

Oracle® Fusion Middleware

Upgrading Oracle Internet Directory



14c (14.1.2.1.0)

F85548-01

March 2025

The Oracle logo, consisting of the word "ORACLE" in white, uppercase letters, centered within a solid red square.

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Oracle Fusion Middleware Upgrading Oracle Internet Directory, 14c (14.1.2.1.0)

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Preface

This document describes how to upgrade an existing Oracle Internet Directory environment to 14c (14.1.2.1.0).

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Audience

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

It is assumed that readers have knowledge of the following:

- Oracle Fusion Middleware system administration and configuration.
- Configuration parameters and expected behavior of the system being upgraded.

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Related Documents

Refer to the Oracle Fusion Middleware Library for additional information.

- For administration related information for Oracle Internet Directory, see *Administering Oracle Internet Directory*.
- For installation information, see Fusion Middleware Installation Documentation.
- For upgrade information, see Fusion Middleware Upgrade Documentation.
- For administration-related information, see Fusion Middleware Administration Documentation.
- For release-related information, see Fusion Middleware Release Notes.

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.

1

Introduction to Upgrading Oracle Internet Directory to 14c (14.1.2.1.0)

Before you begin, review all introductory information to understand the upgrade paths and process for Oracle Internet Directory 14c (14.1.2.1.0).

Following the pre-upgrade information and preparation steps, the procedure in this guide describes how to upgrade Oracle Internet Directory 12c (12.2.1.4.0) to 14c (14.1.2.1.0).

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 14c \(14.1.2.1.0\)](#)
- [Understanding In-Place versus Out-of-Place Upgrades](#)
- [Understanding the Basic Upgrade Tasks](#)

The following topics describe the concepts related to upgrading Oracle Internet Directory:

- [About the Starting Points for a Oracle Internet Directory Upgrade](#)
You can upgrade Oracle Internet Directory 14c (14.1.2.1.0) from Oracle Internet Directory 12c (12.2.1.4.0).
- [About the Oracle Internet Directory Upgrade Scenarios](#)
The steps to upgrade Oracle Internet directory to 14c (14.1.2.1.0) depend on the existing 12c (12.2.1.4.0) production topology.
- [About the New Features for Oracle Internet Directory 14c \(14.1.2.1.0\)](#)
Upgrade process for Oracle Internet Directory 14c (14.1.2.1.0) follows the Oracle Fusion Middleware upgrade framework. The upgrade steps have reduced compared to the earlier releases.
- [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.

About the Starting Points for a Oracle Internet Directory Upgrade

You can upgrade Oracle Internet Directory 14c (14.1.2.1.0) from Oracle Internet Directory 12c (12.2.1.4.0).

Upgrading From 12c (12.2.1.4.0)

The upgrade procedures in this guide explain how to upgrade an existing Oracle Internet Directory 12c (12.2.1.4.0) domain to Oracle Fusion Middleware 14c (14.1.2.1.0). You cannot upgrade Oracle Internet Directory release 12c (12.2.1.3) to 14c (14.1.2.1.0) .

If your existing version of Oracle Internet Directory is earlier than 12c (12.2.1.4.0), you must first upgrade your software to 12c (12.2.1.4.0) before you can upgrade to 14c (14.1.2.1.0). For instructions, see [Upgrading Oracle Internet Directory](#) in the 12c (12.2.1.4.0) documentation library.

The upgrade procedures in this guide explain how to upgrade an existing Oracle Internet Directory domain to Oracle Fusion Middleware 14c (14.1.2.1.0). If your domain contains other components, you should upgrade those components as well.

About the Oracle Internet Directory Upgrade Scenarios

The steps to upgrade Oracle Internet directory to 14c (14.1.2.1.0) depend on the existing 12c (12.2.1.4.0) production topology.

As a result, it is difficult to provide exact upgrade instructions for every possible Oracle Internet Directory installation. This document covers some of the standard upgrade use scenarios. Your actual topology may vary, but you can use the upgrade instructions provided in this document to upgrade similar topologies or deployments.



Note:

For additional information about the upgrade process and planning resources to ensure your upgrade is successful, see Preparing to Upgrade in *Planning an Upgrade of Oracle Fusion Middleware*.

You can upgrade the following deployments using the procedure described in this guide:

- Oracle Internet Directory single node environments
- Oracle Internet Directory highly available (multi-node) environments
- Oracle Directory Integration Platform (ODIP) single node environments

About the New Features for Oracle Internet Directory 14c (14.1.2.1.0)

Upgrade process for Oracle Internet Directory 14c (14.1.2.1.0) follows the Oracle Fusion Middleware upgrade framework. The upgrade steps have reduced compared to the earlier releases.

Refer to the following topics for information about the new features and enhancements in 14c (14.1.2.1.0):

- To understand what's new in general in 14c (14.1.2.1.0), see *New and Changed Features in Understanding Oracle Fusion Middleware*.
- To understand what's new in Oracle Internet Directory 14c (14.1.2.1.0), see *What's New in Oracle Internet Directory?* in *Administering Oracle Internet Directory*.
- To understand what's new in Oracle Directory Integration Platform 14c (14.1.2.1.0), see *What's New in Oracle Directory Integration Platform?* in *Administering Oracle Directory Integration Platform*.

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.

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 14.1.2.1.0, 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, see:

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

2

Pre-Upgrade Requirements

Before you begin to upgrade Oracle Internet Directory 14c (14.1.2.1.0), you must perform pre-upgrade tasks such as backing up, creating a replica of your current environment, and verifying that your system meets certified requirements.

- [Pre-Upgrade Checklist](#)
The Pre-Upgrade Checklist identifies tasks that can be performed before you begin your upgrade to ensure you have a successful upgrade and limited downtime.
- [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.
- [Creating a Replica of Your Production Environment for Testing](#)
Create a replica of your actual production environment, upgrade the replicated environment, verify that the upgraded components work as expected, and then (and only then) upgrade your production environment.
- [Verifying Certification and System Requirements](#)
Review the certification matrix and system requirements documents to verify that your environment meets the necessary requirements for installation. You may be required to upgrade your operating system, hardware or other software packages.
- [Verify the Database User for the WLSSchemaDataSource Data Source](#)
This step is required if your existing domain has a `WLSSchemaDataSource` data source.
- [Purging Unused Data](#)
Purging unused data and maintaining a purging methodology before an upgrade can optimize the upgrade process.
- [Creating a Non-SYSDBA User to Run the Upgrade Assistant](#)
To run the Upgrade Assistant, Oracle recommends that you create a non-SYSDBA user called `FMW`, within your PDB. This user has the privileges required to modify schemas, but does not have full administrator privileges.
- [Shutting Down the Node Managers](#)
Ensure that you have shut down all the local and remote Node Managers before starting the upgrade process.

Pre-Upgrade Checklist

The Pre-Upgrade Checklist identifies tasks that can be performed before you begin 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:**

The pre-upgrade procedures you perform will 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 2-1 Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 14c (14.1.2.1.0)

Task	Description
<p>Required</p> <p>Create a complete backup of your existing environment.</p>	<p>Back up all system-critical files and database(s) 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 will need to copy them to temporary directory location (outside of the existing domain) during the upgrade and redeploy them after the upgrade.
<p>Optional</p> <p>Create a replica of 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 create a replica of your production environment. This environment can be used to test the upgrade.</p> <p>See Creating a Replica of 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>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 14c (14.1.2.1.0) product distributions.</p> <p>See Verifying Certification and System Requirements.</p> <p>Oracle recommends that you verify this information right before you start the upgrade as the certification requirements are frequently updated.</p>

 **Note:**

Make sure that you have applied the latest patches to your components before you upgrade. Review the Oracle Fusion Middleware Infrastructure release notes to see if there are any mandatory patches required for the software products that you are installing.

See *Install and Configure in Release Notes for Oracle Fusion Middleware Infrastructure*.

Table 2-1 (Cont.) Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 14c (14.1.2.1.0)

Task	Description
Optional Purge any outdated or unused data before you upgrade.	To optimize performance, Oracle strongly recommends that you purge data and objects that will not be used in the upgraded environment. See Purging Unused Data .
Required Change the database user assigned to the <code>WLSSchemaDataSource</code> data source from <code><PREFIX>_WLS_RUNTIME</code> to <code><PREFIX>_WLS</code> .	If the database user for the <code>WLSSchemaDataSource</code> data source is assigned to <code><PREFIX>_WLS_RUNTIME</code> , then you must change it to <code><PREFIX>_WLS</code> . This step is required only if your existing domain has a <code>WLSSchemaDataSource</code> data source. See Verify the Database User for the WLSSchemaDataSource Data Source .
Optional Create a Non-SYSDBA user to run the Upgrade Assistant.	Oracle recommends that you create the FMW user to run Upgrade Assistant. User FMW can run the Upgrade Assistant without system administration privileges. See Creating a Non-SYSDBA User to Run the Upgrade Assistant .
Optional Shut down all the local and remote Node Managers before starting the upgrade process.	See Shutting Down the Node Managers .

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.

See:

- [Backing Up Your Environment in *Administering Oracle Fusion Middleware*](#)
- [Upgrading and Preparing Your Oracle Databases for 14c \(14.1.2.1.0\) in *Planning an Upgrade of Oracle Fusion Middleware*](#)
- [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.
- [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.

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` (UNIX) 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 claspath
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 are unable to create the `setUserOverrides` script before an upgrade, you need to reapply your settings as described in *Re-apply Customizations to Startup Scripts in Upgrading Oracle WebLogic Server*.

Creating a Replica of Your Production Environment for Testing

Create a replica of your actual production environment, upgrade the replicated environment, verify that the upgraded components work as expected, and then (and only then) upgrade your production environment.

Creating a replica of your production environment for testing is recommended, but not required.

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

 **Note:**

It is beyond the scope of this document to describe the procedures to create a replica for all components and operating systems. These 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 replicated 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 replicated production environment to help identify potential upgrade issues with your data, but you must perform a complete test upgrade on a replicated 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. You may be required to upgrade your operating system, hardware or other software packages.

Note:

When checking the certification, system requirements, and interoperability information, be sure to check specifically for any operating system requirements. It is important for you to download software specifically designed for your operating system environment, explicitly.

WARNING:

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

- [Verify Your Environment Meets Certification Requirements](#)
Oracle has tested and verified the performance of your product on all certified systems and environments. Make sure that you are installing your product on a supported hardware or software configuration.
- [Verify System Requirements and Specifications](#)
It is important to use both the System Requirements and Specifications document and the Oracle Fusion Middleware Certification Matrix to verify that the system requirements such as disk space, available memory, specific platform packages and patches, and other operating system-specific items are met.
- [Verify That the Database Hosting Oracle Fusion Middleware is Supported](#)
You must have a supported Oracle database configured with the required schemas before you run Oracle Fusion Middleware 14c (14.1.2.1.0).
- [Verify That the JDK Is Certified for This Release of Oracle Fusion Middleware](#)
If your JDK is not supported, or you do not have a JDK installed, you must download the required Java SE JDK before you begin.

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, and for this reason the certification documents are kept outside of the documentation libraries and are available on Oracle Technology Network. See the Certification Matrix for 14c (14.1.2.1.0).

Verify System Requirements and Specifications

It is important to use both the System Requirements and Specifications document and the Oracle Fusion Middleware Certification Matrix to verify that the system requirements such as disk space, available memory, specific platform packages and patches, and other operating system-specific items are met.

Use the Oracle Fusion Middleware System Requirements and Specifications document to verify that the requirements of the Oracle Fusion Middleware Certification matrix are met. For example, if the Certification Matrix indicates that your product is certified for installation on 64-Bit Oracle Linux 8, the System Requirements and Specifications document should be used to verify that your Oracle Linux 8 system has met the required minimum specifications such as disk space, available memory, specific platform packages and patches, and other operating system-specific items. This document is updated as needed and resides outside of the documentation libraries on the Oracle Technology Network (OTN).

 **Note:**

Do not attempt an upgrade if you are unable to meet the minimum system requirements.

