

9. On the MDS Schema [BIEE_MDS] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_MDS schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

10. On the STB Schema [BIEE_STB] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_STB schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

11. On the WLS Schema [BIEE_WLS_RUNTIME] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_WLS_RUNTIME schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

12. On the Examine screen, review the status of the Upgrade Assistant as it examines each schema, verifying that the schema is ready for upgrade. If the status is **Examine finished**, click **Next**.

If the examine phase fails, Oracle recommends that you cancel the upgrade by clicking **No** in the Examination Failure dialog. Click **View Log** to see what caused the error.

Note

- If you resolve any issues detected during the examine phase without proceeding with the upgrade, you can start the Upgrade Assistant again without restoring from backup. However, if you proceed by clicking **Yes** in the Examination Failure dialog box, you need to restore your pre-upgrade environment from backup before starting the Upgrade Assistant again.
- Canceling the examination process has no effect on the schemas or configuration data; the only consequence is that the information the Upgrade Assistant has collected must be collected again in a future upgrade session.

13. On the Upgrade Summary screen, review the summary of the schemas that will be upgraded and/or created.

Verify that the correct Source and Target Versions are listed for each schema you intend to upgrade.

If you want to save these options to a response file to run the Upgrade Assistant again later in response (or silent) mode, click **Save Response File** and provide the location and name of the response file. A silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again.

Click **Next** .

14. On the Upgrade Progress screen, monitor the status of the upgrade.

 **Caution**

Allow the Upgrade Assistant enough time to perform the upgrade. Do not cancel the upgrade operation unless absolutely necessary. Doing so may result in an unstable environment.

If any schema isn't upgraded successfully, refer to the Upgrade Assistant log files for more information.

 **Note**

The progress bar on this screen displays the progress of the current upgrade procedure. It does not indicate the time remaining for the upgrade.

Click **Next**.

15. If the upgrade is successful: On the Upgrade Success screen, click **Close** to complete the upgrade and close the wizard.

If the upgrade fails: On the Upgrade Failure screen, click **View Log** to view and troubleshoot the errors. The logs are available at `NEW_ORACLE_HOME/oracle_common/upgrade/logs`.

 **Note**

If the upgrade fails, you must restore your pre-upgrade environment from backup, fix the issues, then restart the Upgrade Assistant.

Verifying the Schema Upgrade

After completing all the upgrade steps, verify that the upgrade was successful by checking that the schema version in `schema_version_registry` has been properly updated.

If you are using an Oracle database, connect to the database as a user having Oracle DBA privileges, and run the following from SQL*Plus to get the current version numbers:

```
SET LINE 120
COLUMN MRC_NAME FORMAT A14
COLUMN COMP_ID FORMAT A20
COLUMN VERSION FORMAT A12
COLUMN STATUS FORMAT A9
COLUMN UPGRADED FORMAT A8
SELECT MRC_NAME, COMP_ID, OWNER, VERSION, STATUS, UPGRADED FROM SCHEMA_VERSION_REGISTRY
ORDER BY MRC_NAME, COMP_ID ;
```

In the query result:

- Check that the number in the `VERSION` column matches the latest version number for that schema.

Note

However, that not all schema versions will be updated. Some schemas do not require an upgrade to this release and will retain their pre-upgrade version number.

- The STATUS field will be either UPGRADING or UPGRADED during the schema patching operation, and will become VALID when the operation is completed.
- If the status appears as INVALID, the schema update failed. You should examine the logs files to determine the reason for the failure.
- Synonym objects owned by IAU_APPEND and IAU_VIEWER will appear as INVALID, but that does not indicate a failure.

They become invalid because the target object changes after the creation of the synonym. The synonyms objects will become valid when they are accessed. You can safely ignore these INVALID objects.

Backing Up the mapViewConfig.xml File

The mapViewConfig.xml file is overwritten by the reconfiguration templates when you run the Reconfiguration Wizard. Therefore, you must back up the mapViewConfig.xml file before reconfiguring your existing domain.

To back up the mapViewConfig.xml file:

1. Change directory to the location of the mapViewConfig.xml file:
 - (Linux) `cd EXISTING_DOMAIN_HOME/config/fmwconfig/mapviewer/conf`
 - (Windows) `cd EXISTING_DOMAIN_HOME\config\fmwconfig\mapviewer\conf`
2. Check the file size of the mapViewConfig.xml file: is present in the following location on your system. Use the list command: `ls -ltr` to check its file size.
 - (Linux) `ls -ltr`
 - (Windows) `dir`
3. Copy the mapViewConfig.xml file as shown:
 - (Linux) `cp mapViewConfig.xml mapViewConfig_original.xml`
 - (Windows) `copy "mapViewerConfig.xml" "mapViewerConfig_original.xml"`

About Reconfiguring the Domain

Run the Reconfiguration Wizard to reconfigure your domain component configurations to Oracle Analytics Server.

If you can't run the Reconfiguration Wizard in GUI mode, Oracle recommends you to use a WLST script to reconfigure your domain. See [Reconfiguring a WebLogic Domain Using WebLogic Scripting Tool](#).

When you reconfigure a WebLogic Server domain, the following items are automatically updated, depending on the applications in the domain:

- WebLogic Server core infrastructure
- Domain version

Note

Before you begin the domain reconfiguration, note the following limitations:

- The Reconfiguration Wizard does not update any of your own applications that are included in the domain.
- Transforming a non-dynamic cluster domain to a dynamic cluster domain during the upgrade process is not supported.

The dynamic cluster feature is available when running the Reconfiguration Wizard, but Oracle only supports upgrading a non-dynamic cluster upgrade and then adding dynamic clusters. You cannot add dynamic cluster during the upgrade process.

- If the installation that you're upgrading does not use Oracle Access Management (OAM), then you must edit two files to prevent the Reconfiguration Wizard from attempting to update the nonexistent OAM Infrastructure schema, which causes the upgrade to fail.

Comment out the lines in your `$DOMAIN/init-info/domain-info.xml` that are similar to this example:

```
<!--extention-template-ref name="Oracle Identity Navigator"
    version="11.1.1.3.0"
    location="/u01/app/oracle/product/fmw/iam111130/common/templates/applications/
yourcompany.oinav_11.1.1.3.0_template.jar"
    symbol=""-->

<!--install-comp-ref name="oracle.idm.oinav" version="11.1.1.3.0"
    symbol="yourcompany.idm.oinav_11.1.1.3.0_iam111130_ORACLE_HOME"
    product_home="/u01/app/oracle/product/fmw/iam111130"-->
```

and similarly comment out the lines in `$DOMAIN/config/config.xml` that are similar to this example:

```
<!--app-deployment>
<name>oinav#11.1.1.3.0</name>
<target>AdminServer</target>
<module-type>ear</module-type>

<source-path>u01/app/oracle/product/fmw/iam111130/oinav/modules/oinav.ear_11.1.1.3.0/
oinav.ear</source-path>
<deployment-order>500</deployment-order>
<security-dd-model>DDOnly</security-dd-model>
<staging-mode>nostage</staging-mode>
</app-deployment-->
```

Specifically, when you reconfigure a domain, the following occurs:

- The domain version number in the `config.xml` file for the domain is updated to the Administration Server's installed WebLogic Server version.
- Reconfiguration templates for all installed Oracle products are automatically selected and applied to the domain. These templates define any reconfiguration tasks that are required to make the WebLogic domain compatible with the current WebLogic Server version.

- Start scripts are updated.

If you want to preserve your modified start scripts, be sure to back them up before starting the Reconfiguration Wizard.

Note

When the domain reconfiguration process starts, you can't undo the changes that it makes. Before running the Reconfiguration Wizard, ensure that you have backed up the domain as covered in the pre-upgrade checklist. If an error or other interruption occurs while running the Reconfiguration Wizard, you must restore the domain by copying the files and directories from the backup location to the original domain directory. This is the only way to ensure that the domain has been returned to its original state before reconfiguration.

Follow these instructions to reconfigure the existing domain using the Reconfiguration Wizard. See *Reconfiguring WebLogic Domains* in *Upgrading Oracle WebLogic Server*.

Backing Up the Domain

Before running the Reconfiguration Wizard, create a backup copy of the domain directory.

To create a backup of the domain directory:

1. Copy the source domain to a separate location to preserve the contents.
 - (Linux) `cp -rf mydomain mydomain_backup`
 - (Windows) `cp mydomain /domains/mydomain_backup`
2. Before updating the domain on each remote Managed Server, create a backup copy of the domain directory on each remote machine.
3. Verify that the backed up versions of the domain are complete.

If domain reconfiguration fails for any reason, you must copy all files and directories from the backup directory into the original domain directory to ensure that the domain is returned entirely to its original state before reconfiguration.

Starting the Reconfiguration Wizard

Note

Shut down the administration server and all collocated managed servers before starting the reconfiguration process. See [Stopping Servers and Processes](#).

To start the Reconfiguration Wizard in graphical mode:

1. Sign in to the system on which the domain resides.
2. Open the command shell (on Linux operating systems) or open a command prompt window (on Windows operating systems).
3. **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 child edition name.

4. Go to the `oracle_common/common/bin` directory:
 - (Linux) `NEW_ORACLE_HOME/oracle_common/common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\commom\bin`
5. Start the Reconfiguration Wizard with the following logging options:
 - (Linux) `./reconfig.sh -log=log_file -log_priority=ALL`
 - (Windows) `reconfig.cmd -log=log_file -log_priority=ALL`

where *log_file* is 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 this command, the following error message might appear 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
```

In this section, *NEW_ORACLE_HOME* refers to the new Oracle Home.

Reconfiguring the Oracle BI Domain with the Reconfiguration Wizard

Navigate through the screens in the Reconfiguration Wizard to reconfigure your existing domain.

To reconfigure the domain:

1. On the Select Domain screen, specify the location of the domain you want to upgrade or click **Browse** to navigate and select the domain directory. Click **Next**.
2. On the Reconfiguration Setup Progress screen, view the progress of the setup process. When complete, click **Next**.

During this process:

- The reconfiguration templates for your installed products, including Fusion Middleware products, are automatically applied. This updates various domain configuration files such as `config.xml`, `config-groups.xml`, and `security.xml` (among others).
 - Schemas, scripts, and other such files that support your Fusion Middleware products are updated.
 - The domain upgrade is validated.
3. On the Domain Mode and JDK screen, select the JDK to use in the domain or click **Browse** to navigate to the JDK you want to use. The supported JDK version for 12c (12.2.1.4.0) is 1.8.0_221 and later. Click **Next**.

Note

You cannot change the **Domain Mode** at this stage.

For a list of JDKs that are supported for a specific platform, see Oracle Fusion Middleware Supported System Configurations.

4. On the Database Configuration Type screen, select **RCU Data** to connect to the Server Table (_STB) schema.

Enter the database connection details using the RCU service table (_STB) schema credentials and click **Get RCU Configuration**.

The Reconfiguration Wizard uses this connection to automatically configure the data sources required for components in your domain.

Note

By default **Oracle's Driver (Thin) for Service connections; Versions: Any** is the selected driver. If you specified an instance name in your connection details — instead of the service name — you must select **Oracle's Driver (Thin) for pooled instance connections; Versions: Any**. If you do not change the driver type, then the connection will fail.

For any existing 12c (12.2.1.4.0) datasource, the reconfiguration will preserve the existing values. For new datasources where the schema was created for 12c (12.2.1.4.0) by the RCU, the default connection data will be retrieved from the _STB schema. If no connection data for a given schema is found in the _STB schema, then the default connection data is used.

If the check is successful, click **Next**. If the check fails, reenter the connection details correctly and try again

If you are upgrading from 12c (12.2.1.4.0), and your database has _OPSS or _IAU 12c (12.2.1.4.0) database schemas, you must manually enter database connection details for those schemas. These schemas were not required in 12c and had to be created manually. Users could assign any name to these schemas, therefore the Reconfiguration Wizard does not recognize them. When providing connection information for _IAU, use the IAU_APPEND user information.

5. On the JDBC Data Sources screen, configure the JDBC data sources defined in your domain source.

The JDBC data sources associated with the products for which you are creating the domain are listed in the lower half of the screen. A JDBC data source contains a pool of database connections that are created when the data source instance is created, deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. When the applications no longer need the connections, they return the connections to the connection pool in the data source.

From the **Data Source Name** drop-down list, select the data source(s) for which you want to specify the settings. The values that you specify are displayed in the appropriate columns in the data source list, for the selected data source.

For Oracle RAC Configuration for data sources, you can select one of the three options:

- Convert to GridLink
- Convert to RAC multi data source
- Don't convert

For more information about each option, click **Help**.

After specifying the details, click **Next**.

If you do not select any data sources on the JDBC Data Sources screen, the following warning displays:

Missing Driver

Click **Ok** to proceed without verification, click **Cancel** to return to the JDBC Data Sources page.

In this case, if you click **Ok**, the data sources are not verified.

6. On the JDBC Data Sources Test screen, select the check box for the data source connection you configured on the JDBC Data Sources screen and click **Test Selected Connections** to test the data source connection.

To test the database connections, the database to which you are connecting must be running. If you do not want to test the connections at this time, do not select any data sources. Click **Next** to continue.

7. On the JDBC Component Schema Test screen, select all the component schemas and click **Test Selected Connections** to test the connection for each schema. The result of the test is indicated in the Status column.

When the check is complete, click **Next**.

8. On the Advanced Configuration screen, you can select all categories for which you want to perform advanced configuration. For each category you select, the appropriate configuration screen is displayed to allow you to perform advanced configuration.

The categories that are listed on the Advanced Configuration screen depend on the resources defined in the templates you selected for the domain.

For this upgrade, select none of the options and click **Next**.

9. On the Configuration Summary screen, review the detailed configuration settings of the domain before continuing.

You can limit the items that are displayed in the right-most panel by selecting a filter option from the **View** drop-down list.

To change the configuration, click **Back** to return to the appropriate screen. To reconfigure the domain, click **Reconfig**.

Note

The location of the domain does not change when you reconfigure it.

10. The Reconfiguration Progress screen displays the progress of the reconfiguration process.

During this process:

- Domain information is extracted, saved, and updated.
- Schemas, scripts, and other such files that support your Fusion Middleware products are updated.

When the progress bar shows 100%, click **Next**.

11. The End of Configuration screen indicates whether the reconfiguration process completed successfully or failed. It also displays the location of the domain that was reconfigured as well as the Administration Server URL (including the listen port). If the reconfiguration is successful, it displays **Oracle WebLogic Server Reconfiguration Succeeded**.

If the reconfiguration process did not complete successfully, an error message is displayed indicates the reason. Take appropriate action to resolve the issue. If you cannot resolve the issue, contact My Oracle Support.

Note the Domain Location and the Admin Server URL for further operations.

Restoring the mapViewConfig.xml File

The mapViewConfig.xml file is overwritten when you run the Reconfiguration Wizard on your domain. You can confirm that the mapViewConfig.xml file is overwritten by checking its file size. You must restore the original file that you backed up before upgrading your domain with the Upgrade Assistant.

To restore the original mapViewConfig.xml file:

1. Change to the following directory:
 - (Linux) `cd EXISTING_DOMAIN_HOME/config/fmwconfig/mapviewer/conf`
 - (Windows) `cd EXISTING_DOMAIN_HOME\config\fmwconfig\mapviewer\conf`
2. Enter the following command to list the files within this directory and check the file size of the mapViewConfig.xml file:
 - (Linux) `ls -ltr`
 - (Windows) `dir`

Note

The change in the file size implies that the mapViewConfig.xml file is overwritten by the reconfiguration template.

3. Restore the original file by renaming the mapViewConfig_original.xml to mapViewConfig.xml.
4. Enter the following command to list the files again and check the file size of the mapViewConfig.xml file:
 - (Linux) `ls -ltr`
 - (Windows) `dir`

The file size of the mapViewConfig.xml file should now match with the file size you obtained while backing up the mapViewConfig.xml file.

Upgrading Domain Component Configurations

Use the Upgrade Assistant to upgrade the domain *component* configurations inside the domain to match the updated domain configuration.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to Oracle Analytics Server.

To start the Upgrade Assistant:

Note

Before you start the Upgrade Assistant, make sure that the JVM character encoding is set to UTF-8 for the platform on which the Upgrade Assistant is running. If the character encoding is not set to UTF-8, then you will not be able to download files containing Unicode characters in their names. This can cause the upgrade to fail.

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant:
 - (Linux) `./ua`
 - (Windows) `ua.bat`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 2-6 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-readiness</code>	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the <code>-examine</code> parameter.
<code>-threads</code>	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
<code>-response</code>	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).

Table 2-6 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-examine	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the -readiness parameter.
-logLevel <i>attribute</i>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> TRACE NOTIFICATION WARNING ERROR INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the -logLevel TRACE attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if -logLevel TRACE is used.
-logDir <i>location</i>	Optional	Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files. The default locations are: (Linux) <i>ORACLE_HOME</i> /oracle_common/upgrade/logs <i>ORACLE_HOME</i> /oracle_common/upgrade/temp (Windows) <i>ORACLE_HOME</i> \oracle_common\upgrade\logs <i>ORACLE_HOME</i> \oracle_common\upgrade\temp
-help	Optional	Displays all of the command-line options.

Upgrading Domain Components Using the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to upgrade component configurations in the WebLogic domain.

After running the Reconfiguration Wizard to reconfigure the WebLogic domain to Oracle Analytics server, you must run the Upgrade Assistant to upgrade the domain *component* configurations to match the updated domain configuration.

1. On the Welcome screen, review an introduction to the Upgrade Assistant and information about important pre-upgrade tasks. Click **Next**.

Note

For more information about any Upgrade Assistant screen, click **Help** on the screen.

2. On the next screen:
 - Select **All Configurations Used By a Domain**. The screen name changes to WebLogic Components.
 - In the **Domain Directory** field, enter the WebLogic domain directory path.Click **Next**.
3. On the Component List screen, verify that the list includes all the components for which you want to upgrade configurations and click **Next**.

If you do not see the components you want to upgrade, click **Back** to go to the previous screen and specify a different domain.

4. On the Prerequisites screen, acknowledge that the prerequisites have been met by selecting all the check boxes. Click **Next**.

Note

The Upgrade Assistant does not verify whether the prerequisites have been met.

5. On the MapViewer Configuration screen, select the file version for upgrade, and click **Next**.
6. On the BAR backup location screen, provide a location outside domain and oracle_home to store the metadata backup, and then click **Next**.
7. On the Examine screen, review the status of the Upgrade Assistant as it examines each component, verifying that the component configuration is ready for upgrade. If the status is **Examine finished**, click **Next**.

If the examine phase fails, Oracle recommends that you cancel the upgrade by clicking **No** in the Examination Failure dialog. Click **View Log** to see what caused the error and refer to [Troubleshooting Your Upgrade](#) in *Upgrading with the Upgrade Assistant* for information on resolving common upgrade errors.

Note

- If you resolve any issues detected during the examine phase without proceeding with the upgrade, you can start the Upgrade Assistant again without restoring from backup. However, if you proceed by clicking **Yes** in the Examination Failure dialog box, you need to restore your pre-upgrade environment from backup before starting the Upgrade Assistant again.
- Canceling the examination process has no effect on the configuration data; the only consequence is that the information the Upgrade Assistant has collected must be collected again in a future upgrade session.

8. On the Upgrade Summary screen, review the summary of the options you have selected for component configuration upgrade.

The response file collects and stores all the information that you have entered, and enables you to perform a silent upgrade at a later time. The silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again. If you want to save these options to a response file, click **Save Response File** and provide the location and name of the response file.

Click **Upgrade** to start the upgrade process.

9. On the Upgrade Progress screen, monitor the status of the upgrade.

 **Caution**

Allow the Upgrade Assistant enough time to perform the upgrade. Do not cancel the upgrade operation unless absolutely necessary. Doing so may result in an unstable environment.

If any components are not upgraded successfully, refer to the Upgrade Assistant log files for more information.

 **Note**

The progress bar on this screen displays the progress of the current upgrade procedure. It does not indicate the time remaining for the upgrade.

Click **Next**.

10. If the upgrade is successful: On the Upgrade Success screen, click **Close** to complete the upgrade and close the wizard. The Post-Upgrade Actions window describes the manual tasks you must perform to make components functional in the new installation. This window appears only if a component has post-upgrade steps.

If the upgrade fails: On the Upgrade Failure screen, click **View Log** to view and troubleshoot the errors. The logs are available at `ORACLE_HOME/oracle_common/upgrade/logs`.

 **Note**

If the upgrade fails you must restore your pre-upgrade environment from backup, fix the issues, then restart the Upgrade Assistant.

Verifying the Domain-Specific-Component Configurations Upgrade

To verify that the domain-specific-component configurations upgrade was successful, sign in to the Administration console and the Oracle Enterprise Manager Fusion Middleware Control and verify that the version numbers for each component is the latest.

To sign in to the Administration Console, go to: `http://administration_server_host:administration_server_port/console`

To sign in to Oracle Enterprise Manager Fusion Middleware Control Console, go to: `http://administration_server_host:administration_server_port/em`

Note

After upgrade, make sure you run the administration tools from the new Oracle home directory and not from the previous Oracle home directory.

During the upgrade process, some OWSM documents, including policy sets and predefined documents such as policies and assertion templates, may need to be upgraded. If a policy set or a predefined document is upgraded, its version number is incremented by 1.

If you created the FMW user to run the Upgrade Assistant, ensure that you delete the account after verifying your upgrade was successful.

Starting Servers and Processes

After a successful upgrade, restart all processes and servers, including the Administration Server and any Managed Servers.

Note

The procedure in this section describe how to start servers and processes using the WLST command-line utility or a script. You can also use the Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See [Starting and Stopping Administration and Managed Servers and Node Manager](#)

To start your Fusion Middleware environment:

1. Change to the following directory:
 - (Linux) `DOMAIN_HOME/bitools/bin`
 - (Windows) `DOMAIN_HOME\bitools\bin`
2. To start the Oracle BI instance and servers, enter the following command:
 - (Linux) `start.sh`
 - (Windows) `start.cmd`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle BI domain.

Post-Upgrade Tasks

After completing the upgrade process, perform the tasks listed in this chapter to start the instance and validate the upgrade.

Enabling Internal SSL

If you have disabled SSL before the upgrade process, enable SSL on internal communication links after you complete the upgrade process.

If you hadn't configured SSL in your earlier system before upgrade, and you now want to configure SSL in your upgraded system, see *Enable End-to-End SSL in Managing Security for Oracle Analytics Server*.

To enable internal SSL:

1. Stop the system by entering the following command:
 - (Linux) `EXISTING_DOMAIN_HOME/bitools/bin/stop.sh`
 - (Windows) `EXISTING_DOMAIN_HOME\bitools\bin\stop.cmd`
2. Enter the following command to enable SSL on WebLogic internal channels and internal components:
 - (Linux) `EXISTING_DOMAIN_HOME/bitools/bin/ssl.sh internalssl true`
 - (Windows) `EXISTING_DOMAIN_HOME\bitools\bin\ssl.cmd internalssl true`
3. Restart the system by entering the following command:
 - (Linux) `EXISTING_DOMAIN_HOME/bitools/bin/start.sh`
 - (Windows) `EXISTING_DOMAIN_HOME\bitools\bin\start.cmd`

Migrating Catalog Groups

Catalog groups were a feature of Oracle BI EE that allowed administrators to organize users and application roles for security administration purposes.

In Oracle Analytics Server, catalog groups are obsolete. The catalog groups are migrated by the upgrade process to application roles.

Allowing Content Developers to Include HTML Markup

The **Allow HTML/JavaScript/CSS Content** option allows content developers to include HTML markup such as JavaScript in various catalog objects. Various properties dialogs include the **Contains HTML/JavaScript/CSS Markup** option. By default, when you install or upgrade to Oracle Analytics Server, this option is turned off for security reasons.

To allow content developers to include HTML markup, use Oracle Analytics Server Console to enable the **Contains HTML/JavaScript/CSS Markup** option, and specify the appropriate privileges for content developers. See *Security Options in Administering Oracle Analytics Server*.

3

Migrating to Oracle Analytics Server

This topic explains how to migrate from Oracle Business Intelligence 12c and 11g systems or a previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server.

About the Migration Process

During migration, you migrate your metadata and configuration of the Oracle Business Intelligence components that you have installed on your system. Migration is a two-step process. In the first step, you create an export bundle from a previous release of Oracle Analytics Server or Oracle Business Intelligence release (11.1.1.9.0 or later). In the second step, you import the export bundle in to the latest Oracle Analytics Server system.

Oracle has introduced many enhancements to existing features in Oracle Analytics Server. Sometimes, these enhancements replace the existing functionality or reimplement it in a different way. Wherever possible, the existing prior release functionality and configuration is migrated to the corresponding Oracle Analytics Server system. Although the appearance and behavior of the Oracle Analytics Server system can be different, the end result is expected to be functionally equivalent.

An efficient migration strategy allows you to migrate your metadata and configuration from your Oracle Business Intelligence environment. The goal of this process is to not exactly replicate the appearance and behavior of the original Oracle Business Intelligence system in the latest Oracle Analytics Server environment. Replicating the Oracle Business Intelligence appearance and behavior is time-consuming and sometimes difficult, if not impossible. For example, the dashboards and prompts are represented differently in Oracle Analytics Server and would require significant manual intervention to recreate the Oracle Business Intelligence appearance. It also undermines the rationale behind moving on to Oracle Analytics Server; namely, to take advantage of the enhancements that are introduced in Oracle Analytics Server.

The export process is read-only. Data, configuration, or existing binaries are not modified or deleted on the source system. During export, the metadata and configuration (specifically the data model and connection pools), the catalog content, and the security store authorization policy are retained. You must reconfigure the following:

- The WebLogic authentication configuration

WebLogic doesn't support migration from Oracle Business Intelligence to Oracle Analytics Server. Therefore, you must reconfigure the security realm in Oracle Analytics Server as it's not a part of the Oracle Business Intelligence to Oracle Analytics Server migration. If your users and groups are in an external LDAP, you must configure your Oracle Analytics Server to point to the external LDAP. If your Oracle Business Intelligence users were hosted in the WebLogic LDAP, you can use the WebLogic Server to export users from Oracle Business Intelligence in to Oracle Analytics Server WebLogic LDAP. However, Oracle Analytics Server doesn't support a BI System User. Therefore, you must delete the BI System User after you import it in to the Oracle Analytics Server system.

- Mid-tier database content (such as Oracle Analytics Publisher schedules, the job history of agents, scorecard annotations, and usage tracking tables)

The Agents are migrated from Oracle Business Intelligence to Oracle Analytics Server in a disabled state. You must reenabling them after the migration. Reenabling the agents

recreates the entries in the scheduler database. However, the Agent history is not migrated from Oracle Business Intelligence to Oracle Analytics Server. You must also reconfigure Usage Tracking.

- Application-specific data such as TimesTen aggregates, the global cache, required database schemas, data, outlines, rules, and calculations

The import process is offline. During import, metadata content is deployed to customize the specified service instance and it overwrites the existing configuration settings.

The following components are migrated:

- Oracle BI Server: This includes the NQConfig.INI and the opmn.xml files.
- Oracle BI Presentation Services: This includes the instanceconfig.xml file.
- Oracle Analytics Publisher: This includes the scanner.xml, xdo.cfg, xmlp-server-config.xml, datasources.xml, xdodelivery.cfg, cupsprinters.cfg files, the Map directory, and the Plugins directory.

The following metadata is migrated:

- Content (Oracle BI Presentation Services Catalog), semantic model (the .RPD file), and the authorization policy securing it (Java Authorization (JAZN)).

The following OPMN properties contained in the opmn.xml file are not migrated to Oracle Analytics Server during configuration migration:

- obips
- obiccs
- obijh
- obisch

However, the OBIS property is migrated.

Note

The existing system is left unchanged during and after the migration process is complete.

[Table 3-1](#) provides a high-level summary of the steps that you must perform to migrate from Oracle Business Intelligence or previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server.

Table 3-1 Tasks for Migrating to Oracle Analytics Server

Task	Description
<p>Required</p> <p>If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.</p>	<p>The pre-upgrade tasks include cloning your production environment, verifying system requirements and certifications, purging unused data, and creating a non-SYSDBA user.</p> <p>For a complete list of pre-upgrade tasks, see Pre-Upgrade Requirements.</p>

Table 3-1 (Cont.) Tasks for Migrating to Oracle Analytics Server

Task	Description
<p>Required</p> <p>Review the prerequisites for Oracle Business Intelligence to Oracle Analytics Server migration.</p>	<p>Make sure that you meet the necessary requirements before you migrate your metadata and configuration to Oracle Analytics Server. Additionally, analyze and optimize your Oracle Business Intelligence system by removing redundant content and merging and consolidating similar content. For more information, see Migration Prerequisites.</p>
<p>Required</p> <p>Download and install the Fusion Middleware Infrastructure and Oracle Analytics Server distributions.</p>	<p>The Infrastructure distribution combines the WebLogic Server and the Java Required Files (JRF) that are required to set up the foundation to install other Fusion Middleware products. As per the upgrade topology defined in this guide, you must install the Infrastructure in a new Oracle home.</p> <p>To install the product distributions, follow the procedure that is described in Installing the Product Distributions.</p>
<p>Required</p> <p>Create the required Oracle Analytics Server schemas.</p>	<p>The schemas that you create will vary depending on your existing schema configuration.</p> <p>To create schemas with the Repository Creation Utility (RCU), see Creating the Required Oracle Analytics Server Schemas.</p>
<p>Required</p> <p>Configure the Oracle Analytics Server domain.</p>	<p>To configure the Oracle Analytics Server domain with the Configuration Assistant, see Configuring Oracle Analytics Server Domain with the Configuration Assistant.</p>
<p>Required</p> <p>Stop the servers and processes.</p>	<p>You must stop the Oracle Analytics Server instance, OBIS1, OBIPS1, Administration Server, Managed Servers, and the Node Manager before you start the migration. For the complete procedure, see Stopping Servers and Processes.</p>
<p>Required</p> <p>Use the appropriate migration tool depending on the release of Oracle Business Intelligence or Oracle Analytics Server .</p>	<ul style="list-style-type: none"> To migrate from Oracle Business Intelligence 11g, you must generate the BI Migration Tool jar file by using the BI Migration Script (migration-tool.sh cmd). For the complete procedure, see Generating the BI Migration Tool (bi-migration-tool.jar). To migrate from Oracle Business Intelligence 12c, navigate to (Linux)12c_DOMAIN_HOME\bitools\bin\ folder or (Windows)12c_DOMAIN_HOME\bitools\bin\ folder to use the export command specific to the Oracle Business Intelligence release.
<p>Required</p> <p>Create an export bundle.</p>	<p>The export bundle consists of the metadata information from the Oracle Business Intelligence home.</p> <ul style="list-style-type: none"> To create the export bundle (.jar file) from a 11g system, see Creating the Export Bundle. To create the export bundle (.bar file) from a 12c system, see Export Metadata Using Command Line.
<p>Required</p> <p>Import the export bundle in Oracle Analytics Server.</p>	<p>You must import the export bundle in Oracle Analytics Server.</p> <ul style="list-style-type: none"> To import the export bundle from a 11g system, use the BI Migration Script (migration-tool.sh cmd). The BI Migration Script automatically determines the Oracle home and the Domain home directories. To import the bundle, see Importing with the BI Migration Script (migration-tool.sh cmd). To import the export bundle from a 12c system, use the Oracle Analytics Server Console to upload and restore the export bundle. See Import Metadata in Oracle Analytics Server

Table 3-1 (Cont.) Tasks for Migrating to Oracle Analytics Server

Task	Description
Required Start the servers and processes.	To start the Oracle Analytics Server, OBIS1, OBIPS1, Administration Server, Managed Servers, and the Node Manager, see Starting Servers and Processes .
Required Complete the post-migration steps.	For Oracle Analytics Server post-migration steps, see Post-Migration Tasks . For Oracle Analytics Publisher post-migration steps, see Post-Migration Tasks for Oracle Analytics Publisher .

Migration Prerequisites

Ensure that you configure the environment as per Oracle recommendations in readiness for the migration.

Make sure that you have met the following requirements before you proceed to the migration procedure:

- You have file system permission.
- You have configured the WebLogic authentication chain to enable the Oracle Business Intelligence users to sign in to the Oracle Analytics Server domain. See *Configuring Authentication Providers in Administering Security for Oracle WebLogic Server*.

Make sure that you analyze and optimize the existing system by removing redundant content and merging and consolidating similar content.

While analyzing the existing system, note the following details:

- Name and size of the repository (semantic model)
- Name and size of the Oracle BI Presentation Catalog
- Existing security model details
- Data sources
- Number of scheduled jobs
- Any links to external systems

Optimizing the Source System

Migrating metadata and configuration from an existing Oracle Business Intelligence system requires time and resources. A poorly optimized Oracle Business Intelligence deployment can disrupt the migration process and can affect the performance of the Oracle Analytics Server. Oracle recommends that you analyze and optimize the existing Oracle Business Intelligence system by removing redundant content and merging and consolidating similar content.

To optimize the existing Oracle Business Intelligence system in readiness for migration:

1. Run the Consistency Checker to check the validity of the Oracle Business Intelligence repository (semantic model), and to identify and fix the syntax or semantic errors and warnings that can cause the queries to fail on the Oracle Analytics Server Model Administration Tool. See *Checking the Consistency of a Repository or a Business Model in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.
2. Disable the initialization blocks that are no longer being used.

3. Identify and remove users and groups that are no longer required, and therefore do not need to be migrated.
4. Identify and remove objects in the repository (semantic model) and the Oracle BI Presentation Catalog that are no longer required, and therefore do not need to be upgraded.
5. If you have been using the Oracle BI Server usage tracking functionality, then review the usage tracking data to identify unused objects.
6. If you have been using the Oracle BI Server summary advisor functionality, then review the summary advisor for aggregated data and aggregation script.

Installing the Product Distributions

Before you begin your upgrade, download Oracle Fusion Middleware infrastructure 12.2.1.4 and Oracle Analytics Server distributions on the target system and install them by using Oracle Universal Installer.

Note

When Infrastructure is required for the upgrade, you must install the Oracle Fusion Middleware distribution first before you install other Fusion Middleware products.

Detailed instructions to install and configure Oracle Analytics Server is available in the *Installing and Configuring Oracle Analytics Server* guide.

To install the Oracle Analytics Server distributions:

1. Prepare to install and configure Oracle Analytics Server. See *Preparing to Install and Configure Oracle Analytics Server*.
2. Review the Critical Patch Update (CPU) Advisor for Oracle Analytics Server and apply the required patches. See Doc ID [2832967.2](#) and [Critical Patch Updates, Security Alerts and Bulletins](#).
3. Install Oracle Analytics Server. See *Installing the Oracle Analytics Server Software*.

Creating the Required Oracle Analytics Server Schemas

When upgrading, you must create the required schemas. You can use the Repository Creation Utility (RCU) to create customized schemas or, optionally, you can use the Upgrade Assistant to create schemas using the default schema settings. This procedure describes how to create schemas using the RCU. Information about using the Upgrade Assistant to create schemas is covered in the upgrade procedures.

To create the required schemas:

1. Optional: If you wish to confirm the schemas which are present in your existing domain, then connect to the database as a user with DBA privileges, and run the following code from SQL*Plus:

```
SET LINE 120
COLUMN MRC_NAME FORMAT A14
COLUMN COMP_ID FORMAT A20
COLUMN VERSION FORMAT A12
COLUMN STATUS FORMAT A9
```