Specifically, you can use the Oracle Fusion Middleware System Requirements and Specifications document to verify the following:

- Processor Requirements
- Java Development Kit (JDK) Requirements
- General Memory and Disk Space Requirements
- Product-Specific Memory and Disk Space Requirements
- Network Requirements
- UNIX Operating System Requirements
- Windows Operating Systems Requirements
- Virtualization Requirements
- Database Requirements

What if my operating system is not supported?

If you are running your environment on an unsupported operating system, you will need to create a supported environment before you begin your upgrade. Do not attempt an upgrade on an unsupported operating system.

Use the migration steps for your environment.

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 Fusion Middleware 14c (14.1.2.1.0).

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 for 14c (14.1.2.1.0).

**Note:**

If your database version is no longer supported, you must upgrade to a supported version before starting an upgrade.

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

If your JDK is not supported, or you do not have a JDK installed, you must download the required Java SE JDK before you begin.

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 install does not progress until an empty directory is specified. If you install JDK under Oracle home, you may experience issues in future operations. Therefore, Oracle recommends that you use install the JDK in the following directory: `/home/oracle/products/jdk`.

Verify the Database User for the WLSSchemaDataSource Data Source

This step is required if your existing domain has a `WLSSchemaDataSource` data source.

If your domain has the `WLSSchemaDataSource` data source, then you will need to verify which database user is assigned to it. If `<PREFIX>_WLS_RUNTIME` is assigned to it, then you need to change that to `<PREFIX>_WLS`.

This change is necessary due to the following changes:

- The 14c (14.1.2.1.0) Upgrade Assistant uses the information in the `WLSSchemaDataSource` data source, when a domain-based schema upgrade is performed. That upgrade will fail if the `<PREFIX>_WLS` database user is not assigned to the `WLSSchemaDataSource`, or if `<PREFIX>_WLS` is not entered as the "Schema User Name" on the "WLS Schema" page of the Upgrade Assistant.
- Oracle recommends that you use the 12c Oracle WebLogic Administration Console to change the database user to `<PREFIX>_WLS` in the `WLSSchemaDataSource` data source. Doing this will avoid the Upgrade Assistant failure, and also allow the Reconfiguration Wizard to pre-populate fields with the correct values.
- The `<PREFIX>_WLS_RUNTIME` database user is reserved for use with a new `WLSRuntimeSchemaDataSource`, which was introduced in 14c (14.1.2.1.0). This new `WLSRuntimeSchemaDataSource` will be created when the 14c (14.1.2.1.0) Reconfiguration Wizard (`reconfig.sh`) is used to upgrade the domain.

You can use your Oracle WebLogic 12c Administration Console to change the user in the `WLSSchemaDataSource` from `<PREFIX>_WLS_RUNTIME` to `<PREFIX>_WLS`.

1. Log in the 12c (12.2.1.4.0) Administration Console.
2. In the administration console under Domain Structure, expand **Services** (by clicking the + next to it). Then click **Data Sources**.
3. If the user in Properties field contains `<PREFIX>_WLS_RUNTIME`, change it to `<PREFIX>_WLS`.
4. Save the change.
5. Use the Change Center to commit the change, if your domain is running in production mode.

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

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

 **Note:**

If you run the commands in `cdb`, it fails to create some of the grants successfully.

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.

 **Note:**

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. The privileges required for running the Upgrade Assistant may change from release to release.

By default, the `v$xatrans$` table does not exist. You must run the `XAVIEW.SQL` script to create this table before creating the user.

Before creating the user, confirm whether the `v$xatrans$` table was created by a prior upgrade. As a system user, run the following command from `sqlplus`:

```
select object_name, owner, object_type from dba_objects where object_name
like '%XATRANS%'
```

If the `v$xatrans$` table was created by a prior upgrade, you will see that the four objects are already available.

In the following example, `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_TABLESPACE_USAGE_METRICS to FMW with grant option;
grant select on SYS.DBA_DATA_FILES to FMW with grant option;
grant select on SYS.V_$ASM_DISKGROUP to FMW with grant option;
grant select on v$xatrans$ 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;
```

Shutting Down the Node Managers

Ensure that you have shut down all the local and remote Node Managers before starting the upgrade process.

The Node Managers should remain shut down until you start the WebLogic Administration Server after completing the upgrade. When the WebLogic Administration Server is up and running, start the Node Managers, followed by the Managed Servers.

Part I

In-Place Upgrade of Oracle Internet Directory

You can perform an in-place upgrade of Oracle Internet Directory 12c (12.2.1.4.0) single node environments and highly available environments to 14c (14.1.2.1.0) by using the procedures described in this part.

This part contains the following chapters:

- [Upgrading Oracle Internet Directory Single Node 12c Environments](#)
You can upgrade Oracle Internet Directory from an earlier Oracle Fusion Middleware 12c (12.2.1.4.0) version to the latest 14c (14.1.2.1.0) release version.
- [Upgrading Oracle Directory Integration Platform to 14c \(14.1.2.1.0\)](#)
You can upgrade Oracle Directory Integration Platform from Oracle Fusion Middleware Release 12c (12.2.1.4.0) to 14c (14.1.2.1.0) .
- [Upgrading Oracle Internet Directory Highly Available Environments](#)
Describes the process of upgrading an Oracle Internet Directory highly available environment from 12c (12.2.1.4.0) to Oracle Internet Directory 14c (14.1.2.1.0).

3

Upgrading Oracle Internet Directory Single Node 12c Environments

You can upgrade Oracle Internet Directory from an earlier Oracle Fusion Middleware 12c (12.2.1.4.0) version to the latest 14c (14.1.2.1.0) release version.

The following topics describe how to upgrade Oracle Internet Directory to 14c (14.1.2.1.0) release:

- [About the Oracle Internet Directory Upgrade Process](#)
Review the roadmap for an overview of the upgrade process for Oracle Internet Directory .
- [Stopping Servers and Processes](#)
Before you run the Upgrade Assistant to upgrade your schemas and configurations, you must stop the Administration Server, Managed Servers, Oracle Internet Directory instances, processes, and the Node Managers.
- [Uninstalling the Software](#)
Follow the instructions in this section to start the Uninstall Wizard and remove the software.
- [Installing Oracle Internet Directory](#)
Before beginning your upgrade, download Oracle Fusion Middleware Infrastructure and Oracle Internet Directory (OID) 14c (14.1.2.1.0) distributions on the target system and install them using Oracle Universal Installer.
- [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.
- [Creating the Required 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.
- [Upgrading Product Schemas](#)
After stopping servers and processes, use the Upgrade Assistant to upgrade your 12.2.1.4.0 schemas to the 14c (14.1.2.1.0) release of Oracle Fusion Middleware.
- [Reconfiguring the Domain](#)
Run the Reconfiguration Wizard to reconfigure your domain component configurations to 14c (14.1.2.1.0).
- [Upgrading Domain Component Configurations](#)
After reconfiguring the domain, use the Upgrade Assistant again to upgrade the domain *component* configurations inside the domain to match the updated domain configuration.
- [Starting Servers and Processes](#)
After a successful upgrade, restart all processes and servers, including the Administration Server and any Managed Servers.

- [Creating SSL Wallet in 14c \(14.1.2.1.0\)](#)
Oracle Internet Directory (OID) server in 12c does not support certificates signed with MD5 signatures.
- [Accessing the New Oracle Directory Services Manager Console](#)
The Oracle Directory Services Manager (ODSM) console URL is changed in 14c (14.1.2.1.0).

About the Oracle Internet Directory Upgrade Process

Review the roadmap for an overview of the upgrade process for Oracle Internet Directory .

Caution:

Before upgrading to Oracle Internet Directory 14c (14.1.2.1.0) release, ensure that the 12c (12.2.1.4.0) *EXISTING_DOMAIN_HOME* is outside the *MIDDLEWARE_HOME*.

The steps you take to upgrade your existing domain will vary depending on how your domain is configured and which components are being upgraded. Follow only those steps that are applicable to your deployment.

Table 3-1 Tasks for Upgrading Oracle Internet Directory

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>See:</p> <ul style="list-style-type: none"> • Introduction to Upgrading Oracle Internet Directory to 14c (14.1.2.1.0) • Pre-Upgrade Requirements
<p>Required</p> <p>Stop all servers and processes in the 12c (12.2.1.4.0) environment. This includes Administration Server, Managed Servers, OID Servers, Node Manager, and any other system components.</p>	<p>WARNING: Failure to shut down your servers during an upgrade may lead to data corruption.</p> <p>See Stopping Servers and Processes .</p>
<p>Required</p> <p>In the case of a collocated installation, uninstall Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 12c (12.2.1.4.0) from the existing Oracle home.</p> <p>For a standalone installation, uninstall Oracle Internet Directory 12c (12.2.1.4.0) from the existing Oracle home.</p>	<p>See Uninstalling the Software.</p>
<p>Required</p> <p>For a standalone installation, install Oracle Internet Directory 14c (14.1.2.1.0) in the existing Oracle home. Additionally, you should also apply patch 32577294.</p> <p>For collocated deployments, install both Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 14c (14.1.2.1.0) in the existing Oracle home.</p>	<p>See Installing Oracle Internet Directory.</p>
<p>Optional</p> <p>Run a pre-upgrade readiness check</p>	<p>See Running a Pre-Upgrade Readiness Check.</p>

Table 3-1 (Cont.) Tasks for Upgrading Oracle Internet Directory

Task	Description
Required Start the Upgrade Assistant to upgrade the 12c (12.2.1.4.0) database schemas.	See Upgrading Product Schemas . The upgrade of active instance data is started automatically when running the Upgrade Assistant. Once the data is successfully upgraded to the new 14c (14.1.2.1.0) environment, you can close the Upgrade Assistant. The closed instances will continue to upgrade through a background process.
Start the Reconfiguration Wizard to reconfigure the domain.	See Reconfiguring the Domain .
Start the Upgrade Assistant (again) to upgrade Oracle Internet Directory domain component configurations.	See Upgrading Domain Component Configurations .
Required Start the servers and system components.	When the upgrade process is complete, restart the 14c (14.1.2.1.0) instance. See Starting Servers and Processes .

Stopping Servers and Processes

Before you run the Upgrade Assistant to upgrade your schemas and configurations, you must stop the Administration Server, Managed Servers, Oracle Internet Directory instances, processes, and the Node Managers.

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 Remote Console. See [Starting and Stopping Administration and Managed Servers and Node Manager](#).

As of release 14c (14.1.2.0.0), the WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see [Oracle WebLogic Remote Console](#).

To stop your pre-upgrade Fusion Middleware environment, navigate to the pre-upgrade domain and follow the steps below.

Step 1: 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.

Step 2: Stop Oracle Internet Directory Servers

Stop the Oracle Internet Directory servers using the following command:

- (UNIX) `DOMAIN_HOME/bin/stopComponent.sh oid1`
- (Windows) `DOMAIN_HOME\bin\stopComponent.cmd oid1`

Step 3: 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.

Step 4: 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*.

Uninstalling the Software

Follow the instructions in this section to start the Uninstall Wizard and remove the software.

If you want to uninstall the product in a silent (command-line) mode, see *Running the Oracle Universal Installer for Silent Uninstallation in Installing Software with the Oracle Universal Installer*.

- [Starting the Uninstall Wizard](#)
- [Selecting the Product to Uninstall](#)
- [Navigating the Uninstall Wizard Screens](#)

Starting the Uninstall Wizard

Start the Uninstall Wizard:

1. Change to the following directory:
(UNIX) `ORACLE_HOME/oui/bin`
(Windows) `ORACLE_HOME\oui\bin`
2. Enter the following command:
(UNIX) `./deinstall.sh`

(Windows) `deinstall.cmd`

Selecting the Product to Uninstall

Because multiple products exist in the Oracle home, ensure that you are uninstalling the correct product.

After you run the Uninstall Wizard, the Distribution to Uninstall screen opens. From the dropdown menu, select the Oracle Internet Directory 12.2.1.3.0 product and click **Uninstall**. The uninstallation program shows the screens listed in [Navigating the Uninstall Wizard Screens](#).

Run the Uninstall Wizard again to uninstall the Oracle Fusion Middleware Infrastructure. For instructions see, Uninstalling Oracle Fusion Middleware Infrastructure in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

Navigating the Uninstall Wizard Screens

The Uninstall Wizard shows a series of screens to confirm the removal of the software.

If you need help on screen listed in [Table 3-2](#), click **Help** on the screen.

Table 3-2 Uninstall Wizard Screens and Descriptions

Screen	Description
Welcome	Introduces you to the product Uninstall Wizard.
Uninstall Summary	Shows the Oracle home directory and its contents that are uninstalled. Verify that this is the correct directory. If you want to save these options to a response file, click Save Response File and enter the response file location and name. You can use the response file later to uninstall the product in silent (command-line) mode. See Running the Oracle Universal Installer for Silent Uninstall in <i>Installing Software with the Oracle Universal Installer</i> . Click Deinstall , to begin removing the software.
Uninstall Progress	Shows the uninstallation progress.
Uninstall Complete	Appears when the uninstallation is complete. Review the information on this screen, then click Finish to close the Uninstall Wizard.

Note:

After the product is uninstalled, ensure that the `ORACLE_HOME` folder exists and it does not contain any files or folders. If there are any remaining files or folders in the `ORACLE_HOME` folder, delete them.

Installing Oracle Internet Directory

Before beginning your upgrade, download Oracle Fusion Middleware Infrastructure and Oracle Internet Directory (OID) 14c (14.1.2.1.0) distributions on the target system and install them using Oracle Universal Installer.

Note:

- Apply the one-off ADF patch (search for Bug ID 37376076 at <https://support.oracle.com>) manually using OPatch to the Oracle Internet Directory 14c (14.1.2.1.0) `ORACLE_HOME` after installation and before domain creation. This applies only to collocated OID installations and does not apply to standalone Oracle Internet Directory 14c (14.1.2.1.0) installations.
- Oracle Internet Directory 14c (14.1.2.1.0) should be installed in the existing `ORACLE_HOME` location.

For example: If 12c (12.2.1.4.0) is installed in `ORACLE_HOME: /u01/oid/12c`, uninstall 12c (12.2.1.4.0) `ORACLE_HOME` and install Oracle Internet Directory 14c (14.1.2.1.0) into `/u01/oid/12c`.

To install the 14c (14.1.2.1.0) distributions:

1. Sign in to the target system.
2. Download the following from [Oracle Technology Network](#) or [Oracle Software Delivery Cloud](#) to your target system:
 - Oracle Fusion Middleware Infrastructure (`fmw_14.1.2.0.0_infrastructure.jar`)
 - Oracle Internet Directory (UNIX: `fmw_12.2.1.3.0_oid_<platform>.bin`), (Windows: `fmw_12.2.1.3.0_oid_win64.exe`)
3. Change to the directory where you downloaded the product distribution
4. Start the installation program for Oracle Fusion Middleware Infrastructure:
 - (UNIX) `JDK_HOME/bin/java -jar fmw_14.1.2.0.0_infrastructure.jar`
 - (Windows) `JDK_HOME\bin\java -jar fmw_14.1.2.0.0_infrastructure.jar`
5. On UNIX operating systems, the Installation Inventory Setup screen is displayed.

If prompted, specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location, and click **Next**.

Note:

The Installation Inventory Setup screen does not appear on Windows operating systems.

6. On the Welcome screen, review the information to make sure that you have met all the prerequisites. Click **Next**.
7. On the Auto Updates screen, select an option:

- **Skip Auto Updates:** If you do not want your system to check for software updates at this time.
- **Select patches from directory:** To navigate to a local directory if you downloaded patch files.
- **Search My Oracle Support for Updates:** To automatically download software updates if you have a My Oracle Support account. You must enter Oracle Support credentials then click **Search**. To configure a proxy server for the installer to access My Oracle Support, click **Proxy Settings**. Click **Test Connection** to test the connection.

Click **Next**.

8. On the Installation Location screen, specify the location for the Oracle home directory and click **Next**.

For more information about Oracle Fusion Middleware directory structure, see Understanding Directories for Installation and Configuration in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

9. On the Installation Type screen, select the following:
 - For Infrastructure, select **Fusion Middleware Infrastructure**.

Click **Next**.

 **Note:**

The topology in this document does not include server examples. Oracle strongly recommends that you do not install examples into a production environment.

10. The Prerequisite Checks screen analyzes the host computer to ensure that the specific operating system prerequisites have been met.

To view the list of tasks that are verified, select **View Successful Tasks**. To view log details, select **View Log**. If any prerequisite check fails, then an error message appears at the bottom of the screen. Fix the error and click **Rerun** to try again. To ignore the error or the warning message and continue with the installation, click **Skip** (not recommended).

11. On the Installation Summary screen, verify the installation options that you selected.

If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. The response file collects and stores all the information that you have entered, and enables you to perform a silent installation (from the command line) at a later time.

Click **Install** to begin the installation.

12. On the Installation Progress screen, when the progress bar displays 100%, click **Finish** to dismiss the installer, or click **Next** to see a summary.
13. The Installation Complete screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.
14. After you have installed Oracle Fusion Middleware Infrastructure, enter the following command to start the installer for Oracle Internet Directory and repeat the steps above to navigate through the installer screens:

```
(UNIX) ./fmw_12.2.1.3.0_oid_<platform>.bin
```

```
(Windows) fmw_12.2.1.3.0_oid_win64.exe
```

15. After a successful installation of 14c (14.1.2.1.0), install patches as documented in the 14c (14.1.2.1.0) Fusion Middleware Release Notes.

 **Note:**

- For more information about installing Oracle Internet Directory, see Installing the Oracle Internet Directory Software in the *Installing Oracle Internet Directory*.
- For more information about installing Oracle Fusion Middleware Infrastructure, see Installing the Infrastructure Software in the in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

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.

 **Note:**

This is applicable only for a collocated Oracle Internet Directory deployment scenario and not for a standalone deployment upgrade.

- [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.
- [Starting the Upgrade Assistant in Readiness Mode](#)
Use the `-readiness` parameter to start the Upgrade Assistant in readiness mode.
- [Performing a Readiness Check with the Upgrade Assistant](#)
Navigate through the screens in the Upgrade Assistant to complete the pre-upgrade readiness check.
- [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.

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:
 - (UNIX) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`
2. Start the Upgrade Assistant.
 - (UNIX) `./ua -readiness`
 - (Windows) `ua.bat -readiness`

 **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 `vncconfig`. If you see the same errors, your `DISPLAY` environment variable may still not be set correctly.

For information about other parameters that you can specify on the command line, see:

- [Upgrade Assistant Parameters](#)

Upgrade Assistant Parameters

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

Table 3-3 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 attribute</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 3-3 (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>(UNIX)</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 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 3-4 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 3-4 (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.

Here is a sample Readiness Report file. Your report may not include all of these checks.

Upgrade readiness check completed with one or more errors.

```
This readiness check report was created on Fri Aug 16 13:29:41 PDT 2019
Log file is located at: /oracle/work/middleware_latest/oracle_common/upgrade/
logs/ua2019-08-16-13-23-36PM.log
Readiness Check Report File: /oracle/work/middleware_latest/oracle_common/
upgrade/logs/readiness2019-08-16-13-29-41PM.txt
Domain Directory: /oracle/work/middleware_1212/user_projects/domains/
jrf_domain
```

Starting readiness check of components.

Oracle Platform Security Services

Starting readiness check of Oracle Platform Security Services.

Schema User Name: DEV3_OPSS

Database Type: Oracle Database

Database Connect String:

VERSION Schema DEV3_OPSS is currently at version 12.1.2.0.0. Readiness checks will now be performed.

Starting schema test: TEST_DATABASE_VERSION Test that the database server version number is supported for upgrade

INFO Database product version: Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

Completed schema test: TEST_DATABASE_VERSION --> Test that the database server version number is supported for upgrade +++ PASS

Starting schema test: TEST_REQUIRED_TABLES Test that the schema contains all the required tables

Completed schema test: TEST_REQUIRED_TABLES --> Test that the schema contains all the required tables +++ PASS

Starting schema test: Test that the schema does not contain any unexpected tables TEST_UNEXPECTED_TABLES

Completed schema test: Test that the schema does not contain any

```
unexpected tables --> TEST_UNEXPECTED_TABLES +++ Test that the schema does
not contain any unexpected tables
  Starting schema test: TEST_ENOUGH_TABLESPACE Test that the schema
tablespaces automatically extend if full
  Completed schema test: TEST_ENOUGH_TABLESPACE --> Test that the schema
tablespaces automatically extend if full +++ PASS
  Starting schema test: TEST_USER_TABLESPACE_QUOTA Test that tablespace
quota for this user is sufficient to perform the upgrade
  Completed schema test: TEST_USER_TABLESPACE_QUOTA --> Test that tablespace
quota for this user is sufficient to perform the upgrade +++ PASS
  Starting schema test: TEST_ONLINE_TABLESPACE Test that schema
tablespaces are online
  Completed schema test: TEST_ONLINE_TABLESPACE --> Test that schema
tablespaces are online +++ PASS
  Starting permissions test: TEST_DBA_TABLE_GRANTS Test that DBA user has
privilege to view all user tables
  Completed permissions test: TEST_DBA_TABLE_GRANTS --> Test that DBA user
has privilege to view all user tables +++ PASS
  Starting schema test: SEQUENCE_TEST Test that the Oracle Platform
Security Services schema sequence and its properties are valid
  Completed schema test: SEQUENCE_TEST --> Test that the Oracle Platform
Security Services schema sequence and its properties are valid +++ PASS
  Finished readiness check of Oracle Platform Security Services with status:
SUCCESS.
```

Oracle Audit Services

```
Starting readiness check of Oracle Audit Services.
  Schema User Name: DEV3_IAU
  Database Type: Oracle Database
  Database Connect String:
  VERSION Schema DEV3_IAU is currently at version 12.1.2.0.0. Readiness
checks will now be performed.
  Starting schema test: TEST_DATABASE_VERSION Test that the database
server version number is supported for upgrade
  INFO Database product version: Oracle Database 12c Enterprise Edition
Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing
options
  Completed schema test: TEST_DATABASE_VERSION --> Test that the database
server version number is supported for upgrade +++ PASS
  Starting schema test: TEST_REQUIRED_TABLES Test that the schema contains
all the required tables
  Completed schema test: TEST_REQUIRED_TABLES --> Test that the schema
contains all the required tables +++ PASS
  Starting schema test: TEST_UNEXPECTED_TABLES Test that the schema does
not contain any unexpected tables
  Completed schema test: TEST_UNEXPECTED_TABLES --> Test that the schema
does not contain any unexpected tables +++ PASS
  Starting schema test: TEST_ENOUGH_TABLESPACE Test that the schema
tablespaces automatically extend if full
  Completed schema test: TEST_ENOUGH_TABLESPACE --> Test that the schema
tablespaces automatically extend if full +++ PASS
  Starting schema test: TEST_USER_TABLESPACE_QUOTA Test that tablespace
quota for this user is sufficient to perform the upgrade
  Completed schema test: TEST_USER_TABLESPACE_QUOTA --> Test that tablespace
quota for this user is sufficient to perform the upgrade +++ PASS
```

```
Starting schema test: TEST_ONLINE_TABLESPACE Test that schema
tablespaces are online
Completed schema test: TEST_ONLINE_TABLESPACE --> Test that schema
tablespaces are online +++ PASS
Starting permissions test: TEST_DBA_TABLE_GRANTS Test that DBA user has
privilege to view all user tables
Completed permissions test: TEST_DBA_TABLE_GRANTS --> Test that DBA user
has privilege to view all user tables +++ PASS
Starting schema test: TEST_MISSING_COLUMNS Test that tables and views
are not missing any required columns
Completed schema test: TEST_MISSING_COLUMNS --> Test that tables and views
are not missing any required columns +++ PASS
Starting schema test: TEST_UNEXPECTED_COLUMNS Test that tables and views
do not contain any unexpected columns
Completed schema test: TEST_UNEXPECTED_COLUMNS --> Test that tables and
views do not contain any unexpected columns +++ PASS
Starting datatype test for table OIDCOMPONENT: TEST_COLUMN_DATATYPES_V2 --
> Test that all table columns have the proper datatypes
Completed datatype test for table OIDCOMPONENT: TEST_COLUMN_DATATYPES_V2 --
> Test that all table columns have the proper datatypes +++ PASS
Starting datatype test for table IAU_CUSTOM_01: TEST_COLUMN_DATATYPES_V2
--> Test that all table columns have the proper datatypes
Completed datatype test for table IAU_CUSTOM_01: TEST_COLUMN_DATATYPES_V2
--> Test that all table columns have the proper datatypes +++ PASS
Starting datatype test for table IAU_BASE: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes
Completed datatype test for table IAU_BASE: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes +++ PASS
Starting datatype test for table WS_POLICYATTACHMENT:
TEST_COLUMN_DATATYPES_V2 --> Test that all table columns have the proper
datatypes
Completed datatype test for table WS_POLICYATTACHMENT:
TEST_COLUMN_DATATYPES_V2 --> Test that all table columns have the proper
datatypes +++ PASS
Starting datatype test for table OWSM_PM_EJB: TEST_COLUMN_DATATYPES_V2 --
> Test that all table columns have the proper datatypes
Completed datatype test for table OWSM_PM_EJB: TEST_COLUMN_DATATYPES_V2 --
> Test that all table columns have the proper datatypes +++ PASS
Starting datatype test for table XMLPSERVER: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes
Completed datatype test for table XMLPSERVER: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes +++ PASS
Starting datatype test for table SOA_HCFP: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes
Completed datatype test for table SOA_HCFP: TEST_COLUMN_DATATYPES_V2 -->
Test that all table columns have the proper datatypes +++ PASS
Starting schema test: SEQUENCE_TEST Test that the audit schema sequence
and its properties are valid
Completed schema test: SEQUENCE_TEST --> Test that the audit schema
sequence and its properties are valid +++ PASS
Starting schema test: SYNONYMS_TEST Test that the audit schema required
synonyms are present
Completed schema test: SYNONYMS_TEST --> Test that the audit schema
required synonyms are present +++ PASS
Finished readiness check of Oracle Audit Services with status: FAILURE.
```

Common Infrastructure Services

Starting readiness check of Common Infrastructure Services.

Schema User Name: DEV3_STB

Database Type: Oracle Database

Database Connect String:

Starting schema test: TEST_REQUIRED_TABLES Test that the schema contains all the required tables

Completed schema test: TEST_REQUIRED_TABLES --> Test that the schema contains all the required tables +++ PASS

Completed schema test: ALL_TABLES --> TEST_REQUIRED_TABLES +++ Test that the schema contains all the required tables

Starting schema test: TEST_UNEXPECTED_TABLES Test that the schema does not contain any unexpected tables

Completed schema test: ALL_TABLES --> TEST_UNEXPECTED_TABLES +++ Test that the schema does not contain any unexpected tables

Starting schema test: TEST_REQUIRED_VIEWS Test that the schema contains all the required database views

Completed schema test: ALL_TABLES --> TEST_REQUIRED_VIEWS +++ Test that the schema contains all the required database views

Starting schema test: TEST_MISSING_COLUMNS Test that tables and views are not missing any required columns

Completed schema test: ALL_TABLES --> TEST_MISSING_COLUMNS +++ Test that tables and views are not missing any required columns

Starting schema test: TEST_DATABASE_VERSION Test that the database server version number is supported for upgrade

Starting schema test: TEST_DATABASE_VERSION Test that the database server version number is supported for upgrade

INFO Database product version: Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production

With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

Completed schema test: TEST_DATABASE_VERSION --> Test that the database server version number is supported for upgrade +++ PASS

Completed schema test: ALL_TABLES --> TEST_DATABASE_VERSION +++ Test that the database server version number is supported for upgrade

Finished readiness check of Common Infrastructure Services with status: SUCCESS.

Oracle JRF

Starting readiness check of Oracle JRF.

Finished readiness check of Oracle JRF with status: SUCCESS.

System Components Infrastructure

Starting readiness check of System Components Infrastructure.

Starting config test: TEST_SOURCE_CONFIG Checking the source configuration.

INFO /oracle/work/middleware_1212/user_projects/domains/jrf_domain/opmn/topology.xml was not found. No upgrade is needed.

Completed config test: TEST_SOURCE_CONFIG --> Checking the source configuration. +++ PASS

Finished readiness check of System Components Infrastructure with status: ALREADY_UPGRADED.

Common Infrastructure Services

Starting readiness check of Common Infrastructure Services.

Starting config test: CIEConfigPlugin.readiness.test This tests the


```
readiness of the domain from CIE side.  
Completed config test: CIEConfigPlugin.readiness.test --> This tests the  
readiness of the domain from CIE side. +++ PASS  
Finished readiness check of Common Infrastructure Services with status:  
SUCCESS.
```

Finished readiness check of components.

Here is a sample Readiness Report file. Your report may not include all of these checks.

Upgrade readiness check completed with one or more errors.

```
This readiness check report was created on Tue March 30 11:15:52 EDT 2019  
Log file is located at: ORACLE_HOME/oracle_common/upgrade/logs/  
ua2016-05-30-11-14-06AM.log  
Readiness Check Report File: ORACLE_HOME/oracle_common/upgrade/logs/  
readiness2016-05-30-11-15-52AM.txt
```

Starting readiness check of components.

Oracle Metadata Services

Starting readiness check of Oracle Metadata Services.

Schema User Name: DEV11_MDS

Database Type: Oracle Database

Database Connect String: machinename@yourcompany.com

VERSION Schema DEV11_MDS is currently at version 12.2.1.4.0. Readiness checks will now be performed.

Starting schema test: TEST_REQUIRED_TABLES Test that the schema contains all the required tables

Completed schema test: TEST_REQUIRED_TABLES --> Test that the schema contains all the required tables +++ PASS

Starting schema test: TEST_REQUIRED_PROCEDURES Test that the schema contains all the required stored procedures

EXCEPTION Schema is missing a required procedure:

GETREPOSITORYFEATURES

Completed schema test: TEST_REQUIRED_PROCEDURES --> Test that the schema contains all the required stored procedures +++ FAIL

Starting schema test: TEST_REQUIRED_VIEWS Test that the schema contains all the required database views

Completed schema test: TEST_REQUIRED_VIEWS --> Test that the schema contains all the required database views +++ PASS

Starting index test for table MDS_ATTRIBUTES: TEST_REQUIRED_INDEXES --> Test that the table contains all the required indexes

Completed index test for table MDS_ATTRIBUTES: TEST_REQUIRED_INDEXES --> Test that the table contains all the required indexes +++ PASS

Starting index test for table MDS_COMPONENTS: TEST_REQUIRED_INDEXES --> Test that the table contains all the required indexes

Completed index test for table MDS_TXN_LOCKS: TEST_REQUIRED_INDEXES --> Test that the table contains all the required indexes +++ PASS

Starting schema test: TEST_REQUIRED_TRIGGERS Test that the schema has all the required triggers

Completed schema test: TEST_REQUIRED_TRIGGERS --> Test that the schema has all the required triggers +++ PASS

Starting schema test: TEST_MISSING_COLUMNS Test that tables and views

```

are not missing any required columns
  Completed schema test: TEST_MISSING_COLUMNS --> Test that tables and views
are not missing any required columns +++ PASS
  Starting schema test: TEST_UNEXPECTED_TABLES Test that the schema does
not contain any unexpected tables
  Completed schema test: TEST_UNEXPECTED_TABLES --> Test that the schema
does not contain any unexpected tables +++ PASS
  Starting schema test: TEST_UNEXPECTED_PROCEDURES Test that the schema
does not contain any unexpected stored procedures
  Completed schema test: TEST_UNEXPECTED_PROCEDURES --> Test that the schema
does not contain any unexpected stored procedures +++ PASS
  Starting schema test: TEST_UNEXPECTED_VIEWS Test that the schema does
not contain any unexpected views
  Completed schema test: TEST_UNEXPECTED_VIEWS --> Test that the schema does
not contain any unexpected views +++ PASS
  Starting index test for table MDS_ATTRIBUTES: TEST_UNEXPECTED_INDEXES -->
Test that the table does not contain any unexpected indexes
  Completed index test for table MDS_ATTRIBUTES: TEST_UNEXPECTED_INDEXES -->
Test that the table does not contain any unexpected indexes +++ PASS
  Completed index test for table MDS_LABELS: TEST_UNEXPECTED_INDEXES -->
Test that the table does not contain any unexpected indexes +++ PASS
  Starting index test for table MDS_LARGE_ATTRIBUTES:
TEST_UNEXPECTED_INDEXES --> Test that the table does not contain any
unexpected indexes
  Starting schema test: TEST_UNEXPECTED_TRIGGERS Test that the schema does
not contain any unexpected triggers
  Completed schema test: TEST_UNEXPECTED_TRIGGERS --> Test that the schema
does not contain any unexpected triggers +++ PASS
  Starting schema test: TEST_UNEXPECTED_COLUMNS Test that tables and views
do not contain any unexpected columns
  Completed schema test: TEST_UNEXPECTED_COLUMNS --> Test that tables and
views do not contain any unexpected columns +++ PASS
  Starting datatype test for table MDS_ATTRIBUTES: TEST_COLUMN_DATATYPES_V2
--> Test that all table columns have the proper datatypes
  Completed datatype test for table MDS_ATTRIBUTES: TEST_COLUMN_DATATYPES_V2
--> Test that all table columns have the proper datatypes +++ PASS
  Starting datatype test for table MDS_COMPONENTS: TEST_COLUMN_DATATYPES_V2
--> Test that all table columns have the proper datatypes
  Starting permissions test: TEST_DBA_TABLE_GRANTS Test that DBA user has
privilege to view all user tables
  Completed permissions test: TEST_DBA_TABLE_GRANTS --> Test that DBA user
has privilege to view all user tables +++ PASS
  Starting schema test: TEST_ENOUGH_TABLESPACE Test that the schema
tablespaces automatically extend if full
  Completed schema test: TEST_ENOUGH_TABLESPACE --> Test that the schema
tablespaces automatically extend if full +++ PASS
  Starting schema test: TEST_USER_TABLESPACE_QUOTA Test that tablespace
quota for this user is sufficient to perform the upgrade
  Completed schema test: TEST_USER_TABLESPACE_QUOTA --> Test that tablespace
quota for this user is sufficient to perform the upgrade +++ PASS
  Starting schema test: TEST_ONLINE_TABLESPACE Test that schema
tablespaces are online
  Completed schema test: TEST_ONLINE_TABLESPACE --> Test that schema
tablespaces are online +++ PASS
  Starting schema test: TEST_DATABASE_VERSION Test that the database
server version number is supported for upgrade

```