```
COLUMN UPGRADED FORMAT A8
SELECT MRC_NAME, COMP_ID, OWNER, VERSION, STATUS, UPGRADED FROM
SCHEMA_VERSION_REGISTRY ORDER BY MRC_NAME, COMP_ID ;
```

2. Verify that a certified JDK already exists on your system by running `java -version` from the command line.

Ensure that the `JAVA_HOME` environment variable is set to the location of the certified JDK. For example:

- (Linux) `setenv JAVA_HOME=c:/home/Oracle/Java/jdk1.8.0_131`
- (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk1.8.0_131`

Add `$JAVA_HOME/bin` to `$PATH`.

3. Go to the `oracle_common/bin` directory:
 - (Linux) `NEW_ORACLE_HOME/oracle_common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\bin`
4. Start the RCU:
 - (Linux) `./rcu`
 - (Windows) `rcu.bat`
5. On the Welcome screen, click **Next**.
6. On the Create Repository screen, select **Create Repository** and then select **System Load and Product Load**.

If you do not have DBA privileges, select **Prepare Scripts for System Load**. This will generate a SQL script containing all the same SQL statements and blocks that would have been called if the RCU were to process the actions for the selected components. After the script is generated, a user with the necessary SYS or SYSDBA privileges can run the script to complete the system load phase.

Click **Next**.

7. On the Database Connection Details screen, select the **Database Type** and enter the connection information for the database that hosts the schemas.

If the prerequisite check is successful, click **OK** to continue to the next screen. If the check fails, review the details you entered and try again.
8. On the Select Components screen:
 - a. Specify the custom prefix you want to use to identify the Oracle Fusion Middleware schemas.

The custom prefix is used to logically group these schemas together for use in this domain. For the purposes of this guide, use the prefix `FMW12214`.

Note the custom prefix that you have specified on this screen. You will need this later, during the domain creation process.

- b. Select **AS Common Schemas** and **BIPLATFORM**.

When you select **AS Common Schemas** and **BIPLATFORM**, all of the schemas in this section are automatically selected. If the schemas in this section are not automatically selected, then select the required schemas.

Common Infrastructure Services schema, also known as STB schema, is automatically created. You cannot select or deselect an STB schema. STB schema enables you to retrieve information from the RCU during domain configuration.

9. In the Checking Prerequisites dialog, verify that the prerequisites check is successful, then click **OK**.
10. On the Schema Passwords screen, specify the passwords for your schema owners.
Make a note of the passwords you enter on this screen as you will need this information while configuring your product installation.
11. On the Map Tablespaces screen, configure the required tablespace mapping for the schemas you want to create.

Click **Next**, then click **OK** in the confirmation dialog. When the progress dialog shows the tablespace creation is complete, click **OK**.

You see the **Encrypt Tablespace** check box only if you have enabled Transparent Data Encryption (TDE) in the database (Oracle or Oracle EBR) when you start the RCU. Select the **Encrypt Tablespace** check box on the Map Tablespaces screen to encrypt all new tablespaces that the RCU creates.
12. Verify the information on the Summary screen and click **Create** to begin schema creation.
This screen contains information about the log files that were created from this RCU operation. Click on the name of a particular log file to view the contents of that file.
13. Review the information on the Completion Summary screen to verify that the operation is completed successfully. Click **Close** to complete the schema creation.

Database Connection Details

Provide the connection information for the database that hosts the schemas.

Table 3-2 Connection Credentials for Oracle Databases and Oracle Databases with Edition-Based Redefinition

Option	Description and Example
Host Name	Specify the name of the server where your database is running in the following format: examplehost.exampledomain.com For Oracle RAC databases, specify the VIP name or one of the node names in this field.
Port	Specify the port number for your database. The default port number for Oracle databases is 1521.
Service Name	Specify the service name for the database. Typically, the service name is the same as the global database name. For Oracle RAC databases, specify the service name of one of the nodes in this field. For example: examplehost.exampledomain.com
Username	Enter the user name for your database. The default user name is SYS.
Password	Enter the password for your database user.
Role	Select the database user's role from the drop-down list: Normal or SYSDBA

Table 3-3 Connection Credentials for MySQL Databases

Option	Description and Example
Host Name	Specify the host name, IP address, or complete server name in <i>host\server</i> format of the server where your database is running.
Port	Specify the port number for your database.
Database Name	Specify the name of your database.
Username	Specify the name of a user with administrator privileges.
Password	Enter the password for your database user.

Table 3-4 Connection Credentials for Microsoft SQL Server Databases

Option	Description and Example
Unicode Support	Select Yes or No from the drop-down list.
Server Name	Specify the host name, IP address, or complete server name in <i>host\server</i> format of the server where your database is running. MSSQL named instances: A named instance is identified by the network name of the computer and the instance name that you specify during installation. The client must specify both the server name and the instance name when connecting.
Port	Specify the port number for your database.
Database Name	Specify the name of your database.
Username	Specify the name of a user with administrator privileges.
Password	Enter the password for your database user.

Table 3-5 Connection Credentials for IBM DB2 Databases

Option	Description and Example
Server Name	Specify the host name, IP address, or complete server name in <i>host\server</i> format of the server where your database is running.
Port	Specify the port number for your database.
Database Name	Specify the name of your database.
Username	Specify the name of a user with DB Owner privileges. The default user name for IBM DB2 databases is db2inst1.
Password	Enter the password for your database user.

Configuring Oracle Analytics Server Domain with the Configuration Assistant

The Configuration Assistant is a `.sh` (Linux) or a `.cmd` (Windows) file. Start the Configuration Assistant by starting the configuration executable file from the `bi/bin` directory inside the Oracle home. Follow the procedure in this topic to complete the configuration step-by-step.

Note

If you are extending the WebLogic domain with Oracle Business Intelligence by using the Configuration Assistant, make sure that the Administration Server for the domain is named `AdminServer`. Other names for the Administration Server are not supported.

To configure the Oracle Analytics Server standard topology:

1. Change to the following directory:
 - (Linux) `ORACLE_HOME/bi/bin`
 - (Windows) `ORACLE_HOME\bi\bin`
2. Start the Configuration Assistant by entering the following command:
 - (Linux) `./config.sh`
 - (Windows) `config.cmd`
3. Select the components to install and click **Next**.

Note

To ensure that a consistent set of suites are deployed, the Configuration Assistant automatically adjusts your selection.

- Oracle Analytics Enterprise Edition: Includes components such as Presentation Services, BI Composer, web services, and proactive intelligence (Delivers and Actions).
 - Oracle Analytics Publisher: Includes Oracle Analytics Publisher.
4. On the Prerequisite Checks screen, after the prerequisite checks conclude with no errors, click **Next**.

If any of the prerequisite checks fail, then a short error message appears at the bottom of the screen. Fix the error and click **Rerun** to try again. To ignore the error or warning messages and continue with the installation, click **Skip**, although this approach is not recommended.

Note

The configuration might not function normally if you continue without resolving the issue that caused an error or warning message during the prerequisite checks.

5. On the Define New Domain screen, specify the following, and click **Next**:

- **Domains Directory** - Specify the path where you want to set up the domain directory.
 - **Domain** - Name Specify domain.
 - **Username** - Specify a username for the System Administrator. This user is created in the embedded LDAP and is granted WebLogic Administrator permissions.
 - **Password** - Specify a password for the System Administrator.
 - **Confirm Password** - Confirm the password by reentering it.
6. On the Database Schema screen, either create a new schema or use an existing schema by clicking the appropriate option. If you select to create a new schema, the Configuration Assistant creates a schema for you. Specify the following and click **Next**.
- **Schema prefix** - Specify a unique schema prefix.
 - **Schema password** - Specify a password for your schema.
 - **Confirm password** - Confirm the password by reentering it.
 - **Database type** - Select the database that you are using from the list of values. For the list of databases supported by Oracle Analytics Server for the release, see Certification - Supported Data Sources in *Administering Oracle Analytics Server*.
 - **Username** - Enter the privileged username to create the schema.
 - **Password** - Enter the password for the above username.
 - **Simple connect string** - The connect string that you specify varies depending on the type of database you are using.
(Oracle Database) host:port/service or host:port:SID or TNS connect string

For the list of databases supported by Oracle Analytics Server for the release, see Certification - Supported Data Sources in *Administering Oracle Analytics Server*.

If you select to use an existing schema, you must create STB, BIPLATFORM, IAU, MDS, OPSS, and WLS schemas using the RCU. Specify the following and click **Next**.

Note

If you are using Oracle Database version 12.2.0.1 or higher, you must create a pluggable database within a container database to create repository (semantic model) schemas. You cannot create schemas within a container database without using a pluggable database.

7. On the Port Range screen, specify the port range and click **Next**.

Note

The default, allocated port range is from 9500 to 9999, both inclusive. You can keep the default values or specify different values within this range.

8. On the Initial Application screen, select one of the following options as per your requirement, and click **Next**:
- Your own existing BI Application from export bundle (.jar).

Note

This option is applicable if you are migrating from Oracle BI 11g to Oracle Analytics Server.

- Clean Slate (no predefined application).
- 9. On the Summary screen, verify the values that you specified on each screen.
 - a. Optional: Click **Save** to generate a response file used for silent installation.
 - b. Click **Configure**.The configuration process starts and the Configuration Progress screen is displayed.
- 10. After the configuration concludes without any errors, click **Next** to go to the Configuration Complete screen.
- 11. On the Configuration Complete screen, review the configuration summary.
 - a. Click **Save** to save the information displayed on this screen in a file.
 - b. Click **Finish** to close the Configuration Assistant.

Oracle Analytics Server opens in the browser. Use the login credentials that you specified while configuring to sign into Oracle Analytics Server.

You have configured the standard Oracle Analytics Server topology. The Configuration Assistant automatically starts the newly configured Oracle Analytics Server instance after successful completion. However, if you want to restart a domain that has been shut down manually, see [Starting Servers and Processes](#).

Stopping Servers and Processes

Before you migrate your Oracle Business Intelligence metadata and configuration to Oracle Analytics Server, stop the Oracle Analytics Server instance, OBIS1, OBIPS1, Administration Servers, Managed Servers, and the Node Manager.

To stop your Fusion Middleware environment:

1. Change to the following directory in your Oracle Analytics Server instance:
 - (Linux) `DOMAIN_HOME/bitools/bin`
 - (Windows) `DOMAIN_HOME\bitools\bin`
2. To stop the Oracle Analytics Server instance and servers, enter the following command:
 - (Linux) `stop.sh`
 - (Windows) `stop.cmd`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle Analytics Server domain.

Migrating from Oracle Business Intelligence 12c or the Previous Release of Oracle Analytics Server

If you want to use a new server, or change the operating system, or use a newer version of operating system for Oracle Analytics Server, install Oracle Analytics Server in the new server, and migrate your metadata and configuration from Oracle Business Intelligence 12c or the previous release of Oracle Analytics Server to the latest release of Oracle Analytics Server.

Choose the correct metadata export script depending on the release of the source system.

When you perform an out-of-place migration from a source system, you export a BAR file from the source system, and then restore the content of the BAR file in the target Oracle Analytics Server system. After you restore the BAR file in your target system, you must explicitly add additional application policies to your Administrator application role so that you can perform administrative tasks in Oracle Analytics Server.

To review your application roles and polices, see [Manage Application Roles](#). To see the permission sets available in Oracle Analytics Server or to change any of these default assignments, see [Grant or Revoke Permissions Assignments](#).

Export Metadata Using Command Line

This topic describes the steps to create an archive file (.bar) from Oracle Business Intelligence 12.2.1.4.0 or the previous release of Oracle Analytics Server using command line. If you want to export metadata from other 12c releases, use the corresponding command to create the export bundle.

To create archive file (.bar) from Oracle Business Intelligence 12.2.1.4.0 or the previous release of Oracle Analytics Server (source system):

1. In your source system, navigate to:
 - (Linux) `DOMAIN_HOME/bitools/bin/`
 - (Windows) `DOMAIN_HOME\bitools\bin\`
2. Run and view the `exportarchive` command help:
 - (Linux) `exportarchive.sh -help`
 - (Windows) `exportarchive.cmd -help`

Note that the service instance key and the export directory are mandatory arguments.

Provide an encryption password when you run the `exportarchive` command because the `importarchive` command expects an encryption password.

3. Generate the archive file (.bar) . For example, run the following command to generate the archive file (.bar) and save the archive file (.bar) in the temp directory. The default service key name is `ssi`.
 - (Linux) `./exportarchive.sh ssi /temp`
 - (Windows) `exportarchive.cmd ssi /temp`

Import Metadata in Oracle Analytics Server

This topic describes the steps to import the metadata archived in a .bar file (snapshot) from the source system that you previously saved on your local file system. The time it takes to import the snapshot depends on the size of the snapshot .bar file.

When you import a snapshot, the file itself is uploaded to your system but the artifacts stored inside the snapshot aren't immediately available in your environment. Snapshots you import display in the snapshot list. When you're ready to do so, you can overwrite your current artifacts, such as your catalog, by restoring the snapshot.

1. In the Oracle Analytics Server Home page (URL format: `https://host:port/dv`), click the **Navigator** and select **Console**, and then click **Snapshots**.
2. Click the Page menu , select **Migrate**, and then click **Import Snapshot**.
3. Click **Select** to locate the export bundle that you want to upload.
Select the snapshot file (.bar) contains the metadata from your source system.
4. Enter the snapshot password.
This is the password that you specify whenever you download a snapshot to your local file system.
5. Click **Import**.

Migrating from Oracle Business Intelligence 11g

Install Oracle Analytics Server in a new server and migrate your metadata and configuration from Oracle Business Intelligence 11g environment to Oracle Analytics Server.

Use the command line to migrate the metadata and configuration from the Oracle Business Intelligence 11.1.1.9 system to the Oracle Analytics Server system.

Migrating using the Command Line

You can migrate the content you created in Oracle BI Enterprise Edition 11g to Oracle Analytics Server using the command line.

- [Generating the BI Migration Tool \(bi-migration-tool.jar\)](#)
- [Creating the Export Bundle](#)
- [Importing with the BI Migration Script \(migration-tool.sh|cmd\)](#)

Generating the BI Migration Tool (bi-migration-tool.jar)

The BI Migration Tool (bi-migration-tool.jar) is self-executing and self-contained. You must generate the BI Migration Tool jar file by using the BI Migration Script (migration-tool.sh|cmd). The BI Migration Script is made available after you configure the Oracle Analytics Server domain. This step packages the components of the BI Migration Tool into a single, self-executing jar file, so that it can be easily transported on to an 11g system. To do this, you must have access to a Oracle Analytics Server with a configured domain. You must set up the Oracle Analytics Server domain to provide sufficient infrastructure to run the BI Migration Tool

and allow it to repackage itself. The Oracle Analytics Server domain can be empty at this stage.

To generate the BI Migration Tool jar:

1. The BI Migration Script (migration-tool.sh/cmd) is available at the following location:
(UNIX) *DOMAIN_HOME*/bitools/bin/
2. Run the following command to generate the BI Migration Tool:
(UNIX) *DOMAIN_HOME*/bitools/bin/migration-tool.sh package bi-migration-tool.jar
Where,

Table 3-6 Command Description

Option	Description
<i>DOMAIN_HOME</i> /bitools/bin	Specifies the location of the BI Migration Script.
package	Specifies the BI Migration Script to perform the packaging operation.
bi-migration-tool.jar	Specifies the file name of the migration tool jar file where the output is written. In this documentation, the bi-migration-tool.jar file is referred as the "BI Migration Tool" and the migration-tool.sh script is referred as the "BI Migration Script".

3. Copy the BI Migration Tool to the host system from where you want to export data.

Creating the Export Bundle

The export bundle is a ".jar " file and consists of the metadata information from the 11g Oracle home.

To create an export bundle:

1. Change to the directory where you created the bi-migration-tool.jar file.
2. Run the BI Migration Tool without passing parameters. Enter the following command:
(UNIX) *JDK_HOME*/bin/java -jar bi-migration-tool.jar

Note

The JDK version must be JDK 1.8.0_131 or higher. You must verify that a certified JDK already exists on your system by running `java -version` from the command line.

This command displays the list of parameters that you can include for the BI Migration Tool to locate various parts of the 11g system.

3. Run the BI Migration Tool with the following parameters this time to create an export bundle.

Table 3-7 Parameter Description: Creating Export Bundle

Parameter	Description
out	Indicates the BI Migration Tool to run in Export mode.

Table 3-7 (Cont.) Parameter Description: Creating Export Bundle

Parameter	Description
<oracle 11g home>	Specifies the Oracle home directory. This is typically the directory Oracle_BI inside Middleware home.
DOMAIN_HOME	Specify the Domain home directory. This is typically the directory user_projects/domains/bi/ inside the Middleware home.
<output export bundle path>	Specifies the file name of the export bundle where the output is written. The output is not a BAR file. The file name of the export bundle must include the "jar" extension.

Following is a sample command for creating an export bundle:

```
(UNIX) JDK_HOME/bin/java -jar bi-migration-tool.jar out ORACLE_HOME/Oracle_BI1
DOMAIN_HOME/tmp/migration-tool-test/test_export.jar
```

Where,

Table 3-8 Parameter Values: Creating Export Bundle

Parameter	Description
ORACLE_HOME/Oracle_BI1	The path where the Oracle home directory is located.
DOMAIN_HOME	The path where the Domain home directory is located.
/tmp/migration-tool-test/test_export.jar	The location where the export bundle is created.

Note

Make sure to replace these file paths with the respective paths on your system.

The following message indicates a successful export:

```
Export succeeded
```

Copy the export bundle in to the Oracle Analytics Server system.

Importing with the BI Migration Script (migration-tool.sh|cmd)

You must import the export bundle using the BI Migration Script (migration-tool.sh|cmd). The BI Migration Script automatically determines the Oracle home and the Domain home directories.

You can include the following parameters while running the BI Migration Script to import the export bundle in to the Oracle Analytics Server system:

Table 3-9 Parameter Description: Importing the export bundle

Parameter	Description
in	Indicates the BI Migration Script to import the bundle.
config	Indicates the BI Migration Script to overwrite the configuration files during the import process. This allows you to also migrate the configuration along with the data.
<export bundle>	The path where the export bundle is located.
<service instance name>	Specifies the name of the service instance, which is ssi.

Note

The default service instance name is "ssi". However, if you install Oracle BI in a silent mode using a response file, you can specify a service instance name during the product installation. In that case, you must specify the service instance name you have specified in the response file.

To import the metadata and configuration in to the Oracle Analytics Server system:

1. Run the BI Migration Script with the following parameters:

(UNIX) `DOMAIN_HOME/bitools/bin/migration-tool.sh in config <export bundle> <service instance name>`

For example,

`DOMAIN_HOME/bitools/bin/migration-tool.sh in config /tmp/migration-tool-test/test_export.jar ssi`

Where,

Table 3-10 Parameter Values: Importing the export bundle

Parameter	Description
in	Indicates the BI Migration Script to import the bundle.
config	Indicates the BI Migration Script to overwrite the configuration files during the import process.
/tmp/migration-tool-test/test_export.jar	The path where the export bundle is located.
ssi	Specifies the name of the service instance.

2. If the migration is successful, you see the output such as the following:

Import succeeded

About to close down logging to: `DOMAIN_HOME/bilogs/migration/migration-2016-05-05-06-13-05.log`

This is so that the log file can be archived into the diagnostics zip

Any remaining log entries will go to '/tmp/migration.log', and will not appear in the diagnostics zip

Migration action succeeded

You can now start the Oracle Analytics Server system. For more information about starting the Oracle Analytics Server system, see *Administering Oracle Analytics Server*.

Note

It takes about 10 more minutes for the application roles and policies to migrate after the migration process is complete.

After completing the import process, you must start OBIS1 and OBIPS1 which you stopped before beginning the migration process.

Starting Servers and Processes

After you migrate your Oracle Business Intelligence metadata and configuration to Oracle Analytics Server, start the Oracle Analytics Server instance, OBIS1, OBIPS1, Administration Servers, Managed Servers, and the Node Manager.

Note

The procedure in this section describe how to start servers and processes using the WLST command-line utility or a script. You can also use the Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See Starting and Stopping Administration and Managed Servers and Node Manager.

To start your Fusion Middleware environment:

1. Change to the following directory:
 - (Linux) `DOMAIN_HOME/bitools/bin`
 - (Windows) `DOMAIN_HOME\bitools\bin`
2. To start the Oracle Analytics Server instance and servers, enter the following command:
 - (Linux) `start.sh`
 - (Windows) `start.cmd`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle Analytics Server domain.

Post-Migration Tasks

After migrating the Oracle BI metadata, manually migrate the configuration settings for components such as security for WebLogic and Enterprise Manager, BI Server, and BI Presentation Services.

Migrating Catalog Groups

Catalog groups were a feature of Oracle BI EE that allowed administrators to organize users and application roles for security administration purposes.

In Oracle Analytics Server, catalog groups are obsolete. The catalog groups are migrated by the upgrade process to application roles.

Migrating Configuration

After migrating the data, manually migrate the configuration information from the Oracle Business Intelligence system to Oracle Analytics Server, which includes WebLogic security, Enterprise Manager security, the managed BI configurations, BI logs, BI Server, and BI Presentation Server configuration settings.

Migrating the Security Configuration with Oracle WebLogic Server

Oracle Analytics Server delegates user authentication and the group membership authorization to the external identity providers or the built-in Oracle WebLogic Server embedded LDAP (default authenticator).

To migrate the security configurations:

1. Access the Oracle Business Intelligence WebLogic Console to examine the current security configuration for security providers.
2. Manually configure the same security configuration in WebLogic Console of Oracle Analytics Server.

Migrating the Policy and Credential Store Configuration

Most of the security configuration related to application roles, security grants, and application policies are migrated during the migration process. The default policy store provider and credential store provider stores credentials, application roles, and application policies in files in the domain. You must examine and manually apply any special Security Provider configuration in Oracle Analytics Server.

To migrate the policy and credential configuration:

1. Examine the Security Provider configuration in the Oracle Enterprise Manager Fusion Middleware Control of Oracle Business Intelligence.
2. Validate the Oracle Enterprise Manager Fusion Middleware Control security setup by searching application policies and appropriate users.
3. Apply any special Security Provider configuration in the Oracle Enterprise Manager Fusion Middleware Control of Oracle Analytics Server.
4. Use the `grantPermissionSetsToBIRole` and `revokePermissionSetsFromBIRole` scripts to grant or revoke permissions for an application role. See [Grant or Revoke Permissions Assignments](#).

If you have performed a migration using a snapshot (BAR file), you must review how Oracle Analytics Server assigned permissions to the application roles, and explicitly add additional application policies to your Administrator application role. For the BI Administrator application role, or your own Administrator role, make sure you add the `pod.admin` and `va.admin` permission sets to enable access to the Oracle Analytics Server Console page and to edit the system settings.

5. Ensure that the user, group, and application roles appear correctly in Oracle Analytics Server.

Migrating the Oracle Enterprise Manager Fusion Middleware Control Managed Business Intelligence Configurations

The Fusion Middleware Control is used to manage some of the important configurations for Oracle BI. You must manually examine the configuration of the General, Presentation, Performance, and Mail sections of the Fusion Middleware Control of the Oracle Business Intelligence system and apply the same settings to the Oracle Analytics Server system.

To migrate the Fusion Middleware Control managed BI configurations:

1. In the Fusion Middleware Control of the Oracle Business Intelligence system, navigate to the **Business Intelligence Configuration** link and examine the Configuration tab.

2. Apply the same configuration settings in the **Oracle Analytics Server Configuration** tab of the Fusion Middleware Control.

You can use Oracle Analytics Server Console to configure system settings and email server.

Ensure that the configuration settings of the General, Presentation, Performance, and Mail sections are applied correctly.

Migrating the Oracle Enterprise Manager Fusion Middleware Control Managed Business Intelligence Log Configuration

The Oracle Enterprise Manager Fusion Middleware Control is used to manage the log configuration for the Oracle BI components. You must manually examine the log configuration settings in the Oracle Business Intelligence system and apply the same settings to your Oracle Analytics Server system.

To migrate the Fusion Middleware Control managed Oracle BI log configuration:

1. In the Fusion Middleware Control in Oracle Business Intelligence, navigate to the **Business Intelligence** link and examine the settings in the Diagnostics tab.
2. Note the configuration settings and apply the Oracle BI component log configuration and component log levels in the Oracle Analytics Server.

Migrating the Oracle BI Server Configuration

Various files for the BI Server contain configuration information: `odbc.ini` and `tnsnames.ora`. The `odbc.ini` file contains non-Oracle data source (DSN) connection information. The `tnsnames.ora` file contains network service names mapped to connect descriptors for the local naming method, or net service names mapped to listener protocol addresses. You must examine these Oracle Business Intelligence files and manually copy the configuration information to the respective Oracle Analytics Server files.

To migrate the BI server configuration details:

1. View the BI server information in the `odbc.ini` file present at the following location in the Oracle Business Intelligence instance:
 - (Linux) `SOURCE_DOMAIN_HOME/config/fmwconfig/bienv/core`
 - (Windows) `SOURCE_DOMAIN_HOME\config\fmwconfig\bienv\core`
2. Copy the BI Server configuration from the Oracle Business Intelligence `odbc.ini` file to the Oracle Analytics Server file.
3. In the existing Oracle Analytics Server `odbc.ini` file, integrate the ODBC entries from Oracle Business Intelligence.
4. Repeat steps 1 to 3 for `tnsnames.ora` file, if you want to configure the `tnsnames.ora` file in Oracle Analytics Server.

Migrating the Oracle BI Presentation Server Configuration

The Oracle BI Presentation Services process hosts most of the business logic of the Web server and provides the framework and interface for the presentation of business intelligence data to web clients. The `userpref_currencies.xml` file defines the currency options that are displayed in the Currency box of the Preferences tab of the My Account dialog. The `bridgeconfig.properties` file contains the Presentation Services Plug-in information. Examine

these Oracle Business Intelligence files and manually copy the configuration information to the respective Oracle Analytics Server files.

To migrate the Oracle BI Presentation Server configuration:

1. View the configuration information in the `userpref_currencies.xml` file present at the following location:

(UNIX) `SOURCE_DOMAIN_HOME/config/fmwconfig/biconfig/OBIPS/`

2. Copy the appropriate configuration information from the `userpref_currencies.xml` file in Oracle Business Intelligence to the Oracle Analytics Server file.

You can review the currency setting in Oracle Business Intelligence and use Oracle Analytics Server Console to set the currency type.

3. View the configuration information in the `bridgeconfig.properties` file present at the following location:

(UNIX) `SOURCE_DOMAIN_HOME/config/fmwconfig/biconfig`

4. Copy the appropriate configuration information from the `bridgeconfig.properties` file in Oracle Business Intelligence to the `DOMAIN_HOME/config/fmwconfig/biconfig/bridgeconfig.properties` file in Oracle Analytics Server.

Configuring Your Data Source Connections to Use ODBC Drivers

You must re-configure your data source connections to use the appropriate ODBC drivers. If you are using a data source connection that is already configured to use ODBC drivers in Oracle Business Intelligence, modify the data source configuration's `odbc.ini` file in Oracle Analytics Server to use the correct ODBC drivers.

See *Managing Metadata Repositories for Oracle Analytics Server* for instructions to set up the connections to data sources.

To configure data source connections to use the ODBC drivers:

1. Open the `odbc.ini` file located at the following location:
 - (Linux) `DOMAIN_HOME/config/fmwconfig/bienv/core/odbc.ini`
 - (Windows) Open Registry Editor and navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\odbc.ini`

Replace the value of `DOMAIN_HOME` with the actual path to the Oracle Analytics Server Domain home you created when you installed the Oracle Analytics Server software.

2. Update the ODBC entry to use the appropriate drivers.
3. Update all the existing data source names (DSNs) to the correct ODBC driver version.
4. Save and close the `odbc.ini` file.

Configuring Usage Tracking

Oracle Analytics Server supports the collection of usage tracking data. When usage tracking is enabled, Oracle Analytics Server collects usage tracking data for each query. The statistics are then written to a usage tracking log file or are inserted directly in to a database table. After you complete migrating and configuring the Oracle Analytics Server system, you must enable usage tracking in Oracle Analytics Server Console.

To configure usage tracking:

1. On the Oracle Analytics Server Home page, click the **Navigator**, and select **Console**.

2. Set the usage tracking parameters. See Set Usage Tracking Parameters.

Checking JavaHost Configuration

Make sure that the XMLP and Oracle BI JavaHost settings match with the settings specified for the configuration of the Oracle Business Intelligence system.

To check the XMLP and the BI JavaHost configuration:

1. View the config.xml file on the Oracle Business Intelligence and Oracle Analytics Server.

The file is present at the following location on the Oracle Business Intelligence:

- (Linux) *BI_DOMAIN_HOME*/config/OracleBIJavaHostComponent/coreapplication_obijh1/config.xml
- (Windows) *BI_DOMAIN_HOME*\config\OracleBIJavaHostComponent\coreapplication_obijh1\config.xml

The file is present at the following location on the Oracle Analytics Server:

- (Linux) *NEW_DOMAIN_HOME*/config/fmwconfig/biconfig/OBIJH/config.xml
- (Windows) *NEW_DOMAIN_HOME*\config\fmwconfig\biconfig\OBIJH\config.xml

2. Verify that the XMLP configuration on both the Oracle Business Intelligence and the Oracle Analytics Server systems is as shown in the following code block:

```
<XMLP>
<InputStreamLimitInKB>8192</InputStreamLimitInKB>
<ReadRequestBeforeProcessing>true</ReadRequestBeforeProcessing>
</XMLP>
```

3. Verify that the OBIJH_ARGS="-server -Xmx1024M -Xrs" parameter in the setOBIJHEnv.sh file in Oracle Analytics Server matches with the "start-args" value="-server -Xmx1024M -Xrs" parameter in the opmn.xml file in Oracle Business Intelligence.

The opmn.xml file is located at the following location on the Oracle Business Intelligence system:

MW_HOME/instances/config/OPMN/opmn/opmn.xml

```
<process-type id="OracleBIJavaHostComponent" module-id="CUSTOM">
<module-data>
<category id="start-parameters">
<data id="start-executable" value="$ORACLE_HOME/jdk/bin/java"/>
<data id="start-args" value="-server -Xmx4096M -Xrs
.
.
.
```

The setOBIJHEnv.sh.cmd file is located at the following location on the Oracle Analytics Server system:

- (Linux) *DOMAIN_HOME*/bi/modules/oracle.bi.cam.obijh/setOBIJHEnv.sh
- (Windows) *DOMAIN_HOME*\bi\modules\oracle.bi.cam.obijh\setOBIJHEnv.cmd

Location of the obijh.properties file:

- (Linux) [*DOMAIN_HOME*]/config/fmwconfig/bienv/OBIJH/obijh.properties

- (Windows) `[DOMAIN_HOME]\config\fmwconfig\bienv\OBIJH\objh.properties`

Enabling Clusters

After migrating the data, you must manually enable the `ClusterEnabled` parameter in the `ClusterConfig.xml` file to turn on the cluster instances on the Oracle Analytics Server.

To enable the clusters:

1. Open the `ClusterConfig.xml` file for editing, located at the following location:

- (Linux) `DOMAIN_HOME/config/fmwconfig/biconfig/core`
- (Windows) `DOMAIN_HOME\config\fmwconfig\biconfig\core`

2. Locate the following:

```
<ClusterEnabled>>false</ClusterEnabled>
```

Change it to the following:

```
<ClusterEnabled>>true</ClusterEnabled>
```

3. Save and close the file.

Setting the Compatibility Framework

The compatibility framework allows the Oracle Analytics Server to add new features that are not compatible with the Oracle Business Intelligence releases while providing a flexible framework that enables Oracle Analytics Server to operate in a compatibility mode. Individual features and bug fixes can be enabled or disabled independently using compatibility flags. Alternatively, you can set all the compatibility flags to the default values using a single `COMPATIBLE_RELEASE` flag for the Oracle Analytics Server system to be compatible with the earlier release. Add the `COMPATIBLE_RELEASE` parameter to the `NQSCONFIG.INI` file to ensure that the migrated Oracle Analytics Server environment behaves as closely as possible to Oracle Business Intelligence environment.

Oracle recommends you to configure **OBIEE Compatibility Release** using the Oracle Analytics Server Console. See [Performance and Compatibility Options](#).

Note

If the `COMPATIBLE_RELEASE` parameter is not set, then the system defaults to the behavior of the current release, such as Oracle Analytics Server.

The framework does not distinguish individual bundle patches (only the first four digits of the version number are significant for determining compatibility).

When applying new features, enhancements, or bug fixes that are not inherently backward-compatible, ensure that you specify a compatibility flag using the guidelines described in this topic.

Note

The NQSConfig.INI file does not contain the COMPATIBLE_RELEASE parameter by default. The global bi:compat-mode-11g is the default flag and it applies to all Oracle Analytics Server components. When the bi:compat-mode-11g element in the bi-config.xml file is set to true, the BI Server compatibility framework behaves as if the COMPATIBLE_RELEASE were set to 11.1.1.9 and it disables any features or bug fixes that would cause major compatibility issues during migration from Oracle Business Intelligence to Oracle Analytics Server. However, if you explicitly edit the NQSConfig.INI file to set the COMPATIBLE_RELEASE parameter or any other compatibility flag, then the setting in the NQSConfig.INI file takes precedence over the global bi:compat-mode-11g flag specified in the bi-config.xml file.

In addition to setting the general COMPATIBLE_RELEASE parameter, you can set compatibility flags for specific features or bug fixes, which begin with the prefix "OBIS_". Instructions to set these specific compatibility flags are provided by the support team to solve certain issues on a need basis. For example,

```
[ COMPATIBILITY ]  
COMPATIBLE_RELEASE=11.1.1.9;  
OBIS_ENABLE_DIMENSIONALITY=0;
```

Setting the COMPATIBLE_RELEASE parameter or specific compatibility flags in the NQSConfig.INI file applies the changes to the entire system. You can also set the COMPATIBLE_RELEASE parameter or the specific feature flag as a session variable or an environment variable so that the compatibility mode is set to specific reports or dashboards. You can do this by adding a query prefix to an analysis request. The following is an example of a variable setting:

```
set variable COMPATIBLE_RELEASE='11.1.1.9';
```

Migrating the Fusion Middleware MapViewer Configuration

Oracle Fusion Middleware Mapviewer (MapViewer) is a programmable tool for rendering maps using spatial data managed by Oracle Spatial and Graph or Oracle Locator (also referred to as Locator). MapViewer provides tools that hide the complexity of spatial data queries and cartographic rendering, while providing customizable options for more advanced users. These tools can be deployed in a platform-independent manner and are designed to integrate with map-rendering applications. After migrating the data, you must manually modify the Oracle Analytics Server MapViewer configuration file to contain the same contents as the Oracle Business Intelligence file except the Logging section.

To migrate the MapViewer configuration:

1. Go to the Oracle Analytics Server Fusion Middleware MapViewer Administration Console (http://AnalyticsServer_host:port/mapviewer).
2. Create a copy of the default Oracle Analytics Server MapViewer configuration file.
3. Overwrite the contents in the copy of the Oracle Analytics Server MapViewer configuration file with the content from the mapViewerConfig.xml file from the Oracle Business Intelligence MapViewer install.
4. Replace the logging section of the MapViewer configuration file copy with the settings from the default Oracle Analytics Server MapViewer configuration file.

5. Update the logging settings log levels of the MapViewer configuration file as needed for Oracle Analytics Server.
6. Click **Save** on the Oracle Analytics Server MapViewer Administration Console and then click **Restart**.

Resolving Authentication Issues After Migration

To avoid authentication issues post-migration, you must review and update initialization blocks that the **Required for Authentication** option enabled.

To resolve the authentication issues after migration:

1. Open the repository (semantic model) in offline mode.
 - a. Change to the following directory on Oracle Analytics Server:
(Linux) *DOMAIN_HOME*/bitools/bin/
(Windows) *DOMAIN_HOME*\bitools\bin\
Replace the value of *DOMAIN_HOME* with the actual Domain home on your Oracle Analytics Server.
 - b. Run the following command:

```
sh data-model-cmd.sh downloadrpd -u uname -p pwd -o downloaded.rpd -w rpd_password
```

Where,
 - o is the output repository (semantic model)
 - w *rpd_password* is the repository (semantic model) password, say Admin123
 - c. Open the downloaded repository (semantic model) offline in Model Administration Tool, which you installed with the client installer.
2. Complete the following steps:
 - a. From the Manage menu in Model Administration Tool, select **Variables**.
 - b. In the Variable Manager dialog, from the Action menu, select **Session**, then **Initialization Blocks**.
 - c. In the Variable Initialization Block dialog, review the initialization blocks with **Required for Authentication** configured.
 - d. Locate *DYNAMIC_OLAP_LOGIN*, open the *DYNAMIC_OLAP_LOGIN* properties, and uncheck the **Required for Authentication** checkbox.
 - e. Click **Apply** and save the repository (semantic model).
3. Open the repository (semantic model) in online mode using the uploadrpd command.

```
DOMAIN_HOME/bitools/bin/data-model-cmd.sh uploadrpd -u uname -p pwd -i downloaded.rpd -w rpd_password
```

Copying Configuration Files

You must manually copy the following configuration files after the migration: *writebacktemplate.xml*, *userpref_currencies.xml*, and *bicustom.ear*.

Oracle recommends you to use **System Settings** in the Oracle Analytics Server Console to configure write back and currency. Use **Manage Themes** to change the default logo, colors, and heading styles for analyzes and dashboards.

Copy the following configuration files from the Oracle Business Intelligence instance to the new Oracle Analytics Server instance:

1. Change to the following directory:
 - (Linux) *DOMAIN_HOME*/bi/bifoundation/web/msgdb/messages
 - (Windows) *DOMAIN_HOME*\bi\bifoundation\web\msgdb\messages
2. Copy the writebacktemplate.xml file to the Oracle Analytics Server instance.
3. Change to the following directory:
 - (Linux) *APPLICATION_HOME*/bi/bidata/components/OBIPS/
 - (Windows) *APPLICATION_HOME*\bi\bidata\components\OBIPS\
4. Copy the bicustom.ear file to the Oracle Analytics Server instance.
5. Change to the following directory:
 - (Linux) *DOMAIN_HOME*/config/fmwconfig/biconfig/OBIPS
 - (Windows) *DOMAIN_HOME*\config\fmwconfig\biconfig\OBIPS
6. Copy the userpref_currencies.xml file to the Oracle Analytics Server instance.
7. Open the userpref_currencies.xml file for editing and add the following lines:

```
<Config>
<UserCurrencyPreferences currencyTagMappingType="static">
  <UserCurrencyPreference sessionVarValue="gc1" displayText="Global Currency 1" currencyTag="int:USD" />
  <UserCurrencyPreference sessionVarValue="gc2" displayText="Global Currency 2" currencyTag="int:euro-
l" />
  <UserCurrencyPreference sessionVarValue="gc3" displayText="Global Currency 3" currencyTag="loc:ja-
JP" />
  <UserCurrencyPreference sessionVarValue="orgc" displayText="Org Currency" currencyTag="loc:en-BZ" />
  <UserCurrencyPreference sessionVarValue="lc1" displayTag="int:DEM" currencyTag="int:DEM" />
</UserCurrencyPreferences>
</Config>
```

Save and close the file.

8. Change to the following directory:
 - (Linux) *DOMAIN_HOME*/config/fmwconfig/biconfig/OBIPS
 - (Windows) *DOMAIN_HOME*\config\fmwconfig\biconfig\OBIPS
9. Open the instanceconfig.xml file for editing and add the following line:

```
<UserprefCurrenciesConfigFile>DOMAIN_HOME/config/fmwconfig/biconfig/OBIPS/
userpref_currencies.xml</UserprefCurrenciesConfigFile>
```

Save and close the file.

10. Restart the services.

Removing the Display of HTML Codes in a Customized "No Results" Message

In an analysis, content developers can control the text that is displayed when the results of the analysis return no data. Content developers can accept the default message, or they can customize the text of the message, including by inserting HTML formatting codes in the message.

If content developers customized the message and included HTML codes in Oracle Business Intelligence, then the message is displayed with the codes showing as readable text in Oracle Analytics Server, rather than performing their functions to format the message. To work around this issue, open the Analysis Properties dialog for each analysis whose custom message includes HTML codes and select the **Contains HTML/JavaScript/CSS Markup** option.

Use **System Settings** in Oracle Analytics Server Console to enable **Allow HTML/JavaScript/CSS Content** if you want the **Contains HTML/JavaScript/CSS Markup** option displayed in various dialogs and editors where you can apply formatting.

Cleaning and Relocating Catalog Folders

Review the structure of the Catalog after migration.

Optionally, you can remove empty folders within each existing user's home directory or relocate existing folders to their new locations. This change has no effect on folders for existing users.

1. Open the instanceconfig.xml file for editing from the following location:
 - (Linux) `DOMAIN_HOME/config/fmwconfig/biconfig/OBIPS`
 - (Windows) `DOMAIN_HOME\config\fmwconfig\biconfig\OBIPS`
2. Add the following elements within the `<Catalog></Catalog>` nodes:
 - To remove all empty folders: `<CleanEmptyFolderInHome>true</CleanEmptyFolderInHome>`
 - To relocate existing folders to their new locations: `<CoalesceHomeDirectoryFolders>true</CoalesceHomeDirectoryFolders>`
3. Save and close the file.

Restore and Enable Delivery Schedules

When you restore content from a snapshot or migrate content from a different environment, delivery schedules defined for agents, analyses, and dashboards in the snapshot aren't restored or activated right away. When you're ready to restore deliveries on your system, you can decide whether to enable or disable delivery schedules on your system. This is useful as you might not want to immediately start delivering content.

For example, if you're restoring a production environment, you probably want to restart deliveries as soon as possible. Whereas in a test environment, you might prefer to disable deliveries after restoration and activate them at a later date.

1. In the Oracle Analytics Home page, click the **Navigator**, and then click **Console**.
2. Click **Monitor Deliveries**.
3. To restore deliveries, click the **Action** menu for the page and select **Restore Deliveries**.

4. Select whether to restore and activate deliveries or restore deliveries only. Select one of the following:
 - **Maintain Delivery Schedule Status**

All delivery schedules maintain their status (enabled or disabled).

 - Existing delivery schedules remain unchanged.
 - New delivery schedules created during the restore process inherit the schedule status that's defined in the corresponding agent, analysis or dashboard.

For example, this option is useful when you restore deliveries in a production environment where you want deliveries to be active immediately.
 - **Disable Delivery Schedules for New Deliveries**

Delivery schedules that are created during the restore process for agents, analyses, and dashboards are disabled. Existing delivery schedules remain unchanged.

For example, this option is useful when you restore deliveries in a test environment where you don't need to activate deliveries immediately.
 - **Disable All Delivery Schedules And Delete All History (Not recommended)**

All delivery schedules are disabled during the restore process and any delivery history is deleted.

 - Existing delivery schedules are disabled.
 - New delivery schedules created for agents, analyses, and dashboards during the restore process are disabled.
 - Historical delivery details no longer available.

This option is not recommended. If you do select this option, you must manually enable delivery schedules for all agents, analyses, and dashboards.
5. Click **Restore**.
6. To activate a delivery, click the Action menu for the delivery, and select **Enable**.

To activate multiple deliveries at once, select **Shift** + click or **Ctrl** + click to select all the deliveries you want to activate, then right-click and select **Enable**.

If necessary, click **Edit** to redefine the delivery schedule.

Post-Migration Tasks for Oracle Analytics Publisher

After completing the data migration, you must migrate the Publisher configuration, scheduler jobs, and job history. You must also remove the BISystemUser policy from the JMSResource security configuration.

Migrating Scheduler Jobs and Job History

After migrating the Oracle Business Intelligence configuration to a new Oracle Analytics Server environment, you must migrate the scheduler jobs and the job history data from the Oracle Business Intelligence BIPLATFORM schema to a BIPLATFORM schema. You can connect to BIPLATFORM schema through SQL*PLUS or any other tool and run the script.

The `bip_12c_scheduler_migration.sql` script requires the user ID, the password, and the connection string for Oracle Business Intelligence BIPLATFORM schema. The script creates a database link called `BIP11g_DBLINK` and imports all schedule objects using that link. You must have Database Administrator privileges to run the script.

After you run the `bip_12c_scheduler_migration.sql` script to migrate the report job history data from Oracle Business Intelligence 11g to Oracle Analytics Server, you can download the report outputs in Oracle Analytics Server. In Oracle Analytics Server, you can't republish a report and download the XML data that you saved in the 11g environment. The `bip_12c_scheduler_migration.sql` script doesn't migrate the XML data.

Note

You can't migrate scheduler data from DB2 and SQL Server databases. You can migrate scheduler data only from Oracle databases.

1. Change to the directory appropriate for your platform:

- (Linux) `NEW_ORACLE_HOME/bi/modules/oracle.bi.publisher/upgradeutil`
- (Windows) `NEW_ORACLE_HOME\bi\modules\oracle.bi.publisher\upgradeutil`

Replace `NEW_ORACLE_HOME` with the actual path to the Oracle Analytics Server home you created when you installed the Oracle Analytics Server.

2. Connect to the target Oracle Analytics Server BIPLATFORM schema from SQLPLUS or SQL Developer by entering the following command:

```
sqlplus userid/password@connectionString -- for 12c RCU Schema
```

For example:

```
sqlplus username/password@hostname.yourcompany.com:1521/pdborcl.yourcompany.com
```

3. Run the `bip_12c_scheduler_migration.sql` script, passing the command-line parameters `11g_RCU_SCHEMA`, `11G_PASSWORD`, `11G_CONNECTION_STRING`, and `12C_BIPLATFORM_SCHEMA`.

Usage:

```
SQL> @bip_12c_scheduler_migration.sql 11g_userid 11g_password 11g_connection_string
```

Sample command:

```
SQL> bip_12c_scheduler_migration.sql 11g_RCU_USERNAME 11g_PASSSSWORD
11G_hostname.yourcompany.com:1521/orcl.yourcompany.com
12C_BIPLATFROM_SCHEMA_NAME
```

System output:

```
old 1: &&1
```

```
new 1: adc00ccq_biplatform
```

```
old 2: &&2
```

```
new 2: your_password
```

```
old 3: '&&3'
```

```
new 3: 'bipdev4.yourcompany.com:1521/ora11g.yourcompany.com'
```

```
old 4: '&&4'
```

```
new 4: 12C_BIPLATFROM_SCHEMA_NAME
```

```
Database link created.
```

```
9979 rows created.
```

```
9769 rows created.
```

```
9739 rows created.
```

```
4159 rows created.
```

```
6 rows created.
```

```
6 rows created.
```

```
6 rows created.
```

```
Commit complete.
Database link dropped.
SQL>
```

After the import operation completes, the database link is deleted.

Removing the BISystemUser Policy from the JMSResource Security Configuration

BISystemUser is not supported in the Oracle Analytics Server environment. When the users and policies are migrated from an Oracle Business Intelligence instance, the JMSResource policy blocks the scheduled jobs. Therefore, you must remove this policy from the JMSResource security configuration. You can manually remove the BISystemUser policy from WebLogic console. Alternatively, you can run a WLST (Python) script to accomplish this task.

Manually Removing the BISystemUser Policy

This topic describes the procedure to remove the BISystemUser policy from the WebLogic Console.

To manually remove the BISystemUser policy:

1. Sign in to the WebLogic Console.
2. Under **Services**, click **Messaging** and then **JMSModules**, and select **BipJmsResource**.

Figure 3-1 JMS Modules



3. Under the Security tab, click **Policies**.
4. Under Policy Conditions, select the **User: BISystemUser** checkbox and click **Remove**.

Figure 3-2 Settings for BipJmsResource

Home > JMS Modules > BipJmsResource > JMS Modules > BipJmsResource > Roles > Policies

Settings for BipJmsResource

Configuration Subdeployments Targets **Security** Notes

Roles **Policies**

Save

Use this page to manage the security policy of your JMS system module resource. Clients must satisfy this policy to access any resource within this m

Providers

These are the authorization providers an administrator can select from.

Authorization Providers: XACMLAuthorizer ▼

Policy Conditions

These conditions determine the access control to your JMS System Module resource.

Add Conditions Combine Uncombine Move Up Move Down **Remove** Negate

User : BISystemUser

Add Conditions Combine Uncombine Move Up Move Down Remove Negate

Save

Overridden Policy

Group : everyone

5. Restart Oracle Analytics Publisher and check the scheduled jobs.

Removing the BISystemUser Policy using a WLST Script

This topic describes the procedure to remove the BISystemUser policy using a WLST script.

To remove the BISystemUser policy:

1. Copy the BIPRemoveJMSResourcePolicy.py script from the following location:
(UNIX) `NEW_ORACLE_HOME/bi/modules/oracle.bi.publisher`
2. Go to `NEW_ORACLE_HOME/server/bin` directory.
3. Set the WLS environment. Enter
`source ./setWLSEnv.sh`
4. Run the script to remove JMS Resource policy. Enter
`java weblogic.WLST BIPRemoveJMSResourcePolicy.py <WL Admin Username> <WL Admin Password> <Admin Server URL: t3://localhost:port>`
5. Sign in to the WebLogic Console and verify whether the policy is removed.

4

Upgrading Scaled-Out Systems

This chapter contains the procedure to upgrade a multi-node, scaled-out deployment to the latest release of Oracle Analytics Server.

About the Multi-Node Upgrade Process

The table lists the high-level steps that you need to perform to upgrade a multi-node Oracle BI deployment to Oracle Analytics Server.

Table 4-1 Tasks for Upgrading Multi-Node Deployment to Oracle Analytics Server

Task	Required or Optional	Description
Learn about the interoperability and compatibility factors that could affect how you upgrade to Oracle Analytics Server.	Optional	<p>It is important to understand how two or more Oracle Fusion Middleware products of the same version or different versions work together (interoperate) in a supported Oracle Fusion Middleware configuration.</p> <p>You can learn more about interoperability and compatibility in Oracle® Fusion Middleware Understanding Interoperability and Compatibility.</p>
If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.	Required	<p>The pre-upgrade tasks include cloning your production environment, verifying system requirements and certifications, purging unused data, and creating non-SYSDBA user.</p> <p>For a complete list of pre-upgrade tasks, see Pre-Upgrade Requirements</p>
Validate whether all the servers in the existing Oracle BI stack are running	Required	<p>The following servers must be in the running state on both the nodes:</p> <ul style="list-style-type: none">• Administration Server (available only on the primary node)• Servers hosting Oracle BI instance (bi_server)• OBIPS• OBIJH• OBICCS• OBICH• OBIS <p>See Checking the Status of the Servers in the Oracle Analytics Server Instance.</p>

Table 4-1 (Cont.) Tasks for Upgrading Multi-Node Deployment to Oracle Analytics Server

Task	Required or Optional	Description
Download and install the 12.2.1.4.0 Fusion Middleware Infrastructure and Oracle Analytics Server distributions on Node1 and Node2.	Required	<p>The Infrastructure distribution combines the WebLogic Server and the Java Required Files (JRF) that are required to set up the foundation to install other Fusion Middleware products.</p> <p>As per the upgrade topology defined in this guide, you must install the Infrastructure in a new Oracle home.</p> <p>The Oracle Analytics Server distribution packs, Oracle Analytics Server and Oracle Analytics Publisher.</p> <p>You must install Oracle Analytics Server in the Oracle home that is created when you installed the 12.2.1.4.0 Infrastructure. To install the product distributions, follow the procedure described in Installing the Product Distributions.</p>
Run the Readiness Check on Node1.	Optional	<p>Run the domain-based pre-upgrade readiness check on Node1 to identify potential issues before you upgrade. See Running a Pre-Upgrade Readiness Check.</p>
Stop the Oracle BI instance and system components except the database on Node1.	Required	<p>Before starting the upgrade process, shut down the Administration Server, the Managed Servers, and your existing Oracle BI instance on Node1. However, keep the database (RDBMS) running. See Stopping Servers and Processes.</p>
Upgrade the existing schemas with the Upgrade Assistant on Node1.	Required	<p>The schemas you created during the existing installation are supported in Oracle Analytics Server. Therefore, you don't need to create the schemas again.</p> <p>You must upgrade all the schemas within your domain using the Upgrade Assistant. For the complete procedure, see Upgrading Product Schemas Using the Upgrade Assistant.</p>
Backup the mapViewerConfig.xml File.	Required	<p>The mapViewerConfig.xml file is overwritten by the reconfiguration templates when you run the Reconfiguration Wizard. Therefore, you must back up the mapViewerConfig.xml file before reconfiguring your existing domain. See Backing Up the mapViewerConfig.xml File.</p>
Reconfigure the existing domain with the Reconfiguration Wizard on Node1.	Required	<p>When you run the Reconfiguration Wizard on your existing domain, it prepares your domain for upgrade by selecting and applying the reconfiguration templates. It also tests the JDBC data sources and component schemas that are present within your domain.</p> <p>To reconfigure you domain, follow the procedure described in Reconfiguring the Oracle BI Domain with the Reconfiguration Wizard.</p>
Restore the mapViewerConfig.xml File.	Required	<p>You must restore the original file that you backed up before upgrading your domain with the Upgrade Assistant.</p> <p>See Restoring the mapViewerConfig.xml File.</p>

Table 4-1 (Cont.) Tasks for Upgrading Multi-Node Deployment to Oracle Analytics Server

Task	Required or Optional	Description
Upgrade the existing domain configurations with the Upgrade Assistant on Node1.	Required	After you have reconfigured your existing domain, you must run the Upgrade Assistant to upgrade all configurations used by your domain. You can see all the components within your domain that will be upgraded on the Component List screen when you run the Upgrade Assistant. For the complete procedure, see Upgrading Domain Components Using the Upgrade Assistant .
Pack the upgraded domain on Node1.	Required	See Packing the Upgraded Domain on Node1 .
Unpack the domain on Node2.	Required	See Unpacking the Upgraded Domain on Node2 .
Synchronize connection details to the mid-tier database.	Required	See Synchronizing Connection Details to the Mid-Tier Database .
Start the Node Manager on Node2.	Required	See Starting the Node Manager on Node2 .
Start the Oracle Analytics Server instance and system components Node1.	Required	The upgrade process is complete. You can now restart the Administration Server, the Managed Servers, and your Oracle Analytics Server instance. See Starting Servers and Processes .
Validate whether all the servers in the newly scaled-out Oracle BI stack are running.	Required	The following servers must be in the running state on both the nodes: <ul style="list-style-type: none"> Administration Server (available only on the primary node) Servers hosting Oracle BI instance (bi_server) OBIPS OBIJH OBICCS OBICH OBIS See Checking the Status of the Servers in the Oracle Analytics Server Instance .
Verify your upgrade.	Required	It is important to compare your existing and the Oracle Analytics Server environments and verify that the data and configuration settings are consistent in the newly upgraded environment.
Perform the post-upgrade tasks.	Required	For a list of post-upgrade tasks, see Post-Upgrade Tasks .

About the SSL Enabled and Scaled-Out System Upgrade Process

Review the flowchart and roadmap for an overview to upgrade from a multi-node, SSL enabled and scaled-out 12.2.1.4.0 Oracle Business Intelligence or a previous Oracle Analytics Server release deployment.

Task	Required or Optional	Description
Learn about the interoperability and compatibility factors that could affect how you upgrade to Oracle Analytics Server.	Optional	<p>It is important to understand how two or more Oracle Fusion Middleware products of the same version or different versions work together (interoperate) in a supported Oracle Fusion Middleware configuration.</p> <p>You can learn more about interoperability and compatibility in Oracle® Fusion Middleware Understanding Interoperability and Compatibility.</p>
If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.	Required	<p>The pre-upgrade tasks include cloning your production environment, verifying system requirements and certifications, purging unused data, and creating non-SYSDBA user.</p> <p>For a complete list of pre-upgrade tasks, see Pre-Upgrade Requirements.</p>
Validate whether all the servers in the existing Oracle BI stack are running	Required	<p>The following servers must be in the running state on both the nodes:</p> <ul style="list-style-type: none"> • Administration Server (available only on the primary node) • Servers hosting Oracle BI instance (bi_server) • OBIPS • OBIJH • OBICCS • OBICH • OBIS <p>See Checking the Status of the Servers in the Oracle Analytics Server Instance.</p>
Download and install the 12.2.1.4.0 Fusion Middleware Infrastructure and Oracle Analytics Server distributions on Node1 and Node2.	Required	<p>The Infrastructure distribution combines the WebLogic Server and the Java Required Files (JRF) that are required to set up the foundation to install other Fusion Middleware products.</p> <p>As per the upgrade topology defined in this guide, you must install the Infrastructure in a new Oracle home.</p> <p>The Oracle Analytics Server distribution packs, Oracle Analytics Server and Oracle Analytics Publisher.</p> <p>You must install Oracle Analytics Server in the Oracle home that is created when you installed the 12.2.1.4.0 Infrastructure. To install the product distributions, follow the procedure described in Installing the Product Distributions.</p>

Task	Required or Optional	Description
Run the Readiness Check on Node1.	Optional	Run the domain-based pre-upgrade readiness check on Node1 to identify potential issues before you upgrade. See Running a Pre-Upgrade Readiness Check .
Stop the stack.	Required	Before starting the upgrade process, shut down the Administration Server, the Managed Servers, and your existing Oracle BI instance on Node1. However, keep the database (RDBMS) running. See Stopping Servers and Processes .
Disable internal SSL.	Required	You must disable SSL on the internal communication links before you start the upgrade process.
Upgrade the existing schemas with the Upgrade Assistant on Node1.	Required	The schemas you created during the existing installation are supported in Oracle Analytics Server. Therefore, you don't need to create the schemas again. You must upgrade all the schemas within your domain using the Upgrade Assistant. For the complete procedure, see Upgrading Product Schemas Using the Upgrade Assistant .
Backup the mapViewConfig.xml File.	Required	The mapViewConfig.xml file is overwritten by the reconfiguration templates when you run the Reconfiguration Wizard. Therefore, you must back up the mapViewConfig.xml file before reconfiguring your existing domain. See Backing Up the mapViewConfig.xml File .
Reconfigure the existing domain with the Reconfiguration Wizard on Node1.	Required	When you run the Reconfiguration Wizard on your existing domain, it prepares your domain for upgrade by selecting and applying the reconfiguration templates. It also tests the JDBC data sources and component schemas that are present within your domain. To reconfigure you domain, follow the procedure described in Reconfiguring the Oracle BI Domain with the Reconfiguration Wizard .
Restore the mapViewConfig.xml File.	Required	You must restore the original file that you backed up before upgrading your domain with the Upgrade Assistant. See Restoring the mapViewConfig.xml File .

Task	Required or Optional	Description
Upgrade the existing domain configurations with the Upgrade Assistant on Node1.	Required	After you have reconfigured your existing domain, you must run the Upgrade Assistant to upgrade all configurations used by your domain. You can see all the components within your domain that will be upgraded on the Component List screen when you run the Upgrade Assistant. For the complete procedure, see Upgrading Domain Components Using the Upgrade Assistant .
Pack the upgraded domain on Node1.	Required	See Packing the Upgraded Domain on Node1 .
Unpack the domain on Node2.	Required	See Unpacking the Upgraded Domain on Node2 .
Synchronize connection details to the mid-tier database.	Required	See Synchronizing Connection Details to the Mid-Tier Database .
Start the Node Manager on Node2.	Required	See Starting the Node Manager on Node2 .
Enable the HTTP ports.	Required	Use the WebLogic Administration console to enable the HTTP ports. See steps 1 to 6 in Configure HTTPS Ports.
Start the entire stack.	Required	The upgrade process is complete. You can now restart the Administration Server, the Managed Servers, and your Oracle Analytics Server instance. See Starting Servers and Processes .
Verify that the instance works fine for External SSL.	Required	See Disable HTTP.
Stop the stack.	Required	See Stopping Servers and Processes .
Enable internal SSL.	Required	See Enabling Internal SSL .
Start the stack.	Required	See Starting Servers and Processes .
Verify that the instance works fine for internal SSL.	Required	Verify that the instance works fine for internal SSL. See Enable Oracle Analytics Server Internal SSL. Stop the stack and start only the Administration server. See Stopping Servers and Processes and Starting Servers and Processes .
Disable HTTP ports.	Required	Use the WebLogic Administration console to disable HTTP ports. See Disable HTTP Ports.
Verify your upgrade.	Required	It is important to compare your existing and the Oracle Analytics Server environments and verify that the data and configuration settings are consistent in the newly upgraded environment.
Perform the post-upgrade tasks.	Required	For a list of post-upgrade tasks, see Post-Upgrade Tasks .

Checking the Status of the Servers in the Oracle Analytics Server Instance

The following servers must be in the running state on both the nodes: Servers hosting Oracle Analytics Server instance (bi_server), OBIPS, OBIJH, OBICCS, OBISCH, and OBIS.

To check the status of the servers:

1. Change to the following directory:
 - (Linux) `EXISTING_DOMAIN_HOME/bitools/bin`
 - (Windows) `EXISTING_DOMAIN_HOME\bitools\bin`
2. Run the status script by entering the following command:
 - (Linux) `status.sh`
 - (Windows) `status.cmd`

Following is a sample output:

Name	Type	Machine	Status
AdminServer	Server	machine_name	RUNNING
bi_server1	Server	machine_name.example.com	RUNNING
bi_server2	Server	machine_name.example.com	RUNNING
obips1	OBIPS	machine_name.example.com	RUNNING
objh1	OBIJH	machine_name.example.com	RUNNING
obiccs1	OBICCS	machine_name.example.com	RUNNING
obisch1	OBISCH	machine_name.example.com	RUNNING
obis1	OBIS	machine_name.example.com	RUNNING
obips2	OBIPS	machine_name.example.com	RUNNING
objh2	OBIJH	machine_name.example.com	RUNNING
obiccs2	OBICCS	machine_name.example.com	RUNNING
obisch2	OBISCH	machine_name.example.com	RUNNING
obis2	OBIS	machine_name.example.com	RUNNING

Installing the Product Distributions on Node1 and Node2

Before beginning your upgrade, download Oracle Fusion Middleware Infrastructure 12.2.1.4.0 and Oracle Analytics Server distributions on the target system and install them on both the nodes using Oracle Universal Installer.

Note

When Infrastructure is required for the upgrade, you must install the Oracle Fusion Middleware distribution first before you install other Fusion Middleware products.

Detailed instructions to install and configure Oracle Analytics Server is available in the *Installing and Configuring Oracle Analytics Server* guide.

To install the Oracle Analytics Server distributions:

1. Prepare to install and configure Oracle Analytics Server. See [Preparing to Install and Configure Oracle Analytics Server](#).
2. Review the Critical Patch Update (CPU) Advisor for Oracle Analytics Server and apply the required patches. See Doc ID [2832967.2](#) and [Critical Patch Updates, Security Alerts and Bulletins](#).
3. Install Oracle Analytics Server. See [Installing the Oracle Analytics Server Software](#).

Running a Pre-Upgrade Readiness Check

To identify potential issues with the upgrade, Oracle recommends that you run a readiness check before you start the upgrade process. Be aware that the readiness check may not be able to discover all potential issues with your upgrade. An upgrade may still fail, even if the readiness check reports success.

About Running a Pre-Upgrade Readiness Check

You can run the Upgrade Assistant in `-readiness` mode to detect issues before you perform the actual upgrade. You can run the readiness check in GUI mode using the Upgrade Assistant or in silent mode using a response file.

The Upgrade Assistant readiness check performs a read-only, pre-upgrade review of your Fusion Middleware schemas and WebLogic domain configurations that are at a supported starting point. The review is a read-only operation.

The readiness check generates a formatted, time-stamped readiness report so you can address potential issues before you attempt the actual upgrade. If no issues are detected, you can begin the upgrade process. Oracle recommends that you read this report thoroughly before performing an upgrade.

You can run the readiness check while your existing Oracle Fusion Middleware domain is online (while other users are actively using it) or offline.

You can run the readiness check any number of times before performing any actual upgrade. However, do not run the readiness check after an upgrade has been performed, as the report results may differ from the result of pre-upgrade readiness checks.

Note

To prevent performance from being affected, Oracle recommends that you run the readiness check during off-peak hours.

Starting the Upgrade Assistant in Readiness Mode

Use the `-readiness` parameter to start the Upgrade Assistant in readiness mode.

To perform a readiness check on your pre-upgrade environment with the Upgrade Assistant:

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant.

- (Linux) `./ua -readiness`
- (Windows) `ua.bat -readiness`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 4-2 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-readiness</code>	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the <code>-examine</code> parameter.
<code>-threads</code>	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
<code>-response</code>	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).
<code>-examine</code>	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the <code>-readiness</code> parameter.
<code>-logLevel <i>attribute</i></code>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> • TRACE • NOTIFICATION • WARNING • ERROR • INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the <code>-logLevel TRACE</code> attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if <code>-logLevel TRACE</code> is used.

Table 4-2 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-logDir location</code>	Optional	<p>Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files.</p> <p>The default locations are:</p> <p>(Linux)</p> <p><code>ORACLE_HOME/oracle_common/upgrade/logs</code> <code>ORACLE_HOME/oracle_common/upgrade/temp</code></p> <p>(Windows)</p> <p><code>ORACLE_HOME\oracle_common\upgrade\logs</code> <code>ORACLE_HOME\oracle_common\upgrade\temp</code></p>
<code>-help</code>	Optional	Displays all of the command-line options.

Performing a Readiness Check with the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to complete the pre-upgrade readiness check.

Readiness checks are performed only on schemas or component configurations that are at a supported upgrade starting point.

To complete the readiness check:

1. On the Welcome screen, review information about the readiness check. Click **Next**.
2. On the Readiness Check Type screen, select the readiness check that you want to perform:
 - **Individually Selected Schemas** allows you to select individual schemas for review before upgrade. The readiness check reports whether a schema is supported for an upgrade or where an upgrade is needed. When you select this option, the screen name changes to Selected Schemas.
 - **Domain Based** allows the Upgrade Assistant to discover and select all upgrade-eligible schemas or component configurations in the domain specified in the **Domain Directory** field. When you select this option, the screen name changes to Schemas and Configuration.

Leave the default selection if you want the Upgrade Assistant to check all schemas and component configurations at the same time, or select a specific option:

- **Include checks for all schemas** to discover and review all components that have a schema available to upgrade.
- **Include checks for all configurations** to review component configurations for a managed WebLogic Server domain.

Click **Next**.

3. If you selected **Individually Selected Schemas**: On the Available Components screen, select the components that have a schema available to upgrade for which you want to perform a readiness check.

If you selected **Domain Based**: On the Component List screen, review the list of components that are present in your domain for which you want to perform a readiness check.

If you select a component that has dependent components, those components are automatically selected. For example, if you select Oracle Platform Security Services, Oracle Audit Services is automatically selected.

Depending on the components you select, additional screens may display. For example, you may need to:

- Specify the domain directory.
- Specify schema credentials to connect to the selected schema: **Database Type**, **DBA User Name**, and **DBA Password**. Then click **Connect**.

Note

Oracle database is the default database type. Make sure that you select the correct database type before you continue. If you discover that you selected the wrong database type, do not go back to this screen to change it to the correct type. Instead, close the Upgrade Assistant and restart the readiness check with the correct database type selected to ensure that the correct database type is applied to all schemas.

- Select the **Schema User Name** option and specify the **Schema Password**.

Note

The Upgrade Assistant automatically enables default credentials. If you are unable to connect, make sure that you manually enter the credentials for your schema before you continue.

Click **Next** to start the readiness check.

4. On the Readiness Summary screen, review the summary of the readiness checks that will be performed based on your selections.

If you want to save your selections to a response file to run the Upgrade Assistant again later in response (or silent) mode, click **Save Response File** and provide the location and name of the response file. A silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again.

For a detailed report, click **View Log**.

Click **Next**.

5. On the Readiness Check screen, review the status of the readiness check. The process can take several minutes.

If you are checking multiple components, the progress of each component displays in its own progress bar in parallel.

When the readiness check is complete, click **Continue**.

6. On the End of Readiness screen, review the results of the readiness check (**Readiness Success** or **Readiness Failure**):
 - If the readiness check is successful, click **View Readiness Report** to review the complete report. Oracle recommends that you review the Readiness Report before you perform the actual upgrade even when the readiness check is successful. Use the **Find** option to search for a particular word or phrase within the report. The report also indicates where the completed Readiness Check Report file is located.
 - If the readiness check encounters an issue or error, click **View Log** to review the log file, identify and correct the issues, and then restart the readiness check. The log file is managed by the command-line options you set.

Understanding the Readiness Report

After performing a readiness check for your domain, review the report to determine whether you need to take any action for a successful upgrade.

The format of the name of the readiness report file is:

```
readiness<timestamp>.txt
```

Where, *timestamp* indicates the date and time of when the readiness check was run.

A readiness report contains the following information:

Table 4-3 Readiness Report Elements

Report Information	Description	Required Action
Overall Readiness Status: SUCCESS or FAILURE	The top of the report indicates whether the readiness check passed or completed with one or more errors.	If the report completed with one or more errors, search for FAIL and correct the failing issues before attempting to upgrade. You can re-run the readiness check as many times as necessary before an upgrade.
Timestamp	The date and time that the report was generated.	No action required.
Log file location /oracle_common/upgrade/logs	The directory location of the generated log file.	No action required.
Domain Directory	Displays the domain location	No action required.
Readiness report location /oracle_common/upgrade/logs	The directory location of the generated readiness report.	No action required.
Names of components that were checked	The names and versions of the components included in the check and status.	If your domain includes components that cannot be upgraded to this release, such as SOA Core Extension, do not attempt an upgrade.
Names of schemas that were checked	The names and current versions of the schemas included in the check and status.	Review the version numbers of your schemas. If your domain includes schemas that cannot be upgraded to this release, do not attempt an upgrade.
Individual Object Test Status: FAIL	The readiness check test detected an issue with a specific object.	Do not upgrade until all failed issues have been resolved.

Table 4-3 (Cont.) Readiness Report Elements

Report Information	Description	Required Action
Individual Object Test Status: PASS	The readiness check test detected no issues for the specific object.	If your readiness check report shows only the PASS status, you can upgrade your environment. Note, however, that the Readiness Check cannot detect issues with externals such as hardware or connectivity during an upgrade. You should always monitor the progress of your upgrade.
Completed Readiness Check of <Object> Status: FAILURE	The readiness check detected one or more errors that must be resolved for a particular object such as a schema, an index, or datatype.	Do not upgrade until all failed issues have been resolved.
Completed Readiness Check of <Object> Status: SUCCESS	The readiness check test detected no issues.	No action required.

Stopping Servers and Processes

Stop the Oracle Analytics server instance and the system components on Node1.

Note

The procedure in this section describe how to stop servers and processes using the WLST command-line utility or a script. You can also use the Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See Starting and Stopping Administration and Managed Servers and Node Manager

To stop your Oracle BI instance:

1. Change to the following directory:
 - (Linux) `NEW_DOMAIN_HOME/bitools/bin`
 - (Windows) `NEW_DOMAIN_HOME\bitools\bin`
2. To stop the Oracle BI instance and servers, enter the following command:
 - (Linux) `stop.sh -r`
 - (Windows) `stop.cmd -r`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle BI domain.

Upgrading Product Schemas

After stopping servers and processes, use the Upgrade Assistant to upgrade supported product schemas to the current release of Oracle Fusion Middleware.

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.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to Oracle Analytics Server.

To start the Upgrade Assistant:

Note

Before you start the Upgrade Assistant, make sure that the JVM character encoding is set to UTF-8 for the platform on which the Upgrade Assistant is running. If the character encoding is not set to UTF-8, then you will not be able to download files containing Unicode characters in their names. This can cause the upgrade to fail.

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant:
 - (Linux) `./ua`
 - (Windows) `ua.bat`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 4-4 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-readiness</code>	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the <code>-examine</code> parameter.

Table 4-4 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-threads	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
-response	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).
-examine	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the -readiness parameter.
-logLevel <i>attribute</i>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> • TRACE • NOTIFICATION • WARNING • ERROR • INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the -logLevel TRACE attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if -logLevel TRACE is used.

Table 4-4 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-logDir location</code>	Optional	<p>Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files.</p> <p>The default locations are:</p> <p>(Linux)</p> <p><code>ORACLE_HOME/oracle_common/upgrade/logs</code> <code>ORACLE_HOME/oracle_common/upgrade/temp</code></p> <p>(Windows)</p> <p><code>ORACLE_HOME\oracle_common\upgrade\logs</code> <code>ORACLE_HOME\oracle_common\upgrade\temp</code></p>
<code>-help</code>	Optional	Displays all of the command-line options.

Upgrading Product Schemas Using the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to upgrade the product schemas.

If you are using DB2 in your existing BI instance, then perform the following before starting the upgrade process:

1. Sign in to the WebLogic Console.
2. Go to **Datasources** under **Services** and select **wlsservices_datasource**.
3. Change the user for data source 'wlsservices_datasource' from `<PREFIX>_WLS_RUNTIME` to `<PREFIX>_WLS`.

For example: Change the user from `L1_WLS_RUNTIME` to `L1_WLS`.

You can now proceed with the upgrade process.

To upgrade product schemas with the Upgrade Assistant:

1. On the Welcome screen, review an introduction to the Upgrade Assistant and information about important pre-upgrade tasks. Click **Next**.

Note

For more information about any Upgrade Assistant screen, click **Help** on the screen.

2. On the Selected Schemas screen, select option:
 - **All Schemas Used by a Domain** to allow the Upgrade Assistant to discover and select all components that have a schema available to upgrade in the domain specified

in the **Domain Directory** field. This is also known as a *domain assisted schema upgrade*. Additionally, the Upgrade Assistant pre-populates connection information on the schema input screens.

Note

Oracle recommends that you select **All Schemas Used by a Domain** for most upgrades to ensure all of the required schemas are included in the upgrade.

- **Individually Selected Schemas** if the domain uses the Oracle ATP (Autonomous Transaction Processing) database.

Click **Next**.

3. If you selected **All Schemas Used by a Domain**: On the Component List screen you will see two lists of schemas. The first list shows the components whose schemas are present in the domain and will be upgraded. The second list shows the list of missing schemas that may need to be created. If none of the required schemas are missing, you will only see the first list. Review both lists and click **Next**.

The Upgrade Assistant will attempt to create any missing schemas using the schema credentials used to create the existing domain schemas. You do not need to launch the Repository Creation Utility.

If you want to exclude some components or schemas from the list, navigate back to the All Schemas screen and select **Individually Selected Schemas**. This option allows you to select only those schemas you want included in the upgrade.

4. If you selected **Individually Selected Schemas** to upgrade the schema for the Oracle ATP database, perform these steps:
 - a. Select all the components including Oracle Business Intelligence.
 - b. In the schema details screen, input the full TNS connect string in the database connection string field, enter other details, and then click **Next** to proceed.

See TNS connect string examples in *Configuring the Oracle Analytics Server Domain when using Oracle ATP Database*.

5. On the Prerequisites screen, acknowledge that the prerequisites have been met by selecting all the check boxes. Click **Next**.

Note

The Upgrade Assistant does not verify whether the prerequisites have been met.

6. On the BIPLATFORM Schema [BIEE_PLATFORM] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_PLATFORM schema and click **Connect**.

When you see the message "Connection to database successfully completed", click **Next**.

7. On the IAU Schema [BIEE_IAU] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_IAU schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

8. On the OPSS Schema [BIEE_OPSS] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_OPSS schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

9. On the MDS Schema [BIEE_MDS] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_MDS schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

10. On the STB Schema [BIEE_STB] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_STB schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

11. On the WLS Schema [BIEE_WLS_RUNTIME] screen, the system automatically populates data in the other fields from the existing 12c schema.

Enter the database administrator account: DBA username and password for the database containing the BIEE_WLS_RUNTIME schema and click **Connect**.

When you see the message “Connection to database successfully completed”, click **Next**.

12. On the Examine screen, review the status of the Upgrade Assistant as it examines each schema, verifying that the schema is ready for upgrade. If the status is **Examine finished**, click **Next**.

If the examine phase fails, Oracle recommends that you cancel the upgrade by clicking **No** in the Examination Failure dialog. Click **View Log** to see what caused the error.

Note

- If you resolve any issues detected during the examine phase without proceeding with the upgrade, you can start the Upgrade Assistant again without restoring from backup. However, if you proceed by clicking **Yes** in the Examination Failure dialog box, you need to restore your pre-upgrade environment from backup before starting the Upgrade Assistant again.
- Canceling the examination process has no effect on the schemas or configuration data; the only consequence is that the information the Upgrade Assistant has collected must be collected again in a future upgrade session.

13. On the Upgrade Summary screen, review the summary of the schemas that will be upgraded and/or created.

Verify that the correct Source and Target Versions are listed for each schema you intend to upgrade.

If you want to save these options to a response file to run the Upgrade Assistant again later in response (or silent) mode, click **Save Response File** and provide the location and name of the response file. A silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again.

Click **Next** .

14. On the Upgrade Progress screen, monitor the status of the upgrade.

 **Caution**

Allow the Upgrade Assistant enough time to perform the upgrade. Do not cancel the upgrade operation unless absolutely necessary. Doing so may result in an unstable environment.

If any schema isn't upgraded successfully, refer to the Upgrade Assistant log files for more information.

 **Note**

The progress bar on this screen displays the progress of the current upgrade procedure. It does not indicate the time remaining for the upgrade.

Click **Next**.

15. If the upgrade is successful: On the Upgrade Success screen, click **Close** to complete the upgrade and close the wizard.

If the upgrade fails: On the Upgrade Failure screen, click **View Log** to view and troubleshoot the errors. The logs are available at `NEW_ORACLE_HOME/oracle_common/upgrade/logs`.

 **Note**

If the upgrade fails, you must restore your pre-upgrade environment from backup, fix the issues, then restart the Upgrade Assistant.

Verifying the Schema Upgrade

After completing all the upgrade steps, verify that the upgrade was successful by checking that the schema version in `schema_version_registry` has been properly updated.

If you are using an Oracle database, connect to the database as a user having Oracle DBA privileges, and run the following from SQL*Plus to get the current version numbers:

```
SET LINE 120
COLUMN MRC_NAME FORMAT A14
COLUMN COMP_ID FORMAT A20
COLUMN VERSION FORMAT A12
COLUMN STATUS FORMAT A9
COLUMN UPGRADED FORMAT A8
SELECT MRC_NAME, COMP_ID, OWNER, VERSION, STATUS, UPGRADED FROM SCHEMA_VERSION_REGISTRY
ORDER BY MRC_NAME, COMP_ID ;
```

In the query result:

- Check that the number in the `VERSION` column matches the latest version number for that schema.

Note

However, that not all schema versions will be updated. Some schemas do not require an upgrade to this release and will retain their pre-upgrade version number.

- The STATUS field will be either UPGRADING or UPGRADED during the schema patching operation, and will become VALID when the operation is completed.
- If the status appears as INVALID, the schema update failed. You should examine the logs files to determine the reason for the failure.
- Synonym objects owned by IAU_APPEND and IAU_VIEWER will appear as INVALID, but that does not indicate a failure.

They become invalid because the target object changes after the creation of the synonym. The synonyms objects will become valid when they are accessed. You can safely ignore these INVALID objects.

Backing Up the mapViewerConfig.xml File

The mapViewerConfig.xml file is overwritten by the reconfiguration templates when you run the Reconfiguration Wizard. Therefore, you must back up the mapViewerConfig.xml file before reconfiguring your existing domain.

To back up the mapViewerConfig.xml file:

1. Change directory to the location of the mapViewerConfig.xml file:
 - (Linux) `cd EXISTING_DOMAIN_HOME/config/fmwconfig/mapviewer/conf`
 - (Windows) `cd EXISTING_DOMAIN_HOME\config\fmwconfig\mapviewer\conf`
2. Check the file size of the mapViewerConfig.xml file: is present in the following location on your system. Use the list command: `ls -ltr` to check its file size.
 - (Linux) `ls -ltr`
 - (Windows) `dir`
3. Copy the mapViewerConfig.xml file as shown:
 - (Linux) `cp mapViewerConfig.xml mapViewerConfig_original.xml`
 - (Windows) `copy "mapViewerConfig.xml" "mapViewerConfig_original.xml"`

About Reconfiguring the Domain

Run the Reconfiguration Wizard to reconfigure your domain component configurations to Oracle Analytics Server.

If you can't run the Reconfiguration Wizard in GUI mode, Oracle recommends you to use a WLST script to reconfigure your domain. See Reconfiguring a WebLogic Domain Using WebLogic Scripting Tool.

When you reconfigure a WebLogic Server domain, the following items are automatically updated, depending on the applications in the domain:

- WebLogic Server core infrastructure
- Domain version

Note

Before you begin the domain reconfiguration, note the following limitations:

- The Reconfiguration Wizard does not update any of your own applications that are included in the domain.
- Transforming a non-dynamic cluster domain to a dynamic cluster domain during the upgrade process is not supported.

The dynamic cluster feature is available when running the Reconfiguration Wizard, but Oracle only supports upgrading a non-dynamic cluster upgrade and then adding dynamic clusters. You cannot add dynamic cluster during the upgrade process.

- If the installation that you're upgrading does not use Oracle Access Management (OAM), then you must edit two files to prevent the Reconfiguration Wizard from attempting to update the nonexistent OAM Infrastructure schema, which causes the upgrade to fail.

Comment out the lines in your `$DOMAIN/init-info/domain-info.xml` that are similar to this example:

```
<!--extention-template-ref name="Oracle Identity Navigator"
  version="11.1.1.3.0"
  location="/u01/app/oracle/product/fmw/iam111130/common/templates/applications/
yourcomany.oinav_11.1.1.3.0_template.jar"
  symbol=""-->

<!--install-comp-ref name="oracle.idm.oinav" version="11.1.1.3.0"
  symbol="yourcompany.idm.oinav_11.1.1.3.0_iam111130_ORACLE_HOME"
  product_home="/u01/app/oracle/product/fmw/iam111130"-->
```

and similarly comment out the lines in `$DOMAIN/config/config.xml` that are similar to this example:

```
<!--app-deployment>
  <name>oinav#11.1.1.3.0</name>
  <target>AdminServer</target>
  <module-type>ear</module-type>

  <source-path>u01/app/oracle/product/fmw/iam111130/oinav/modules/oinav.ear_11.1.1.3.0/
oinav.ear</source-path>
  <deployment-order>500</deployment-order>
  <security-dd-model>DDOnly</security-dd-model>
  <staging-mode>nostage</staging-mode>
</app-deployment-->
```

Specifically, when you reconfigure a domain, the following occurs:

- The domain version number in the `config.xml` file for the domain is updated to the Administration Server's installed WebLogic Server version.
- Reconfiguration templates for all installed Oracle products are automatically selected and applied to the domain. These templates define any reconfiguration tasks that are required to make the WebLogic domain compatible with the current WebLogic Server version.

- Start scripts are updated.

If you want to preserve your modified start scripts, be sure to back them up before starting the Reconfiguration Wizard.

① Note

When the domain reconfiguration process starts, you can't undo the changes that it makes. Before running the Reconfiguration Wizard, ensure that you have backed up the domain as covered in the pre-upgrade checklist. If an error or other interruption occurs while running the Reconfiguration Wizard, you must restore the domain by copying the files and directories from the backup location to the original domain directory. This is the only way to ensure that the domain has been returned to its original state before reconfiguration.

Follow these instructions to reconfigure the existing domain using the Reconfiguration Wizard. See Reconfiguring WebLogic Domains in *Upgrading Oracle WebLogic Server*.

Backing Up the Domain

Before running the Reconfiguration Wizard, create a backup copy of the domain directory.

To create a backup of the domain directory:

1. Copy the source domain to a separate location to preserve the contents.
 - (Linux) `cp -rf mydomain mydomain_backup`
 - (Windows) `cp mydomain /domains/mydomain_backup`
2. Before updating the domain on each remote Managed Server, create a backup copy of the domain directory on each remote machine.
3. Verify that the backed up versions of the domain are complete.

If domain reconfiguration fails for any reason, you must copy all files and directories from the backup directory into the original domain directory to ensure that the domain is returned entirely to its original state before reconfiguration.

Starting the Reconfiguration Wizard

① Note

Shut down the administration server and all collocated managed servers before starting the reconfiguration process. See [Stopping Servers and Processes](#).

To start the Reconfiguration Wizard in graphical mode:

1. Sign in to the system on which the domain resides.
2. Open the command shell (on Linux operating systems) or open a command prompt window (on Windows operating systems).
3. **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 child edition name.

4. Go to the `oracle_common/common/bin` directory:
 - (Linux) `NEW_ORACLE_HOME/oracle_common/common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\commom\bin`
5. Start the Reconfiguration Wizard with the following logging options:
 - (Linux) `./reconfig.sh -log=log_file -log_priority=ALL`
 - (Windows) `reconfig.cmd -log=log_file -log_priority=ALL`

where *log_file* is 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 this command, the following error message might appear 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
```

In this section, *NEW_ORACLE_HOME* refers to the new Oracle Home.

Reconfiguring the Oracle BI Domain with the Reconfiguration Wizard

Navigate through the screens in the Reconfiguration Wizard to reconfigure your existing domain.

To reconfigure the domain:

1. On the Select Domain screen, specify the location of the domain you want to upgrade or click **Browse** to navigate and select the domain directory. Click **Next**.
2. On the Reconfiguration Setup Progress screen, view the progress of the setup process. When complete, click **Next**.

During this process:

- The reconfiguration templates for your installed products, including Fusion Middleware products, are automatically applied. This updates various domain configuration files such as `config.xml`, `config-groups.xml`, and `security.xml` (among others).
 - Schemas, scripts, and other such files that support your Fusion Middleware products are updated.
 - The domain upgrade is validated.
3. On the Domain Mode and JDK screen, select the JDK to use in the domain or click **Browse** to navigate to the JDK you want to use. The supported JDK version for 12c (12.2.1.4.0) is 1.8.0_221 and later. Click **Next**.

Note

You cannot change the **Domain Mode** at this stage.

For a list of JDKs that are supported for a specific platform, see Oracle Fusion Middleware Supported System Configurations.

4. On the Database Configuration Type screen, select **RCU Data** to connect to the Server Table (_STB) schema.

Enter the database connection details using the RCU service table (_STB) schema credentials and click **Get RCU Configuration**.

The Reconfiguration Wizard uses this connection to automatically configure the data sources required for components in your domain.

Note

By default **Oracle's Driver (Thin) for Service connections; Versions: Any** is the selected driver. If you specified an instance name in your connection details — instead of the service name — you must select **Oracle's Driver (Thin) for pooled instance connections; Versions: Any**. If you do not change the driver type, then the connection will fail.

For any existing 12c (12.2.1.4.0) datasource, the reconfiguration will preserve the existing values. For new datasources where the schema was created for 12c (12.2.1.4.0) by the RCU, the default connection data will be retrieved from the _STB schema. If no connection data for a given schema is found in the _STB schema, then the default connection data is used.

If the check is successful, click **Next**. If the check fails, reenter the connection details correctly and try again.

If you are upgrading from 12c (12.2.1.4.0), and your database has _OPSS or _IAU 12c (12.2.1.4.0) database schemas, you must manually enter database connection details for those schemas. These schemas were not required in 12c and had to be created manually. Users could assign any name to these schemas, therefore the Reconfiguration Wizard does not recognize them. When providing connection information for _IAU, use the IAU_APPEND user information.

5. On the JDBC Data Sources screen, configure the JDBC data sources defined in your domain source.

The JDBC data sources associated with the products for which you are creating the domain are listed in the lower half of the screen. A JDBC data source contains a pool of database connections that are created when the data source instance is created, deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. When the applications no longer need the connections, they return the connections to the connection pool in the data source.

From the **Data Source Name** drop-down list, select the data source(s) for which you want to specify the settings. The values that you specify are displayed in the appropriate columns in the data source list, for the selected data source.