```

INFO Database product version: Oracle Database 12c Enterprise Edition
Release 12.2.1.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Completed schema test: TEST_DATABASE_VERSION --> Test that the database
server version number is supported for upgrade +++ PASS
Finished readiness check of Oracle Metadata Services with status: FAILURE.

```

Creating the Required 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.

The following schemas must exist before you upgrade. If you are not sure which schemas you currently have, refer to the steps below to identify the existing schemas in your domain. You do not need to re-create these schemas if they already exist.

- **Service Table** schema (*prefix_STB*). This schema is required for domain-based upgrades. It stores basic schema configuration information (for example, schema prefixes and passwords) that can be accessed and used by other Oracle Fusion Middleware components during the domain creation. This schema is automatically created when you run the Repository Creation Utility (RCU), where you specify the existing schema owner prefix that you used for your other schemas.

Note:

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

To create the schemas with the RCU:

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. For 14c (14.1.2.1.0), the certified JDK is 17.0.12 and later.

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

- (UNIX) `setenv JAVA_HOME=/home/Oracle/Java/jdk17.0.12`

- (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk17.0.12`
Add `$JAVA_HOME/bin` to `$PATH`.
- 3. Go to the `oracle_common/bin` directory:
 - (UNIX) `NEW_ORACLE_HOME/oracle_common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\bin`
- 4. Start the RCU:
 - (UNIX) `./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 execute the actions for the selected components. After the script is generated, a user with the necessary SYS or SYSDBA privileges can execute 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 12c (12.2.1.4.0) schemas. See the pertinent table below.

Table 3-5 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: <code>examplehost.exampledomain.com</code> 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: <code>examplehost.exampledomain.com</code>
Username	Enter the user name for your database. The default user name is <code>SYS</code> .
Password	Enter the password for your database user.
Role	Select the database user's role from the drop-down list: Normal or SYSDBA

- 8. On the Select Components screen, if you have:
 - Oracle Unified Directory (OUD) as the backend directory deployment, complete the following steps:
 - a. Select **Create new prefix** and specify a custom prefix.

- b. Select the **Oracle Platform Security Services** schema.
This automatically selects the following schemas as dependencies:
 - Audit Services
 - Audit Services Append
 - Audit Services Viewer
 - WebLogic Services
- Oracle Internet Directory (OID) as the backend directory deployment:
Select the existing prefix and then select the prefix that was used to create the existing schemas from the drop-down menu (for example, **DEV14c**).

This prefix is used to logically group schemas together for use in this domain. Ensure that the following schemas are selected:
 - Oracle Platform Security Services
 - Audit Services
 - Audit Services Append
 - Audit Services Viewer
 - WebLogic Services

 **Note:**

The Common Infrastructure Services (*prefix_STB*) schema is selected by default if it has not yet been created.

Make a note of the prefix and schema names for the components you are installing as you will need this information when you configure the installation. Click **Next**.

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 desired 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**.
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.

Upgrading Product Schemas

After stopping servers and processes, use the Upgrade Assistant to upgrade your 12.2.1.4.0 schemas to the 14c (14.1.2.1.0) release of Oracle Fusion Middleware.

 **Note:**

If your domain has the `WLSSchemaDataSource` data source, then you will need to verify which database user is assigned to it. If `<PREFIX>_WLS_RUNTIME` is assigned to it, then you need to change that to `<PREFIX>_WLS`. For more information, see [Verify the Database User for the WLSSchemaDataSource Data Source](#).

 **Note:**

As of 14c (14.1.2.1.0) the following schema changes have been made to help you prepare for an optional zero downtime upgrade to a future release:

- Schemas created prior to 14c (14.1.2.1.0) with editions disabled and then upgraded to 14c (14.1.2.1.0) will become editions enabled.
- Schemas created in 14c (14.1.2.1.0) will be created with editions enabled.

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 14c (14.1.2.1.0).
- [Upgrading Oracle Internet Directory Schemas](#)
Navigate through the screens in the Upgrade Assistant to upgrade the product schemas.
- [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.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to 14c (14.1.2.1.0).

Oracle recommends that you run the Upgrade Assistant as a non-SYSDBA user, completing the upgrade for one domain at a time. For information about creating a user for running Upgrade Assistant, see [Creating a Non-SYSDBA User to Run the Upgrade Assistant](#).

To start the Upgrade Assistant:

1. Go to the `oracle_common/upgrade/bin` directory:
 - (UNIX) `ORACLE_HOME/oracle_common/upgrade/bin`
 - (Windows) `ORACLE_HOME\oracle_common\upgrade\bin`

2. Start the Upgrade Assistant:
 - (UNIX) `./ua`
 - (Windows) `ua.bat`

Upgrading Oracle Internet Directory Schemas

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

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 the schema upgrade operation that you want to perform:
 - **Individually Selected Schemas** if you have a standalone installation or if you want to select individual schemas for upgrade and you do not want to upgrade all of the schemas used by the domain.

 **Caution:**

Upgrade only those schemas that are used to support your 14c (14.1.2.1.0) components. Do not upgrade schemas that are currently being used to support components that are not included in Oracle Fusion Middleware 14c (14.1.2.1.0).

- **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. However, use the **Individually Selected Schemas** option for standalone installations.

Click **Next**.

3. If you selected **Individually Selected Schemas**: On the Available Components screen, select the components for which you want to upgrade schemas. When you select a component, the schemas and any dependencies are automatically selected.

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 Schema Credentials screen(s), specify the database connection details for each schema you are upgrading (the screen name changes based on the schema selected):
 - Select the database type from the **Database Type** drop-down menu.
 - Enter the database connection details, and click **Connect**.
 - Select the schema you want to upgrade from the **Schema User Name** drop-down menu, and then enter the password for the schema. Be sure to use the correct schema prefix for the schemas you are upgrading.
6. 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 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 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.

7. 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**.

8. 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 schemas 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**.

9. 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 `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. For example, verify that the schema version number is 14.1.2.1.0.

 **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.

Reconfiguring the Domain

Run the Reconfiguration Wizard to reconfigure your domain component configurations to 14c (14.1.2.1.0).

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:

- Make sure that the original Middleware home does not include any deployments that can cause an error.
- 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.

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.

- [Backing Up the Domain](#)
- [Starting the Reconfiguration Wizard](#)
- [Reconfiguring the Oracle Internet Directory Domain](#)
Navigate through the screens in the Reconfiguration Wizard to reconfigure your existing domain.

Backing Up the Domain

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

1. Create a backup of the domain directory.
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.

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

3. Go to the `oracle_common/common/bin` directory:
 - (UNIX) `NEW_ORACLE_HOME/oracle_common/common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\commom\bin`
4. Start the Reconfiguration Wizard with the following logging options:
 - (UNIX) `./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.

 **Note:**

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
```

Reconfiguring the Oracle Internet Directory Domain

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

 **Note:**

If the source is a clustered environment, run the Reconfiguration Wizard on the primary node only. Use the `pack/unpack` utility to apply the changes to other cluster members in the domain.

To reconfigure the domain with the Reconfiguration Wizard:

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 14c (14.1.2.1.0) is 17.0.12 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 JDBC Datasources screen, select the datasource **schedulerDS**. Click **Next**.
5. On the JDBC Data Sources Test screen, verify that the connection test completes. Wait till the message **Test Successful!** is displayed, and click **Next**.
6. 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.

 **Note:**

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 14c (14.1.2.1.0) 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.

 **Note:**

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.

7. On the JDBC Component Schema screen, verify that the DBMS/Service and the Host name is correct for each component schema and click **Next**.
8. 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**.

9. 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.

 **Note:**

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**.

10. 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.

11. 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**.

12. 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.

Upgrading Domain Component Configurations

After reconfiguring the domain, use the Upgrade Assistant again 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 14c (14.1.2.1.0).
- [Upgrading Domain Component Configurations](#)
Navigate through the screens in the Upgrade Assistant to upgrade component configurations in the WebLogic domain.
- [Starting Servers and Processes](#)
After a successful upgrade, restart all processes and servers, including the Administration Server and any Managed Servers.
- [Verifying the Domain-Specific-Component Configurations Upgrade](#)
To verify that the domain-specific-component configurations upgrade was successful, sign in to the Remote Console and verify that the version numbers for each upgraded component is 14.1.2.1.0.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to 14c (14.1.2.1.0).

Oracle recommends that you run the Upgrade Assistant as a non-SYSDBA user, completing the upgrade for one domain at a time. For information about creating a user for running Upgrade Assistant, see [Creating a Non-SYSDBA User to Run the Upgrade Assistant](#).

To start the Upgrade Assistant:

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

Upgrading Domain Component Configurations

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 14c (14.1.2.1.0), you must run the Upgrade Assistant to upgrade the domain *component* configurations to match the updated domain configuration.

To upgrade domain component configurations 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 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. If your pre-upgrade environment has multiple WebLogic domains, but the Oracle Web Services Manager (OWSM) Policy Manager is in only one domain, and OWSM agents are in the other domains: On the OWSM Policy Manager screen, provide the credentials for the WebLogic Administration Server domain where the Oracle Web Services Manager (OWSM) Policy Manager is deployed.
4. 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.
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 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 **Ready for Upgrade**, 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.

7. 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.

8. 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**.

9. 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 `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.

 **Note:**

After successful upgrade, artifacts pertaining to Oracle Internet Directory component instances are copied over from AS Instances to WebLogic Domain. Also, new machines (such as `oidhost1` and others) are created, and are associated with their corresponding OID instances.

Starting Servers and Processes

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

The components may be dependent on each other so they must be started in the correct order.

 **Note:**

The procedures 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 Remote Console. See [Starting and Stopping Administration and Managed Servers and Node Manager](#).

As of release 14c (14.1.2.0.0), the WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see [Oracle WebLogic Remote Console](#).

To start your Fusion Middleware environment, follow the steps below.

Step 1: Start the Administration Server

 **Note:**

Depending on your existing security settings, you may need to perform additional configuration before you can manage a domain with secured production mode enabled. For more information, see [Connecting to the Administration Server using WebLogic Remote Console](#).

To start the Administration Server, use the `startWebLogic` script:

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

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

Step 2: Start the Managed Servers

To start a WebLogic Server Managed Server, use the `startManagedWebLogic` script:

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

When prompted, enter your user name and password.

Step 3: Start Node Manager

To start Node Manager, use the `startNodeManager` script:

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

Step 4: Start Oracle Internet Directory Components

To start the Oracle Internet Directory components, use the `startComponent` script:

- (UNIX) `DOMAIN_HOME/bin/startComponent.sh component_name`
- (Windows) `DOMAIN_HOME\bin\startComponent.cmd component_name`

Verifying the Domain-Specific-Component Configurations Upgrade

To verify that the domain-specific-component configurations upgrade was successful, sign in to the Remote Console and verify that the version numbers for each upgraded component is 14.1.2.1.0.

Note:

Before you can access the Hosted WebLogic Remote Console, you must deploy the hosted WebLogic Remote Console. For more information, see the Remote Console Online Help.

To sign in to the Remote Console, go to: `http://hostname:port/rconsole` or for HTTPS, `https://hostname:port/rconsole`.

 **Note:**

After a successful upgrade, make sure you run the administration tools from the new 14c (14.1.2.1.0) 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.

The components may be dependent on each other so they must be started in the correct order.

 **Note:**

The procedures 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 Remote Console. See Starting and Stopping Administration and Managed Servers and Node Manager.

As of release 14c (14.1.2.0.0), the WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see Oracle WebLogic Remote Console.

To start your Fusion Middleware environment, follow the steps below.

Step 1: Start the Administration Server

 **Note:**

Depending on your existing security settings, you may need to perform additional configuration before you can manage a domain with secured production mode enabled. For more information, see Connecting to the Administration Server using WebLogic Remote Console

To start the Administration Server, use the `startWebLogic` script:

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

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

Step 2: Start the Managed Servers

To start a WebLogic Server Managed Server, use the `startManagedWebLogic` script:

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

When prompted, enter your user name and password.

Step 3: Start Node Manager

To start Node Manager, use the `startNodeManager` script:

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

Step 4: Start Oracle Internet Directory Components

To start the Oracle Internet Directory components, use the `startComponent` script:

- (UNIX) `DOMAIN_HOME/bin/startComponent.sh component_name`
- (Windows) `DOMAIN_HOME\bin\startComponent.cmd component_name`

Creating SSL Wallet in 14c (14.1.2.1.0)

Oracle Internet Directory (OID) server in 12c does not support certificates signed with MD5 signatures.

After upgrade, any MD5 signature based certificates created and used against OID server need to be changed to at least SHA1 based certificates to ensure proper SSL communication with OID server.

For more information about creating SSL wallet, see *Configuring SSL by Using WLST* in the *Administering Oracle Internet Directory*.

Accessing the New Oracle Directory Services Manager Console

The Oracle Directory Services Manager (ODSM) console URL is changed in 14c (14.1.2.1.0).

After upgrading Oracle Internet Directory to 14c (14.1.2.1.0), you can access the Oracle Directory Services Manager (ODSM) console at the following URL:

`http://host:adminserver_port/odsm`

The default port is 7001.