For Oracle RAC Configuration for data sources, you can select one of the three options:

- Convert to GridLink
- Convert to RAC multi data source
- Don't convert

For more information about each option, click **Help**.

After specifying the details, click **Next**.

If you do not select any data sources on the JDBC Data Sources screen, the following warning displays:

Missing Driver

Click **Ok** to proceed without verification, click **Cancel** to return to the JDBC Data Sources page.

In this case, if you click **Ok**, the data sources are not verified.

6. On the JDBC Data Sources Test screen, select the check box for the data source connection you configured on the JDBC Data Sources screen and click **Test Selected Connections** to test the data source connection.

To test the database connections, the database to which you are connecting must be running. If you do not want to test the connections at this time, do not select any data sources. Click **Next** to continue.

7. On the JDBC Component Schema Test screen, select all the component schemas and click **Test Selected Connections** to test the connection for each schema. The result of the test is indicated in the Status column.

When the check is complete, click **Next**.

8. On the Advanced Configuration screen, you can select all categories for which you want to perform advanced configuration. For each category you select, the appropriate configuration screen is displayed to allow you to perform advanced configuration.

The categories that are listed on the Advanced Configuration screen depend on the resources defined in the templates you selected for the domain.

For this upgrade, select none of the options and click **Next**.

9. On the Configuration Summary screen, review the detailed configuration settings of the domain before continuing.

You can limit the items that are displayed in the right-most panel by selecting a filter option from the **View** drop-down list.

To change the configuration, click **Back** to return to the appropriate screen. To reconfigure the domain, click **Reconfig**.

Note

The location of the domain does not change when you reconfigure it.

10. The Reconfiguration Progress screen displays the progress of the reconfiguration process.

During this process:

- Domain information is extracted, saved, and updated.
- Schemas, scripts, and other such files that support your Fusion Middleware products are updated.

When the progress bar shows 100%, click **Next**.

11. The End of Configuration screen indicates whether the reconfiguration process completed successfully or failed. It also displays the location of the domain that was reconfigured as well as the Administration Server URL (including the listen port). If the reconfiguration is successful, it displays **Oracle WebLogic Server Reconfiguration Succeeded**.

If the reconfiguration process did not complete successfully, an error message is displayed indicates the reason. Take appropriate action to resolve the issue. If you cannot resolve the issue, contact My Oracle Support.

Note the Domain Location and the Admin Server URL for further operations.

Restoring the mapViewerConfig.xml File

The mapViewerConfig.xml file is overwritten when you run the Reconfiguration Wizard on your domain. You can confirm that the mapViewerConfig.xml file is overwritten by checking its file size. You must restore the original file that you backed up before upgrading your domain with the Upgrade Assistant.

To restore the original mapViewerConfig.xml file:

1. Change to the following directory:
 - (Linux) `cd EXISTING_DOMAIN_HOME/config/fmwconfig/mapviewer/conf`
 - (Windows) `cd EXISTING_DOMAIN_HOME\config\fmwconfig\mapviewer\conf`
2. Enter the following command to list the files within this directory and check the file size of the mapViewerConfig.xml file:
 - (Linux) `ls -ltr`
 - (Windows) `dir`

Note

The change in the file size implies that the mapViewerConfig.xml file is overwritten by the reconfiguration template.

3. Restore the original file by renaming the mapViewerConfig_original.xml to mapViewerConfig.xml.
4. Enter the following command to list the files again and check the file size of the mapViewerConfig.xml file:
 - (Linux) `ls -ltr`
 - (Windows) `dir`

The file size of the mapViewerConfig.xml file should now match with the file size you obtained while backing up the mapViewerConfig.xml file.

Upgrading Domain Component Configurations

Use the Upgrade Assistant to upgrade the domain *component* configurations inside the domain to match the updated domain configuration.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to Oracle Analytics Server.

To start the Upgrade Assistant:

Note

Before you start the Upgrade Assistant, make sure that the JVM character encoding is set to UTF-8 for the platform on which the Upgrade Assistant is running. If the character encoding is not set to UTF-8, then you will not be able to download files containing Unicode characters in their names. This can cause the upgrade to fail.

1. Go to the `oracle_common/upgrade/bin` directory:
 - (Linux) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant:
 - (Linux) `./ua`
 - (Windows) `ua.bat`

Upgrade Assistant Parameters

When you start the Upgrade Assistant from the command line, you can specify additional parameters.

Table 4-5 Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
<code>-readiness</code>	Required for readiness checks Note: Readiness checks cannot be performed on standalone installations (those not managed by the WebLogic Server).	Performs the upgrade readiness check without performing an actual upgrade. Schemas and configurations are checked. Do not use this parameter if you have specified the <code>-examine</code> parameter.
<code>-threads</code>	Optional	Identifies the number of threads available for concurrent schema upgrades or readiness checks of the schemas. The value must be a positive integer in the range 1 to 8. The default is 4.
<code>-response</code>	Required for silent upgrades or silent readiness checks	Runs the Upgrade Assistant using inputs saved to a response file generated from the data that is entered when the Upgrade Assistant is run in GUI mode. Using this parameter runs the Upgrade Assistant in <i>silent mode</i> (without displaying Upgrade Assistant screens).

Table 4-5 (Cont.) Upgrade Assistant Command-Line Parameters

Parameter	Required or Optional	Description
-examine	Optional	Performs the examine phase but does not perform an actual upgrade. Do not specify this parameter if you have specified the -readiness parameter.
-logLevel <i>attribute</i>	Optional	Sets the logging level, specifying one of the following attributes: <ul style="list-style-type: none"> TRACE NOTIFICATION WARNING ERROR INCIDENT_ERROR The default logging level is NOTIFICATION. Consider setting the -logLevel TRACE attribute to so that more information is logged. This is useful when troubleshooting a failed upgrade. The Upgrade Assistant's log files can become very large if -logLevel TRACE is used.
-logDir <i>location</i>	Optional	Sets the default location of upgrade log files and temporary files. You must specify an existing, writable directory where the Upgrade Assistant creates log files and temporary files. The default locations are: (Linux) <i>ORACLE_HOME</i> /oracle_common/upgrade/logs <i>ORACLE_HOME</i> /oracle_common/upgrade/temp (Windows) <i>ORACLE_HOME</i> \oracle_common\upgrade\logs <i>ORACLE_HOME</i> \oracle_common\upgrade\temp
-help	Optional	Displays all of the command-line options.

Upgrading Domain Components Using the Upgrade Assistant

Navigate through the screens in the Upgrade Assistant to upgrade component configurations in the WebLogic domain.

After running the Reconfiguration Wizard to reconfigure the WebLogic domain to Oracle Analytics server, you must run the Upgrade Assistant to upgrade the domain *component* configurations to match the updated domain configuration.

1. On the Welcome screen, review an introduction to the Upgrade Assistant and information about important pre-upgrade tasks. Click **Next**.

Note

For more information about any Upgrade Assistant screen, click **Help** on the screen.

2. On the next screen:
 - Select **All Configurations Used By a Domain**. The screen name changes to WebLogic Components.
 - In the **Domain Directory** field, enter the WebLogic domain directory path.

Click **Next**.

3. On the Component List screen, verify that the list includes all the components for which you want to upgrade configurations and click **Next**.

If you do not see the components you want to upgrade, click **Back** to go to the previous screen and specify a different domain.

4. On the Prerequisites screen, acknowledge that the prerequisites have been met by selecting all the check boxes. Click **Next**.

Note

The Upgrade Assistant does not verify whether the prerequisites have been met.

5. On the MapViewer Configuration screen, select the file version for upgrade, and click **Next**.
6. On the BAR backup location screen, provide a location outside domain and oracle_home to store the metadata backup, and then click **Next**.
7. On the Examine screen, review the status of the Upgrade Assistant as it examines each component, verifying that the component configuration is ready for upgrade. If the status is **Examine finished**, click **Next**.

If the examine phase fails, Oracle recommends that you cancel the upgrade by clicking **No** in the Examination Failure dialog. Click **View Log** to see what caused the error and refer to [Troubleshooting Your Upgrade](#) in *Upgrading with the Upgrade Assistant* for information on resolving common upgrade errors.

Note

- If you resolve any issues detected during the examine phase without proceeding with the upgrade, you can start the Upgrade Assistant again without restoring from backup. However, if you proceed by clicking **Yes** in the Examination Failure dialog box, you need to restore your pre-upgrade environment from backup before starting the Upgrade Assistant again.
- Canceling the examination process has no effect on the configuration data; the only consequence is that the information the Upgrade Assistant has collected must be collected again in a future upgrade session.

8. On the Upgrade Summary screen, review the summary of the options you have selected for component configuration upgrade.

The response file collects and stores all the information that you have entered, and enables you to perform a silent upgrade at a later time. The silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again. If you want to save these options to a response file, click **Save Response File** and provide the location and name of the response file.

Click **Upgrade** to start the upgrade process.

9. On the Upgrade Progress screen, monitor the status of the upgrade.

 **Caution**

Allow the Upgrade Assistant enough time to perform the upgrade. Do not cancel the upgrade operation unless absolutely necessary. Doing so may result in an unstable environment.

If any components are not upgraded successfully, refer to the Upgrade Assistant log files for more information.

 **Note**

The progress bar on this screen displays the progress of the current upgrade procedure. It does not indicate the time remaining for the upgrade.

Click **Next**.

10. If the upgrade is successful: On the Upgrade Success screen, click **Close** to complete the upgrade and close the wizard. The Post-Upgrade Actions window describes the manual tasks you must perform to make components functional in the new installation. This window appears only if a component has post-upgrade steps.

If the upgrade fails: On the Upgrade Failure screen, click **View Log** to view and troubleshoot the errors. The logs are available at `ORACLE_HOME/oracle_common/upgrade/logs`.

 **Note**

If the upgrade fails you must restore your pre-upgrade environment from backup, fix the issues, then restart the Upgrade Assistant.

Verifying the Domain-Specific-Component Configurations Upgrade

To verify that the domain-specific-component configurations upgrade was successful, sign in to the Administration console and the Oracle Enterprise Manager Fusion Middleware Control and verify that the version numbers for each component is the latest.

To sign in to the Administration Console, go to: `http://administration_server_host:administration_server_port/console`

To sign in to Oracle Enterprise Manager Fusion Middleware Control Console, go to: `http://administration_server_host:administration_server_port/em`

Note

After upgrade, make sure you run the administration tools from the new Oracle home directory and not from the previous Oracle home directory.

During the upgrade process, some OWSM documents, including policy sets and predefined documents such as policies and assertion templates, may need to be upgraded. If a policy set or a predefined document is upgraded, its version number is incremented by 1.

If you created the FMW user to run the Upgrade Assistant, ensure that you delete the account after verifying your upgrade was successful.

Packing the Upgraded Domain on Node1

After upgrading the existing domain to Oracle Analytics Server, pack the upgraded domain on Node1.

To pack the domain:

1. Sign in to the Node1.
2. Change to the following directory:
 - (Linux) `NEW_ORACLE_HOME/oracle_common/common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\common\bin`
3. Enter the following command to pack the domain:
 - (Linux) `./pack.sh -domain=path to domain -template=path to template -template_name=name -managed=true`
 - (Windows) `pack.cmd -domain=path to domain -template=path to template -template_name=name -managed=true`

Example:

```
pack.cmd -domain=C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi\ -
template=C:\aaa\12.2.1.4.0_template_managed.jar -template_name=Node1_Upgrade -
managed=true
```

Sample output:

```
<< read domain from "C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi"
>> succeed: read domain from "C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi"
<< set config option Managed to "true"
>> succeed: set config option Managed to "true"
<< write template to "C:\aaa\12.2.1.4.0_template_managed.jar"
.....
>> succeed: write template to "C:\aaa\12.2.1.4.0_template_managed.jar"
<< close template
>> succeed: close template
```

Unpacking the Upgraded Domain on Node2

You must unpack the domain that you packed on Node1 to Node2, which is the remote node.

To unpack the domain:

1. Sign in to the Node2.
2. Copy the template file that you created from Node1 to Node2 using the following command.

```
scp template_filename username@remote_host:/directory
```

Example:

```
scp 12.2.1.4.0_template_managed.jar company@Node2:$12c_ORACLE_HOME/oracle_common/
common/bin
```

3. Change to the following directory:
 - (Linux) *NEW_ORACLE_HOME*/oracle_common/common/bin
 - (Windows) *NEW_ORACLE_HOME*\oracle_common\common\bin
4. Enter the following command to unpack the domain:
 - (Linux) `./unpack.sh -domain=path to domain -template=path to template -
overwrite_domain=true`
 - (Windows) `DOMAIN_HOME\common\bin\pack.cmd -domain=path to domain -
overwrite_domain=true`

Example:

```
unpack.cmd -domain=C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi -
template=c:\aaa\12.2.1.4.0_template_managed.jar -overwrite_domain=true
```

Sample output:

```
<< read template from "C:\aaa\12.2.1.4.0_template_managed.jar"
>> succeed: read template from "C:\aaa\12.2.1.4.0_template_managed.jar"
<< set config option OverwriteDomain to "true"
>> succeed: set config option OverwriteDomain to "true"
<< set config option DomainName to "bi"
>> succeed: set config option DomainName to "bi"
<< write Domain to "C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi"
.....
>> succeed: write Domain to "C:\Oracle\Middleware\Oracle_Home\user_projects\domains\bi"
<< close template
>> succeed: close template
```

Synchronizing Connection Details to the Mid-Tier Database

Synchronizing connection details to the mid-tier database ensures that the Oracle Analytics Server components can access the mid-tier database when connection details, including credentials, are changed.

Supported mid-tier database types are DB2, SQLServer, MSSQL, and Oracle.

On Linux, perform this task on the master host. On Windows, perform this task on every host.

To synchronize connection details:

1. Change to the following directory:
 - (Linux) `NEW_DOMAIN_HOME/bitools/bin`
 - (Windows) `NEW_DOMAIN_HOME\bitools\bin`
2. Run the synchronization script:
 - (Linux) `sync_midtier_db.sh`
 - (Windows) `sync_midtier_db.cmd`

Starting the Node Manager on Node2

After you have upgraded the Oracle BI domain on Node1, start the Node Manager on Node2.

To start the Node Manager:

1. Change to the following directory on Node2:
 - (Linux) `NEW_DOMAIN_HOME/bin`
 - (Windows) `NEW_DOMAIN_HOME\bin`
2. Enter the following command:
 - (Linux) `startNodeManager.sh`
 - (Windows) `startNodeManager.cmd`

Starting Servers and Processes

Start the Oracle Analytics Server instance and the system components on Node1.

Note

The procedure in this section describe how to start servers and processes using the WLST command-line utility or a script. You can also use the Oracle Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See Starting and Stopping Administration and Managed Servers and Node Manager

To start the Oracle Analytics Server instance:

1. Change directory to the following:
 - (Linux) `NEW_DOMAIN_HOME/bitools/bin`
 - (Windows) `NEW_DOMAIN_HOME\bitools\bin`
2. To start the Oracle Analytics Server instance and servers, enter the following command:
 - (Linux) `start.sh`
 - (Windows) `start.cmd`

Note

When prompted to enter the password, specify the Node Manager password that you entered while configuring the Oracle Analytics Server domain.

Checking the Status of the Servers in the Oracle Analytics Server Instance

The following servers must be in the running state on both the nodes: Servers hosting Oracle Analytics Server instance (bi_server), OBIPS, OBIJH, OBICCS, OBISCH, and OBIS.

To check the status of the servers:

1. Change to the following directory:
 - (Linux) `NEW_DOMAIN_HOME/bitools/bin`
 - (Windows) `NEW_DOMAIN_HOME\bitools\bin`
2. Run the status script by entering the following command:
 - (Linux) `status.sh`
 - (Windows) `status.cmd`

Following is a sample output:

Name	Type	Machine	Status
AdminServer	Server	machine_name	RUNNING
bi_server1	Server	machine_name.example.com	RUNNING
bi_server2	Server	machine_name.example.com	RUNNING
obips1	OBIPS	machine_name.example.com	RUNNING
objjh1	OBIJH	machine_name.example.com	RUNNING
obiccs1	OBICCS	machine_name.example.com	RUNNING
obisch1	OBISCH	machine_name.example.com	RUNNING
obis1	OBIS	machine_name.example.com	RUNNING
obips2	OBIPS	machine_name.example.com	RUNNING
objjh2	OBIJH	machine_name.example.com	RUNNING
obiccs2	OBICCS	machine_name.example.com	RUNNING
obisch2	OBISCH	machine_name.example.com	RUNNING
obis2	OBIS	machine_name.example.com	RUNNING

A

Migrating Security Certificates when Using Secure LDAP

From 12c (12.2.1.4.0) onwards, the IBM LDAP client libraries used in previous versions of the product have been replaced with Oracle LDAP libraries. If you are using secure LDAP in your Oracle Analytics Server deployment, you need to create an Oracle wallet to manage your security credentials, and migrate your existing CA certificate to the wallet.

To check whether you are using secure LDAP:

1. In Model Administration Tool, click **Manage** and then **Identity** to open the Identity Manager.
2. On the Identity Manager window, click **Directory Servers** on the left pane.
The right pane displays the available LDAP objects.
3. Select and open the LDAP object to open the LDAP Server dialog.
4. On the LDAP Server dialog, click **Advanced**.
If the **SSL** option is selected, then secure LDAP is in use.

If you are using secure LDAP, then you must first create an Oracle wallet and then specify the Oracle wallet directory on the Repository tab using Model Administration Tool.

Creating an Oracle Wallet

To create an Oracle Wallet:

1. Export the CA certificate from the key database file using the IBM key management utility (iKeyman) and save it in a .kdb file.
2. Run the Oracle Wallet Manager.
3. Create a new wallet and specify a password.
4. From the Operations window, click **Import Trusted Certificate**.
5. On the Import Trusted Certificate dialog, select the **Select a file that contains the certificate** option and click **OK**.
6. Browse and select the file that you exported in step 1.
7. Save the wallet and note its location.

Specifying the Wallet Directory

To specify the Oracle wallet directory:

1. In Model Administration Tool, click **Tools**.
2. In the Options dialog, select the Repository tab.
3. In the **Wallet directory** field, specify the location of the Oracle wallet that you created.
4. Specify and confirm the password for this wallet and click **OK**.

B

Updating the JDK After Installing and Configuring an Oracle Analytics Server

Consider that you have a JDK version `jdk1.8.0_xxx` installed on your machine. When you install and configure an Oracle Fusion Middleware product, the utilities, such as Configuration Wizard (`config.sh|exe`), OPatch, or RCU point to a default JDK, for example, `jdk1.8.0_xxx`. After some time, Oracle releases a newer version of the JDK that carries security enhancements and bug fixes. You can upgrade the existing JDK to a newer version and have the complete product stack point to the newer version of the JDK.

You can maintain multiple versions of JDK and switch to the required version on need basis.

About Updating the JDK Location After Installing Oracle Analytics Server

The binaries and other metadata and utility scripts in the Oracle home and Domain home, such as RCU or Configuration Wizard, use a JDK version that was used while installing the software and continue to refer to the same version of the JDK. The JDK path is stored in a variable called `JAVA_HOME` which is centrally located in `.globalEnv.properties` file inside the `ORACLE_HOME/oui` directory.

The utility scripts such as `config.sh|cmd`, `launch.sh`, or `opatch` reside in the `ORACLE_HOME`, and when you invoke them, they refer to the `JAVA_HOME` variable located in `.globalEnv.properties` file. To point these scripts and utilities to the newer version of JDK, you must update the value of the `JAVA_HOME` variable in the `.globalEnv.properties` file by following the directions listed in [Updating the JDK Location in an Existing Oracle Home](#).

To make the scripts and files in your Domain home directory point to the newer version of the JDK, you can follow one of the following approaches:

- Specify the path to the newer JDK on the Domain Mode and JDK screen while running the Configuration Wizard.

For example, consider that you installed Oracle Fusion Middleware Infrastructure with the JDK version 8u191. So while configuring the WebLogic domain with the Configuration Assistant, you can select the path to the newer JDK on the Domain Mode and JDK screen of the Configuration Wizard. Example: `/scratch/jdk/jdk1.8.0_xxx`.

- Manually locate the files that have references to the JDK using `grep` (UNIX) or `findstr` (Windows) commands and update each reference. See [Updating the JDK Location in an Existing Oracle Home](#).

Note

If you install the newer version of the JDK in the same location as the existing JDK by overwriting the files, then you don't need to take any action. The preferred method is to install into a generic JDK path location instead of a specific version location. For example, use location `/usr/java/latest` instead of `/scratch/jdk/jdk1.8.0_xxx`.

! Important

The `ORACLE_HOME/oui/.globalEnv.properties` file is centrally used as a pointer to the JDK directory.