4

Upgrading Oracle Directory Integration Platform to 14c (14.1.2.1.0)

You can upgrade Oracle Directory Integration Platform from Oracle Fusion Middleware Release 12c (12.2.1.4.0) to 14c (14.1.2.1.0) .

Complete the steps in the following topics to perform the upgrade:

- [About the Oracle Directory Integration Platform Upgrade Process](#)
Review the flowchart and roadmap for an overview of the upgrade process for Oracle Directory Integration Platform.
- [Stopping Servers and Processes](#)
Before you proceed, you must shut down all of the pre-upgrade processes and servers, including the Administration Server and any managed servers.
- [Uninstalling the Software](#)
Follow the instructions in this section to start the Uninstall Wizard and remove the software.
- [Installing Oracle Internet Directory](#)
Before beginning your upgrade, download Oracle Fusion Middleware Infrastructure and Oracle Internet Directory (OID) 14c (14.1.2.1.0) distributions on the target system and install them using Oracle Universal Installer.
- [Upgrading Product Schemas](#)
After stopping servers and processes, use the Upgrade Assistant to upgrade your 12.2.1.4.0 schemas to the 14c (14.1.2.1.0) release of Oracle Fusion Middleware.
- [Reconfiguring the Domain](#)
Run the Reconfiguration Wizard to reconfigure your domain component configurations to 14c (14.1.2.1.0).
- [Upgrading Domain Component Configurations](#)
After reconfiguring the domain, use the Upgrade Assistant again to upgrade the domain *component* configurations inside the domain to match the updated domain configuration.
- [Performing Post-Upgrade Tasks for Oracle Directory Integration Platform](#)
After you upgrade Oracle Directory Integration Platform to 14c (14.1.2.1.0), perform the necessary post-upgrade tasks.

About the Oracle Directory Integration Platform Upgrade Process

Review the flowchart and roadmap for an overview of the upgrade process for Oracle Directory Integration Platform.

 **Caution:**

Before upgrading to 14c (14.1.2.1.0) release, ensure that the 12c (12.2.1.4.0) *EXISTING_DOMAIN_HOME* is outside the *ORACLE_HOME*.

The steps you take to upgrade your existing domain will vary depending on how your domain is configured and which components are being upgraded. Follow only those steps that are applicable to your deployment.

Table 4-1 Tasks for Upgrading Oracle Directory Integration Platform

Task	Description
<p>Required If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.</p>	<p>See:</p> <ul style="list-style-type: none"> • About the Oracle Directory Integration Platform Upgrade Process • Pre-Upgrade Requirements
<p>Required Shut down the 12c (12.2.1.4.0) environment (stop all Administration and Managed Servers).</p>	<p>WARNING: Failure to shut down your servers during an upgrade may lead to data corruption. See Stopping Servers and Processes.</p>
<p>Required Uninstall Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 12c (12.2.1.4.0) in the existing Oracle home.</p>	<p>See Uninstalling the Software.</p>
<p>Required Install Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 14c (14.1.2.1.0) in the new Oracle home.</p>	<p>See Installing Oracle Internet Directory.</p>
<p>Required Start the servers.</p>	<p>When the upgrade process is complete, restart the 14c (14.1.2.1.0) instance. See Starting Servers and Processes.</p>



Note:

For the list of new features for a release, see *What's New in Oracle Directory Integration Platform?* in *Administering Oracle Directory Integration Platform*.

Stopping Servers and Processes

Before you proceed, 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.

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 or the WebLogic Server Administration Console.

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, use the `stopComponent` script:

- (UNIX) `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:

- (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.

Step 3: Stop Oracle Identity Management Components

Stop any Oracle Identity Management components, such as Oracle Internet Directory:

- (UNIX) `EXISTING_DOMAIN_HOME/bin/stopComponent.sh component_name`
- (Windows) `EXISTING_DOMAIN_HOME\bin\stopComponent.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:

- (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.

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*.

Uninstalling the Software

Follow the instructions in this section to start the Uninstall Wizard and remove the software.

If you want to uninstall the product in a silent (command-line) mode, see *Running the Oracle Universal Installer for Silent Uninstallation* in *Installing Software with the Oracle Universal Installer*.

- [Starting the Uninstall Wizard](#)
- [Selecting the Product to Uninstall](#)
- [Navigating the Uninstall Wizard Screens](#)

Starting the Uninstall Wizard

Start the Uninstall Wizard:

1. Change to the following directory:
(UNIX) `ORACLE_HOME/oui/bin`
(Windows) `ORACLE_HOME\oui\bin`
2. Enter the following command:
(UNIX) `./deinstall.sh`
(Windows) `deinstall.cmd`

Selecting the Product to Uninstall

Because multiple products exist in the Oracle home, ensure that you are uninstalling the correct product.

After you run the Uninstall Wizard, the Distribution to Uninstall screen opens. From the dropdown menu, select the Oracle Internet Directory 12.2.1.3.0 product and click **Uninstall**. The uninstallation program shows the screens listed in [Navigating the Uninstall Wizard Screens](#).

Run the Uninstall Wizard again to uninstall the Oracle Fusion Middleware Infrastructure. For instructions see, Uninstalling Oracle Fusion Middleware Infrastructure in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

Navigating the Uninstall Wizard Screens

The Uninstall Wizard shows a series of screens to confirm the removal of the software.

If you need help on screen listed in [Table 4-2](#), click **Help** on the screen.

Table 4-2 Uninstall Wizard Screens and Descriptions

Screen	Description
Welcome	Introduces you to the product Uninstall Wizard.
Uninstall Summary	Shows the Oracle home directory and its contents that are uninstalled. Verify that this is the correct directory. If you want to save these options to a response file, click Save Response File and enter the response file location and name. You can use the response file later to uninstall the product in silent (command-line) mode. See <i>Running the Oracle Universal Installer for Silent Uninstall in Installing Software with the Oracle Universal Installer</i> . Click Deinstall , to begin removing the software.
Uninstall Progress	Shows the uninstallation progress.
Uninstall Complete	Appears when the uninstallation is complete. Review the information on this screen, then click Finish to close the Uninstall Wizard.

 **Note:**

After the product is uninstalled, ensure that the `ORACLE_HOME` folder exists and it does not contain any files or folders. If there are any remaining files or folders in the `ORACLE_HOME` folder, delete them.

Installing Oracle Internet Directory

Before beginning your upgrade, download Oracle Fusion Middleware Infrastructure and Oracle Internet Directory (OID) 14c (14.1.2.1.0) distributions on the target system and install them using Oracle Universal Installer.

 **Note:**

Oracle Internet Directory 14c (14.1.2.1.0) should be installed in a new `ORACLE_HOME` location that is separate from the previous OID 12c (12.2.1.4.0) `ORACLE_HOME`.

In case of a standalone Oracle Internet Directory upgrade, you do not have to install Oracle Fusion Middleware Infrastructure. You can install Oracle Internet Directory directly selecting the **Standalone** option.

 **Note:**

Apply the one-off ADF patch (search for Bug ID 37376076 at <https://support.oracle.com>) manually using OPatch to the Oracle Internet Directory 14c (14.1.2.1.0) `ORACLE_HOME` after installation and before domain creation. This applies only to collocated OID installations and does not apply to standalone Oracle Internet Directory 14c (14.1.2.1.0) installations.

To install the 14c (14.1.2.1.0) distributions:

1. Sign in to the target system.
2. Download the following from [Oracle Technology Network](#) or [Oracle Software Delivery Cloud](#) to your target system:
 - Oracle Fusion Middleware Infrastructure (`fmw_14.1.2.0.0_infrastructure.jar`)
 - Oracle Internet Directory (UNIX: `fmw_14.1.2.1.0_oid_<platform>.bin`), (Windows: `fmw_14.1.2.1.0_oid_win64.exe`)
3. Change to the directory where you downloaded the product distribution
4. Start the installation program for Oracle Fusion Middleware Infrastructure:
 - (UNIX) `JDK_HOME/bin/java -jar fmw_14.1.2.0.0_infrastructure.jar`
 - (Windows) `JDK_HOME\bin\java -jar fmw_14.1.2.0.0_infrastructure.jar`
5. On UNIX operating systems, the Installation Inventory Setup screen appears if this is the first time you are installing an Oracle product on this host.

Specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location, and click **Next**.

 **Note:**

The Installation Inventory Setup screen does not appear on Windows operating systems.

6. On the Welcome screen, review the information to make sure that you have met all the prerequisites. Click **Next**.
7. On the Auto Updates screen, select an option:
 - **Skip Auto Updates:** If you do not want your system to check for software updates at this time.
 - **Select patches from directory:** To navigate to a local directory if you downloaded patch files.
 - **Search My Oracle Support for Updates:** To automatically download software updates if you have a My Oracle Support account. You must enter Oracle Support credentials then click **Search**. To configure a proxy server for the installer to access My Oracle Support, click **Proxy Settings**. Click **Test Connection** to test the connection.

Click **Next**.

8. On the Installation Location screen, specify the location for the Oracle home directory and click **Next**.

For more information about Oracle Fusion Middleware directory structure, see *Understanding Directories for Installation and Configuration in Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

9. On the Installation Type screen, select the following:
 - For Infrastructure, select **Fusion Middleware Infrastructure**
 - For Oracle Internet Directory, select **Standalone Oracle Internet Directory Server(Managed independently of Weblogic server)** or **Collocated Oracle Internet Directory Server(Managed through Weblogic server)**, as appropriate for your installation.

Click **Next**.

10. The Prerequisite Checks screen analyzes the host computer to ensure that the specific operating system prerequisites have been met.

To view the list of tasks that are verified, select **View Successful Tasks**. To view log details, select **View Log**. If any prerequisite check fails, then an error message appears at the bottom of the screen. Fix the error and click **Rerun** to try again. To ignore the error or the warning message and continue with the installation, click **Skip** (not recommended).

11. On the Installation Summary screen, verify the installation options that you selected.

If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. The response file collects and stores all the information that you have entered, and enables you to perform a silent installation (from the command line) at a later time.

Click **Install** to begin the installation.

12. On the Installation Progress screen, when the progress bar displays 100%, click **Finish** to dismiss the installer, or click **Next** to see a summary.

13. The Installation Complete screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.
14. After you have installed Oracle Fusion Middleware Infrastructure, enter the following command to start the installer for Oracle Internet Directory and repeat the steps above to navigate through the installer screens:

(UNIX) `./fmw_14.1.2.1.0_oid_<platform>.bin`

(Windows) `fmw_14.1.2.1.0_oid_win64.exe`
15. After a successful installation of 14c (14.1.2.1.0), install the required patches documented in the 14c (14.1.2.1.0) Fusion Middleware Release Notes.

 **Note:**

For more information about installing Oracle Internet Directory, see Installing the Oracle Internet Directory Software in the *Installing Oracle Internet Directory*.

Upgrading Product Schemas

After stopping servers and processes, use the Upgrade Assistant to upgrade your 12.2.1.4.0 schemas to the 14c (14.1.2.1.0) release of Oracle Fusion Middleware.

 **Note:**

If your domain has the `WLSSchemaDataSource` data source, then you will need to verify which database user is assigned to it. If `<PREFIX>_WLS_RUNTIME` is assigned to it, then you need to change that to `<PREFIX>_WLS`. For more information, see [Verify the Database User for the WLSSchemaDataSource Data Source](#).

 **Note:**

As of 14c (14.1.2.1.0) the following schema changes have been made to help you prepare for an optional zero downtime upgrade to a future release:

- Schemas created prior to 14c (14.1.2.1.0) with editions disabled and then upgraded to 14c (14.1.2.1.0) will become editions enabled.
- Schemas created in 14c (14.1.2.1.0) will be created with editions enabled.

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 14c (14.1.2.1.0).
- [Upgrading Oracle Directory Integration Platform Schemas](#)
Navigate through the screens in the Upgrade Assistant to upgrade the product schemas.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to 14c (14.1.2.1.0).

Oracle recommends that you run the Upgrade Assistant as a non-SYSDBA user, completing the upgrade for one domain at a time. For information about creating a user for running Upgrade Assistant, see [Creating a Non-SYSDBA User to Run the Upgrade Assistant](#).