To avoid OPatch getting into self-patching mode and inventory corruption issues:

- Make sure you have a valid JDK directory outside of the `ORACLE_HOME` of the Oracle Analytics Server technology stack.
- Make sure that the `PATH` isn't using `ORACLE_HOME/oracle_common/jdk` because `ORACLE_HOME/oracle_common/jdk` is a JRE location for internal tools.

Updating the JDK Location in an Existing Oracle Home

The `getProperty.sh|cmd` script displays the value of a variable, such as `JAVA_HOME`, from the `.globalEnv.properties` file. The `setProperty.sh|cmd` script is used to set the value of variables, such as `OLD_JAVA_HOME` or `JAVA_HOME` that contain the locations of old and new JDKs in the `.globalEnv.properties` file.

The `getProperty.sh|cmd` and `setProperty.sh|cmd` scripts are located in the following location:

(Linux) `ORACLE_HOME/oui/bin`

(Windows) `ORACLE_HOME\oui\bin`

Where, `ORACLE_HOME` is the directory that contains the products using the current version of the JDK, such as `1.8.0_xxx`.

To update the JDK location in the `.globalEnv.properties` file:

1. Use the `getProperty.sh|cmd` script to display the path of the current JDK from the `JAVA_HOME` variable. For example:

(Linux) `ORACLE_HOME/oui/bin/getProperty.sh JAVA_HOME`

(Windows) `ORACLE_HOME\oui\bin\getProperty.cmd JAVA_HOME`

`echo JAVA_HOME`

Where `JAVA_HOME` is the variable in the `.globalEnv.properties` file that contains the location of the JDK.

2. Back up the path of the current JDK to another variable such as `OLD_JAVA_HOME` in the `.globalEnv.properties` file by entering the following commands:

(Linux) `ORACLE_HOME/oui/bin/setProperty.sh -name OLD_JAVA_HOME -value specify_the_path_of_current_JDK`

(Windows) `ORACLE_HOME\oui\bin\setProperty.cmd -name OLD_JAVA_HOME -value specify_the_path_of_current_JDK`

This command creates a new variable called `OLD_JAVA_HOME` in the `.globalEnv.properties` file, with a value that you have specified.

3. Set the new location of the JDK in the `JAVA_HOME` variable of the `.globalEnv.properties` file, by entering the following commands:

(Linux) `ORACLE_HOME/oui/bin/setProperty.sh -name JAVA_HOME -value specify_the_location_of_new_JDK`

(Windows) `ORACLE_HOME\oui\bin\setProperty.cmd -name JAVA_HOME -value specify_the_location_of_new_JDK`

After you run this command, the `JAVA_HOME` variable in the `.globalEnv.properties` file now contains the path to the new JDK, such as `jdk1.8.0_221`.

Updating the JDK Location in an Existing Domain Home

You must search the references to the current JDK, for example `1.8.0_191` manually, and replace those instances with the location of the new JDK.

You can use the `grep` or `findstr` commands to search for the `jdk`-related references.

You'll likely be required to update the location of JDK in the following three files:

(Linux) `DOMAIN_HOME/bin/setNMJavaHome.sh`

(Windows) `DOMAIN_HOME\bin\setNMJavaHome.cmd`

(Linux) `DOMAIN_HOME/nodemanager/nodemanager.properties`

(Windows) `DOMAIN_HOME\nodemanager\nodemanager.properties`

(Linux) `DOMAIN_HOME/bin/setDomainEnv.sh`

(Windows) `DOMAIN_HOME\bin\setDomainEnv.cmd`

Updating the JRE

Update the internal JRE used by the existing utilities and `JavaHost` to the latest JRE version.

In Oracle Analytics Server, JRE is installed in `ORACLE_HOME/oracle_common/jdk`.

1. Stop all processes (`stop.sh`).

2. Rename the existing JRE directory to `jre.old`.

For example: `mv ORACLE_HOME/oracle_common/jdk/jre ORACLE_HOME/oracle_common/jdk/jre.old`

3. Copy an updated `jre` directory from an updated JDK.

The best practice is to use the same version that you used to update the JDK. See [Updating the JDK After Installing and Configuring an Oracle Analytics Server](#).

For example: `cp -r /usr/java/latest/jre ORACLE_HOME/oracle_common/jdk`

4. Start all processes (`start.sh`).

5. Confirm that the internal utilities such as `opatch` work (for example, `opatch version`).

6. Remove the old JRE directory `ORACLE_HOME/oracle_common/jdk/jre.old`.

C

Stopping Servers and Processes

Before you run the Upgrade Assistant to upgrade your schemas and configurations, you must shut down all of the pre-upgrade processes and servers, including the Administration Server and any managed servers.

An Oracle Fusion Middleware environment can consist of an Oracle WebLogic Server domain, an Administration Server, multiple managed servers, Java components, system components such as Identity Management components, and a database used as a repository for metadata. The components may be dependent on each other, so they must be stopped in the correct order.

Note

The procedures in this section describe how to stop the existing, pre-upgrade servers and processes using the WLST command-line utility or a script. You can also use the Oracle Fusion Middleware Control and the Oracle WebLogic Server Administration Console. See *Starting and Stopping Administration and Managed Servers and Node Manager*.

To stop your pre-upgrade Fusion Middleware environment, navigate to the pre-upgrade domain and follow the steps below:

Step 1: Stop System Components

To stop system components, such as Oracle HTTP Server, use the `stopComponent` script:

- (Linux) `EXISTING_DOMAIN_HOME/bin/stopComponent.sh component_name`
- (Windows) `EXISTING_DOMAIN_HOME\bin\stopComponent.cmd component_name`

You can stop system components in any order.

Step 2: Stop the Managed Servers

To stop a WebLogic Server Managed Server, use the `stopManagedWebLogic` script:

- (Linux) `EXISTING_DOMAIN_HOME/bin/stopManagedWebLogic.sh managed_server_name admin_url`
- (Windows) `EXISTING_DOMAIN_HOME\bin\stopManagedWebLogic.cmd managed_server_name admin_url`

When prompted, enter your user name and password.

Step 3: Stop Oracle Identity Management Components

Stop any Oracle Identity Management components, such as Oracle Internet Directory:

- (Linux) `EXISTING_DOMAIN_HOME/bin/stopComponent.sh component_name`
- (Windows) `EXISTING_DOMAIN_HOME\bin\topComponent.cmd component_name`

Step 4: Stop the Administration Server

When you stop the Administration Server, you also stop the processes running in the Administration Server, including the WebLogic Server Administration Console and Fusion Middleware Control.

To stop the Administration Server, use the `stopWebLogic` script:

- (Linux) `EXISTING_DOMAIN_HOME/bin/stopWebLogic.sh`
- (Windows) `EXISTING_DOMAIN_HOME\bin\stopWebLogic.cmd`

When prompted, enter your user name, password, and the URL of the Administration Server.

Step 5: Stop Node Manager

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

Alternatively, after setting the `nodemanager.properties` attribute `QuitEnabled` to `true` (the default is `false`), you can use WLST to connect to Node Manager and shut it down. See [stopNodeManager](#) in *WLST Command Reference for Oracle WebLogic Server*.

D

Troubleshooting Migrated Oracle Analytics Server

This appendix provides procedures to troubleshoot a migrated Oracle Analytics Server system.

Configuration Failure with TRANSFORMBAREXCEPTION

The Oracle Analytics Server configuration might fail with a TRANSFORMBAREXCEPTION error, if any objects in the catalog are older than Release 11.1.1.9. You can confirm the need to update the catalog items by viewing the metrics in Oracle Enterprise Manager Fusion Middleware Control. In the Catalog folder, find a metric called Reads Needing Upgrade with the description "The number of objects read that required upgrading." If the number is large, then you can resolve this issue by updating objects in the catalog using the Administration page in Presentation Services.

To update the catalog:

1. Sign in to Oracle Analytics Server with administration credentials.
2. In the global header, click **Administration**.
3. Click the **Scan and Update Catalog Objects That Require Updates** link.
4. Click **Update Catalog Objects** to begin the update process.

Click the other links on the page to see which objects were updated and which were not. You can view the log files for details on objects that were not updated.

Restart Oracle BI Presentation Services using Oracle Enterprise Manager Fusion Middleware Control.

Updating Oracle BI Presentation Services Catalog

When migrating from Oracle Business Intelligence, you must manually update your Oracle BI Presentation Services Catalog.

To update the Oracle BI Presentation Services Catalog:

1. Shut down Oracle BI Presentation Services using Oracle Enterprise Manager Fusion Middleware Control.
See Using Fusion Middleware Control to Start and Stop BI System Component Processes in *Administering Oracle Analytics Server*.
2. Back up your existing Oracle BI Presentation Services Catalog by using the 7-Zip utility to create a compressed file.
3. Create a backup copy of the instanceconfig.xml file present at these locations:
 - (Linux) `BI_DOMAIN_HOME/config/OracleBIPresentationServicesComponent/coreapplication_obipsn`
 - (Windows)
`BI_DOMAIN_HOME\config\OracleBIPresentationServicesComponent\coreapplication_obipsn`

4. Change the UpgradeAndExit option to true in the instanceconfig.xml file.

Find the following code:

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

Change it to the following:

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

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

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

Where, *n* is the instance.

For example:

```
(Linux) cd ORACLE_INSTANCE/bin
```

```
(Linux) ./opmnctl startproc ias-component=coreapplication_obips1
```

```
(Windows) cd ORACLE_INSTANCE\bin
```

```
(Windows) opmnctl startproc ias-component=coreapplication_obips1
```

6. After the catalog is updated, edit the instanceconfig.xml file again and change the UpgradeAndExit option back to false.
7. Restart Oracle BI Presentation Services using Oracle Enterprise Manager Fusion Middleware Control.

Multiple Y-Axis Highcharts Graphs Not Displayed

Multiple Y-axis highchart graphs likely don't render after migration, because the Oracle Analytics Server instance does not include the required JavaScript (.js) files. You must copy the files to the instance manually.

To copy the JavaScript files to the Oracle Analytics Server instance:

1. Change to the \AnalyticsRes directory on the 11g system.
2. Copy the following files from the 11g \AnalyticsRes directory to the Oracle Analytics Server\AnalyticsRes directory:
 - highcharts.js
 - exporting.js
 - jquery-1.8.2.min.js

Setting the Evaluate Parameter in the NQSConfig.INI File

The EVALUATE function in your analyses is not enabled by default in Logical SQL queries because it exposes the database to SQL injection attacks. If you encounter any error while

generating any views after migrating to Oracle Analytics Server, then you must set the value of the `EVALUATE_SUPPORT_LEVEL` parameter appropriately in the `NQSCfg.INI` file.

The default value of the `EVALUATE_SUPPORT_LEVEL` parameter is "0", which means that evaluate is not supported.

```
# EVALUATE_SUPPORT_LEVEL:  
# 1: evaluate is supported for users with manageRepositories permission  
# 2: evaluate is supported for any user.  
# other: evaluate is not supported if the value is anything else.  
EVALUATE_SUPPORT_LEVEL = 0;
```

Manually set the value of the `EVALUATE_SUPPORT_LEVEL` parameter same as it is in the Oracle Business Intelligence `NQSCfg.INI` file or as required by your organization.

The `NQSCfg.INI` file is located at the following location:

- (Linux) `DOMAIN_HOME/config/fmwconfig/biconfig/OBISn`
- (Windows) `DOMAIN_HOME\config\fmwconfig\biconfig\OBISn`

Analysis Query Failure

After in-place upgrade, analysis queries fail with `[nQSError: 60009]` error if the database query time in seconds exceeds the value set for the `DEFAULT_DB_MAX_EXEC_TIME` parameter in the `BI_DOMAIN/config/fmwconfig/biconfig/OBIS/NQSCfg.INI` file.

To resolve this issue, perform one of the following:

- Optimize your query so that it executes within the time configured in the `DEFAULT_DB_MAX_EXEC_TIME` parameter.
- Increase the value of the `DEFAULT_DB_MAX_EXEC_TIME` parameter to a reasonable time in seconds to allow your queries to complete.

Error: java.lang.NoClassDefFoundError: Could not initialize class sun.awt.X11GraphicsEnvironment

If you have set the value of the `DISPLAY` variable manually or the system has manipulated it automatically, you can encounter the `java.lang.NoClassDefFoundError: Could not initialize class sun.awt.X11GraphicsEnvironment` error. In case you change the value of the `DISPLAY` variable to a Windows-client system IP, to run the 64-bit Linux installer through a Windows client, reset it to its original value after the installation is complete. If you generate an analysis that contains graphs without resetting the value of the `DISPLAY` variable, you can get this error.

To fix this error:

1. Reset the value of the `DISPLAY` variable.
2. Restart the JavaHost process.

Verifying File Data Sources in Publisher

While generating reports, if you encounter an error stating `oracle.xdo.XDOException: File does not exist or is not readable:...`, you might not have copied the supporting XML files to Oracle

Analytics Server. To solve this issue, manually validate that the path for each data source points to the appropriate directory on Oracle Analytics Server.

To validate paths for the data source names:

1. Sign in to Oracle Analytics Publisher.
2. Go to **File** under **Data Source** on the Administration page.
On the File page, you can see the directory path for each DSN.
3. Check whether the file is pointing to the correct Oracle Analytics Server directory.
4. To change the directory path, click the **DSN**.
You see the Update Data Source page.
5. Enter the correct and the complete path of the top-level directory and click **Apply**.

Error on checkSoftLimit Failed

You see the [nQSError: 43119] Query Failed: [nQSError: 46168] Operation RawFile::checkSoftLimit failed, it'll exceed the current limitation. 1073758528 error if the query requires more temporary space to complete than the BI Administrator has allocated.

To resolve this issue:

1. Modify the query to reduce the volume of data that is processed by the BI Server by:
 - a. Adding additional filters to the query.
 - b. Replacing the most detailed attribute columns with less detailed columns to reduce the overall level of detail of the query.
 - c. Removing attribute columns containing long text values.
 - d. Avoiding the use of SQL functions that are not supported by the backend data source.
 - e. Removing certain attribute or measure columns that cause more complex internal processing in the BI Server.
2. If you cannot resolve the issue by modifying or restructuring the query and if the system is capable of handling more load, request the BI Administrator to increase the maximum size allowed for temporary files by modifying the following parameters in the NQSConfig.INI file:
 - WORK_DIRECTORY_SIZE_GLOBAL_LIMIT or
 - MAX_WORK_FILE_SIZE_PERCENT

For example:

```
[General]
WORK_DIRECTORY_SIZE_GLOBAL_LIMIT = 100 GB;
# No temporary file will be allowed to exceed this percentage of the global work
# directory limit.
MAX_WORK_FILE_SIZE_PERCENT = 5;
```

Note

- The maximum size allowed for any single temporary file is determined by multiplying the total size limit of the temporary directory set in the `WORK_DIRECTORY_SIZE_GLOBAL_LIMIT` parameter by the percentage specified in `MAX_WORK_FILE_SIZE_PERCENT`. By default the temporary file size limit is $100 \text{ GB} * 5\% = 5 \text{ GB}$. This per-file limit applies to each temporary file individually, while the total `WORK_DIRECTORY_SIZE_GLOBAL_LIMIT` applies collectively to all the temporary files created by the BI Server.
- You must increase the `MAX_WORK_FILE_SIZE_PERCENT` parameter cautiously. Setting a large percentage can allow a single request to consume a large portion of the total temporary space, possibly causing the system and other BI requests to run out of temporary space and fail. Increasing the `WORK_DIRECTORY_SIZE_GLOBAL_LIMIT` is safer as long as there is sufficient disk space. However, you must observe caution while increasing the value of the `WORK_DIRECTORY_SIZE_GLOBAL_LIMIT` parameter. Setting a large value can cause the system to run out of disk space or allow BI requests to consume too many system resources.

Replacing Custom Links in the Global Header

After migrating to Oracle Analytics Server, you might notice that links that you had added to the global header in the Oracle Business Intelligence instance are no longer available. The links are missing because the `customlinks.xml` file isn't migrated from the Oracle Business Intelligence to the Oracle Analytics Server instance. You must manually copy the file to the Oracle Analytics Server instance and enable the Custom Links functionality in the `instanceconfig.xml` file.

See [Providing Custom Links in Presentation Services](#) in *Administering Oracle Analytics Server*.

To enable custom links functionality:

1. Copy the `customlinks.xml` file to the following directory on the Oracle Analytics Server instance:
 - (Linux) `DOMAIN_HOME/bidata/components/OBIPS/customMessages`
 - (Windows) `DOMAIN_HOME\bidata\components\OBIPS\customMessages`
2. Open the `instanceconfig.xml` file for editing from the following location:
 - (Linux) `DOMAIN_HOME/config/fmwconfig/biconfig/OBIPS`
 - (Windows) `DOMAIN_HOME\config\fmwconfig\biconfig\OBIPS`
3. Enable the custom links as shown in the following example:

```
<CustomLinks>
<Enabled>true</Enabled>
</CustomLinks>
```

4. Save your changes and close the file.
5. Restart Presentation Services.

Migrating WebLogic Users

After migrating from 11g to Oracle Analytics Server, you must manually migrate the WebLogic users in to your Oracle Analytics Server domain. You can do this by exporting the security data from a security realm and importing it in to another security realm. Security data includes authentication, authorization, credential map, and role data.

Understand when you would want to migrate security data. See [Overview of Security Data Migration](#).

Understand the concepts associated with importing and exporting security data. See [Migration Concepts](#).

Understand which formats and constraints are supported by the WebLogic Security providers. See [Formats and Constraints Supported by WebLogic Security Providers](#).

Note

You can only export and import security data between security realms in the same WebLogic Server release.

Exporting the Security Data from a Security Provider

To export security data from a security provider to a file:

1. In the left pane of the Administration Console, select **Security Realms** and then select the name of the realm you are configuring (for example, myrealm).
2. Select the type of provider from which you want to export security data (for example, Authentication).
3. Select the security provider from which you want to export security data.
4. Select **Export** under **Migration**.
5. Specify the directory and filename in which to export the security data in the **Export File on Server** field. The directory must exist.

Note

The directory and file into which you export the security data should be carefully protected with operating system security as they contain secure information about your deployment.

6. Optional: Define a specific set of security data to be exported in the **Export Constraints** box.
7. Click **Save**.

After you export the data from the security provider, you can import it any time.

Importing the Security Data into a Security Provider

To import security data into a security provider:

1. In the left pane of the Administration Console, select **Security Realms**.

2. Select the name of the security realm into which the security data is to be imported (for example, myrealm).
3. Select **Providers** and then the type of provider into which security data is to be imported (for example, **Authentication** under **Providers**).
4. Select the security provider in which the security data is to be imported and select **Import** under **Migration**.
5. Specify the directory and file name of the file that contains the exported security data in the **Import File on Server** field.
6. Click **Save**.

View Display Error: Invalid Column Encountered in Orders Outstanding Report

You might see a View Display Error message that states that an invalid column was encountered when loading the Orders Outstanding Report in Oracle Analytics Server. This error is displayed because the ID of the column that causes the error exists in the XML definition of the report, but not in the subject area table. You must manually edit the XML definition and remove the invalid column.

Managing Oracle BI Presentation Catalog

Catalog objects are stored in database tables rather than the file system.

In Oracle Analytics Server, catalog objects are stored in database tables that are created by the Repository Creation Utility (RCU). You continue to manage catalog objects using the Catalog page, the Catalog Manager, and the `runcat.sh` command from the command line in online mode.

You don't need to set the `HashUserHomeDirectories` element in the `instanceconfig.xml` file to turn on the hashing of users' home directories.

Exporting Oracle BI Analysis from Oracle BI EE 11.1.1.8.x or Earlier Releases to Excel Files

Settings in the `xdo.cfg` configuration file specify the format for exporting analyses to Excel spreadsheets.

Sometimes, the exported Excel file doesn't maintain the exact look-and-feel of the analyses. For example, you might notice that columns in the exported file are wider than in the analyses and that any field that has merged cells fits into a single cell. These situations occur because the export to Excel works in a columnar formatting mode, in which all data fields map to specific columns in the exported file.

In the `<DOMAIN_HOME>/bi/config/fmwconfig/biconfig/OBIJH/xdo.cfg` configuration file, you can specify the way to export analyses to Excel spreadsheets:

- If you need to use the Excel export for data ingestion in another application, then set the `xlsx-keep-values-in-same-column` property to `true`.
- If you need to use the Excel export for viewing or printing the output, then set the `xlsx-keep-values-in-same-column` property to `false`.

- If your organization needs exported files for both data ingestion and viewing and printing good-looking output, then you can set the `xlsx-keep-values-in-same-column` property to `true`, and set the maximum column width to a suitable value (for example, 100 points).

```
<property name="xlsx-keep-values-in-same-column">true</property>  
<property name="xlsx-max-column-width">100</property>
```