To start the Upgrade Assistant:

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

Upgrading Oracle Directory Integration Platform Schemas

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

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 the schema upgrade operation that you want to perform:
 - **Individually Selected Schemas** if you have a standalone installation or if you want to select individual schemas for upgrade and you do not want to upgrade all of the schemas used by the domain.

 **Caution:**

Upgrade only those schemas that are used to support your 14c (14.1.2.1.0) components. Do not upgrade schemas that are currently being used to support components that are not included in Oracle Fusion Middleware 14c (14.1.2.1.0).

- **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. However, use the **Individually Selected Schemas** option for standalone installations.

Click **Next**.

3. If you selected **Individually Selected Schemas**: On the Available Components screen, select the components for which you want to upgrade schemas. When you select a component, the schemas and any dependencies are automatically selected.
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 Schema Credentials screen(s), specify the database connection details for each schema you are upgrading (the screen name changes based on the schema selected):
 - Select the database type from the **Database Type** drop-down menu.
 - Enter the database connection details, and click **Connect**.
 - Select the schema you want to upgrade from the **Schema User Name** drop-down menu, and then enter the password for the schema. Be sure to use the correct schema prefix for the schemas you are upgrading.
6. 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 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 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.

7. 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**.

8. 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 schemas 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**.

9. 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 `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.

Reconfiguring the Domain

Run the Reconfiguration Wizard to reconfigure your domain component configurations to 14c (14.1.2.1.0).

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:

- Make sure that the original Middleware home does not include any deployments that can cause an error.
- 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.

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.

- [Backing Up the Domain](#)
- [Starting the Reconfiguration Wizard](#)
- [Reconfiguring the Oracle Directory Integration Platform Domain](#)
Navigate through the screens in the Reconfiguration Wizard to reconfigure your existing domain.

Backing Up the Domain

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

1. Create a backup of the domain directory.

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.

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 UNIX operating systems) or open a command prompt window (on Windows operating systems).
3. Go to the `oracle_common/common/bin` directory:
 - (UNIX) `NEW_ORACLE_HOME/oracle_common/common/bin`
 - (Windows) `NEW_ORACLE_HOME\oracle_common\commom\bin`
4. Start the Reconfiguration Wizard with the following logging options:
 - (UNIX) `./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.



Note:

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
```

Reconfiguring the Oracle Directory Integration Platform Domain

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

 **Note:**

If the source is a clustered environment, run the Reconfiguration Wizard on the primary node only. Use the pack/unpack utility to apply the changes to other cluster members in the domain.

To reconfigure the domain with the Reconfiguration Wizard:

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 14c (14.1.2.1.0) is 17.0.12 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:**

For any existing 11g datasource, the reconfiguration will preserve the existing values. For new datasources where the schema was created for 12c 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.

5. On the JDBC Component Schema screen, verify that the DBMS/Service and the Host name is correct for each component schema and click **Next**.
6. 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**.

7. 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.

 **Note:**

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**.

8. 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.

9. 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**.

10. 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.

Upgrading Domain Component Configurations

After reconfiguring the domain, use the Upgrade Assistant again 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 14c (14.1.2.1.0).
- [Upgrading Domain Component Configurations](#)
Navigate through the screens in the Upgrade Assistant to upgrade component configurations in the WebLogic domain.
- [Starting Servers and Processes](#)
After a successful upgrade, restart all processes and servers, including the Administration Server and any Managed Servers.
- [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 14.1.2.1.0.

Starting the Upgrade Assistant

Run the Upgrade Assistant to upgrade product schemas, domain component configurations, or standalone system components to 14c (14.1.2.1.0).

Oracle recommends that you run the Upgrade Assistant as a non-SYSDBA user, completing the upgrade for one domain at a time. For information about creating a user for running Upgrade Assistant, see [Creating a Non-SYSDBA User to Run the Upgrade Assistant](#).

To start the Upgrade Assistant:

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

Upgrading Domain Component Configurations

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 14c (14.1.2.1.0), you must run the Upgrade Assistant to upgrade the domain *component* configurations to match the updated domain configuration.

To upgrade domain component configurations 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 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 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.

6. 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.

In case of cluster upgrade, a pop-up message — Upgrade not necessary for Directory Integration Platform is displayed. Ignore this and proceed.

7. 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.

8. 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**.

9. 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 `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.

Starting Servers and Processes

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

The components may be dependent on each other so they must be started in the correct order.

 **Note:**

The procedures 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 Remote Console. See [Starting and Stopping Administration and Managed Servers and Node Manager](#).

As of release 14c (14.1.2.0.0), the WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see [Oracle WebLogic Remote Console](#).

To start your Fusion Middleware environment, follow the steps below:

 **Note:**

Depending on your existing security settings, you may need to perform additional configuration before you can manage a domain with secured production mode enabled. For more information, see [Connecting to the Administration Server using WebLogic Remote Console](#).

Step 1: Start the Administration Server

To start the Administration Server, use the `startWebLogic` script:

- (UNIX) `NEW_DOMAIN_HOME/bin/startWebLogic.sh`
- (Windows) `NEW_DOMAIN_HOME\bin\startWebLogic.cmd`

 **Note:**

When using secured production mode, you must provide additional parameters to start the Administration Server. See *Connecting to the Administration Server using WLST in Administering Security for Oracle WebLogic Server*.

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

Step 2: Start Node Manager

To start Node Manager, use the `startNodeManager` script:

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

Step 3: Start Any Managed Servers

To start a WebLogic Server Managed Server, use the `startManagedWebLogic` script:

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

 **Note:**

When using secured production mode, you must provide additional parameters to start the Managed Servers. See *Starting Managed Servers using a Start Script in Administering Security for Oracle WebLogic Server*.

 **Note:**

The startup of a Managed Server will typically start the applications that are deployed to it. Therefore, it should not be necessary to manually start applications after the Managed Server startup.

Step 4: Start System Components

To start system components, such as Oracle HTTP Server, use the `startComponent` script:

- (UNIX) `NEW_DOMAIN_HOME/bin/startComponent.sh component_name`
- (Windows) `NEW_DOMAIN_HOME\bin\startComponent.cmd component_name`

You can start system components in any order.

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 14.1.2.1.0.

To verify that the domain component configurations upgrade was successful, log in to the Remote console and the Fusion Middleware Control using the following URLs, and verify the upgraded version numbers for each component:

Remote Console URL: `http://administration_server_host:administration_server_port/console`

Fusion Middleware Control URL: `http://administration_server_host:administration_server_port/em`

Note:

After the upgrade, you must run all of your administration tools from the new 14c (14.1.2.1.0) Oracle home and not from the existing 12c (12.2.1.4) Oracle home.

Performing Post-Upgrade Tasks for Oracle Directory Integration Platform

After you upgrade Oracle Directory Integration Platform to 14c (14.1.2.1.0), perform the necessary post-upgrade tasks.

Note:

After upgrade, Resource Usage Charts will not be displayed in Enterprise Manager Oracle Directory Integration Platform 14c (14.1.2.1.0).

Topics:

- [Starting Servers and Processes](#)
After a successful upgrade, restart all processes and servers, including the Administration Server and any Managed Servers.
- [Updating ODIP Domain Configuration Details](#)
After you upgrade Oracle Directory Integration Platform (ODIP) to 14c (14.1.2.1.0), you must update the ODIP domain configurations.
- [Adding the Cipher Suites \(Optional\)](#)
Review the Secure Sockets Layer (SSL) modes available for Oracle Directory Integration Platform (ODIP).
- [Copying the Custom Mapping Plug-ins to the Upgraded Environment](#)
After you upgrade Oracle Directory Integration Platform to 14c (14.1.2.1.0), you must copy the custom mapping plug-ins to the upgraded environment.

- **Updating the Database Profiles With Service Names**
If you had created any database profiles in 12c (12.2.1.4.0), ensure that manually update existing value of SID with the service names, after upgrade.
- **Importing Administration Server Certificate of Oracle Unified Directory to ODIP Trust Store**
If you are using Oracle Unified Directory as the backend directory, ensure that you import the Administration Server certificate of Oracle Unified Directory to Oracle Directory Integration Platform (ODIP) trust store.

Starting Servers and Processes

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

The components may be dependent on each other so they must be started in the correct order.

Note:

The procedures 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 Remote Console. See [Starting and Stopping Administration and Managed Servers and Node Manager](#).

As of release 14c (14.1.2.0.0), the WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see [Oracle WebLogic Remote Console](#).

To start your Fusion Middleware environment, follow the steps below:

Note:

Depending on your existing security settings, you may need to perform additional configuration before you can manage a domain with secured production mode enabled. For more information, see [Connecting to the Administration Server using WebLogic Remote Console](#).

Step 1: Start the Administration Server

To start the Administration Server, use the `startWebLogic` script:

- (UNIX) `NEW_DOMAIN_HOME/bin/startWebLogic.sh`
- (Windows) `NEW_DOMAIN_HOME\bin\startWebLogic.cmd`

Note:

When using secured production mode, you must provide additional parameters to start the Administration Server. See [Connecting to the Administration Server using WLST in *Administering Security for Oracle WebLogic Server*](#).

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

Step 2: Start Node Manager

To start Node Manager, use the `startNodeManager` script:

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

Step 3: Start Any Managed Servers

To start a WebLogic Server Managed Server, use the `startManagedWebLogic` script:

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

Note:

When using secured production mode, you must provide additional parameters to start the Managed Servers. See Starting Managed Servers using a Start Script in *Administering Security for Oracle WebLogic Server*.

Note:

The startup of a Managed Server will typically start the applications that are deployed to it. Therefore, it should not be necessary to manually start applications after the Managed Server startup.

Step 4: Start System Components

To start system components, such as Oracle HTTP Server, use the `startComponent` script:

- (UNIX) `NEW_DOMAIN_HOME/bin/startComponent.sh component_name`
- (Windows) `NEW_DOMAIN_HOME\bin\startComponent.cmd component_name`

You can start system components in any order.

Updating ODIP Domain Configuration Details

After you upgrade Oracle Directory Integration Platform (ODIP) to 14c (14.1.2.1.0), you must update the ODIP domain configurations.

Prior to upgrade, if none of the Managed Servers had the name `wls_ods1`, then you must delete the new managed server `wls_ods1` that is created after upgrade. To do this, complete the following steps:

1. Start the WebLogic Administration Server. See [Starting Servers and Processes](#).
2. Log in to the WebLogic Administration console using the following URL:

`http://admin_host:admin_port/console`

3. Click **Lock & Edit**.
4. Click **Environments** and then click **Coherence Clusters**.
5. Select **defaultCoherenceCluster** and then click **Members**.
6. Deselect **wls_ods1**.
7. Click **Save**.
8. Go back to **Environments**, and click **Servers**.
9. Select **wls_ods1**.
10. Click **Delete**.
11. Save and Release the configuration once the changes are made.

Prior to upgrade, if any of the Managed Servers had the name `wls_ods1`, then you must update the Managed Server configuration settings to their original values which were present prior to upgrade. To do this, complete the following steps:

1. Start the WebLogic Administration Server. See [Starting Servers and Processes](#).
2. Log in to the WebLogic Administration console using the following URL:

`http://admin_host:admin_port/console`

3. Click **Lock & Edit**.
4. Click **Environments**, and then click **Servers**.
5. Locate the server name `wls_ods1` under `<server>` tag in the `$DOMAIN_HOME_BACKUP/config/config.xml` file. This file contains the server configuration details that were present prior to upgrade.
6. Update the following sections on the Administration console with the values present in the backup `config.xml` file:
 - Go to the **Keystores** under **SSL and Configuration**, and update the SSL configuration information.

 **Note:**

The step is mandatory if you configured SSL for `wls_ods1` server prior to upgrade.

- Go to the **HTTP** tab under **Protocols**, and update the value for Post Timeout.
 - Go to the **Tuning** tab under **Configuration** and click the Advanced link then update the values for **Idle Periods Until Timeout**, **DGC Idle Periods Until Timeout**.
 - Go to the **General** tab under Protocols and update the **Complete Message Timeout**, **Idle Connection Timeout** and so on, if they are present in the backup `config.xml` file.
 - Update any other details related to `wls_ods1`, that are present in the backup `config.xml` file.
7. In case of a cluster (high availability) setup, target the Infrastructure Data Sources to ODIP Managed Server cluster. To do this, complete the following steps:
 - a. Go to **Services**, and click **Data Sources**.
 - b. Select a data source that is targeted to `wls_ods1`.

- c. Go to the **Targets** tab, and deselect **wls_ods1**.
 - d. Select **All Servers in the Cluster**.
 - e. Click **Save**.
 - f. Repeat the steps for all of the data sources that are targeted to wls_ods1, such as opss-audit-DBDS, opss-audit-viewDS, opss-data-source and so on.
8. In case of cluster (high availability) setup, do the following:
 - a. Click **Environments** and then click **Coherence Clusters**.
 - b. Select **defaultCoherenceCluster** and then click **Members**.
 - c. Select **Cluster**.
 - d. Select **All Servers in the cluster**.
 - e. Release the configuration once the changes are made.

In a cluster (high availability) setup, copy the ODIP backed directory connection configuration file `dip-config.xml` to all of the Managed Server nodes, by doing the following:

1. Go to the directory `DOMAIN_HOME/config/fmwconfig/servers/managed_server_name/applications`. For example, on Unix, use the command:

```
cd DOMAIN_HOME/config/fmwconfig/servers/wls_ods1/applications
```

2. Create a named `DIP_14.1.2.1.0/configuration` using the following command:

```
mkdir -p DIP_14.1.2.1.0/configuration
```

3. Copy the `dip-config.xml` to the new directory using the following command:

```
cp -f DIP_12.2.1.4.0/configuration/dip-config.xml DIP_14.1.2.1.0/configuration/dip-config.xml
```

4. Restart the servers.

Adding the Cipher Suites (Optional)

Review the Secure Sockets Layer (SSL) modes available for Oracle Directory Integration Platform (ODIP).

See Secure Sockets Layer and Oracle Directory Integration Platform in the *Administrator's Guide for Oracle Directory Integration Platform*.

If Oracle Directory Integration Platform was configured in SSL mode for backend directories or was communicating with connected directories in SSL mode pre-upgrade, and if any of the connected and backend directories do not have ciphers or security protocol available in 14c (14.1.2.1.0), then add to the new cipher suites to the list.

For example, if OID was the backend directory and configured in SSL no-auth mode prior to upgrade, then OID recognizes only anonymous ciphers during SSL negotiation. The anonymous ciphers in ODIP 14c (14.1.2.1.0) are not supported by default. Therefore, you have two options:

- Configure OID and ODIP in server auth mode. This is a recommended approach. Refer to the following sections for more information:
 - Configuring Secure Sockets Layer (SSL) in *Administering Oracle Internet Directory*

- Configuring Oracle Directory Integration Platform for Oracle Internet Directory SSL Authentication in *Administering Oracle Directory Integration Platform*
- Configure these additional anonymous ciphers along with the default additional ciphers supported by ODIP 14c (14.1.2.1.0). See, Adding Cipher Suites Configured for Oracle Internet Directory into Oracle Directory Integration Platform in the *Administrator's Guide for Oracle Directory Integration Platform*.

 **Note:**

In case of a cluster setup, perform these steps for each of the Managed Servers where ODIP is deployed.

Copying the Custom Mapping Plug-ins to the Upgraded Environment

After you upgrade Oracle Directory Integration Platform to 14c (14.1.2.1.0), you must copy the custom mapping plug-ins to the upgraded environment.

To do this, complete the following steps:

1. Ensure that you have started the Oracle Directory Integration Platform Managed Servers.
2. Copy the folder `DOMAIN_NAME/servers/MANAGED_SERVER_NAME/tmp/_WL_user/DIP_VERSION_NUMBER/RANDOM_CHARACTERS/APP-INF/lib/` from the 12c (12.2.1.4.0) environment to the 14c (14.1.2.1.0) environment.
3. Restart the Oracle Directory Integration Platform Managed Servers.

 **Note:**

In case of a cluster setup, perform these steps for each of the Managed Servers where ODIP is deployed.

Updating the Database Profiles With Service Names

If you had created any database profiles in 12c (12.2.1.4.0), ensure that manually update existing value of SID with the service names, after upgrade.

See Editing Synchronization Profiles in the *Administering Oracle Directory Integration Platform*.

 **Note:**

It would continue to work even if you do not replace SID with service name, with connection exception in the log. However, it is recommended that you update the database profile with service name.

Importing Administration Server Certificate of Oracle Unified Directory to ODIP Trust Store

If you are using Oracle Unified Directory as the backend directory, ensure that you import the Administration Server certificate of Oracle Unified Directory to Oracle Directory Integration Platform (ODIP) trust store.

See *Configuring Oracle Directory Integration Platform for Oracle Unified Directory* in the *Administering Oracle Directory Integration Platform*.

 **Note:**

If truststore was configured prior to upgrade, perform step 1 (exporting the certificate for the Oracle Unified Directory Administration Server instance) and step 2 (importing the trusted certificate) described in *Configuring Oracle Directory Integration Platform for Oracle Unified Directory* in the *Administering Oracle Directory Integration Platform*.

5

Upgrading Oracle Internet Directory Highly Available Environments

Describes the process of upgrading an Oracle Internet Directory highly available environment from 12c (12.2.1.4.0) to Oracle Internet Directory 14c (14.1.2.1.0).

Topics

- [About the Oracle Internet Directory Multinode Upgrade Process](#)
Follow the steps in the task roadmap for upgrading Oracle Internet Directory highly available environments to 14c (14.1.2.1.0).
- [Completing the Pre-Upgrade Tasks for OID Multi-Node Upgrade](#)
- [Packing the domain on OIDHOST1](#)
Pack the upgraded domain configurations on OIDHOST1. You would later unpack these domain configurations on OIDHOST2.
- [Replicating the Domain Configurations on OIDHOST2](#)
Replicate the domain configurations on OIDHOST2. This unpacking the domain configurations on OIDHOST2, which was packed in OIDHOST1.

About the Oracle Internet Directory Multinode Upgrade Process

Follow the steps in the task roadmap for upgrading Oracle Internet Directory highly available environments to 14c (14.1.2.1.0).

The steps you take to upgrade your existing domain will vary depending on how your domain is configured and which components are being upgraded. Follow only those steps that are applicable to your deployment.

Table 5-1 Tasks for Upgrading Oracle Internet Directory Highly Available Environments


Task	Description
Required If you have not done so already, review the introductory topics in this guide and complete the required pre-upgrade tasks.	See: <ul style="list-style-type: none">• Introduction to Upgrading Oracle Internet Directory to 14c (14.1.2.1.0)• Pre-Upgrade Requirements
Required on OIDHOST1 Stop all servers and processes on OIDHOST1.	<div style="border: 1px solid #ccc; padding: 10px;"><p> WARNING:</p><p>Failure to shut down your servers during an upgrade may lead to data corruption.</p></div> <p style="text-align: right;">See Stopping Servers and Processes .</p>

Table 5-1 (Cont.) Tasks for Upgrading Oracle Internet Directory Highly Available Environments




Task	Description
<p>Required on OIDHOST1</p> <p>In the case of a collocated installation, uninstall Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 12c (12.2.1.4.0) from the existing Oracle home.</p> <p>For a standalone installation, uninstall Oracle Internet Directory 12c (12.2.1.4.0) from the existing Oracle home.</p>	See Uninstalling the Software .
<p>Required on OIDHOST1</p> <p>Install the product distributions on OIDHOST1.</p> <p>You must install Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 14c (14.1.2.1.0) in the existing Oracle home for collocated deployments.</p> <p>In case of a standalone mode, you can install Oracle Internet Directory 14c (14.1.2.1.0) without Oracle Fusion Middleware Infrastructure. Additionally, you should also apply patch 32577294.</p>	See Installing Oracle Internet Directory .
<p>Required</p> <p>Run a pre-upgrade readiness check</p>	See Running a Pre-Upgrade Readiness Check .
<p>Required</p> <p>Shutdown OIDHOST2 or set it to read-only mode.</p>	See Changing the Server Mode .
<p>Required on OIDHOST1</p> <p>Run the Upgrade Assistant (UA) on OIDHOST1 to upgrade the necessary schemas to 14c (14.1.2.1.0).</p>	See Upgrading Product Schemas .
<p>Required on OIDHOST1</p> <p>Pack the domain</p>	See Packing the domain on OIDHOST1 .
<p>Required on OIDHOST1</p> <p>Start the servers in the following order:</p> <ol style="list-style-type: none"> 1. Start the Administration Server on OIDHOST1. 2. Start the Managed Server on OIDHOST1. 3. Start the Node Managers on OIDHOST1. 4. Start the Oracle Internet Directory system component on OIDHOST1. 	See Starting the Servers .
<p>Required on OIDHOST2</p> <p>Stop all managed servers on OIDHOST2.</p>	<div style="border: 1px solid #ccc; padding: 10px; background-color: #fff9c4;"> <p> WARNING:</p> <p>Failure to shut down your servers during an upgrade may lead to data corruption.</p> </div>
	See Stopping Servers and Processes .
<p>Required on OIDHOST2</p> <p>Uninstall Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 12c (12.2.1.4.0) in the existing Oracle home.</p>	See Uninstalling the Software .

Table 5-1 (Cont.) Tasks for Upgrading Oracle Internet Directory Highly Available Environments

Task	Description
<p>Required on OIDHOST2 Install the product distributions on OIDHOST2. You must install Oracle Fusion Middleware Infrastructure and Oracle Internet Directory 14c (14.1.2.1.0) in the existing Oracle home, for both standalone and collocated deployments.</p>	See Installing Oracle Internet Directory .
<p>Required on OIDHOST2 Replicate the domain configurations on OIDHOST2 using <code>unpack</code> commands.</p>	This includes unpacking the domain on OIDHOST2. See Replicating the Domain Configurations on OIDHOST2 .
<p>Required on OIDHOST2 Start the Oracle Internet Directory system component on OIDHOST2 from OIDHOST1.</p>	See Starting the Servers .
<div style="border: 1px solid #0070C0; padding: 10px; background-color: #E6F2FF;"> <p> Note: Ensure that you start the OID server on OIDHOST2 from OIDHOST1.</p> </div>	
<p>From <code>DOMAIN_HOME/bin</code> directory on OIDHOST1, start <code>oid2</code> instance by executing <code>startComponent.sh</code> script:</p> <pre>./startComponent.sh oid2</pre> <p>Execute the script from OIDHOST1 machine, where AdminServer is setup and not from OIDHOST2.</p>	
<p>Required Replicate the domain configurations on OIDHOST2 using <code>pack</code> and <code>unpack</code> commands.</p>	This includes packing the domain on OIDHOST1 and unpacking it on OIDHOST2. See Replicating the Domain Configurations on OIDHOST2 .
<p>Required Start the servers in the following order:</p> <ol style="list-style-type: none"> 1. Start the Administration Server and the Managed Servers on OIDHOST1. 2. Start the Node Managers on OIDHOST1 and OIDHOST2. 3. Start the Oracle Internet Directory system component on OIDHOST1. 4. Start the Oracle Internet Directory system component on OIDHOST2 from OIDHOST1. 	See Starting the Servers .
<div style="border: 1px solid #0070C0; padding: 10px; background-color: #E6F2FF;"> <p> Note: The OID servers should be started serially (and not simultaneously). Ensure that you start the OID server on OIDHOST2 from OIDHOST1.</p> </div>	
<p>From <code>DOMAIN_HOME/bin</code> directory on OIDHOST1, start <code>oid2</code> instance by executing <code>startComponent.sh</code> script:</p> <pre>./startComponent.sh oid2</pre> <p>Execute the script from OIDHOST1 machine, where AdminServer is setup and not from OIDHOST2.</p>	

Completing the Pre-Upgrade Tasks for OID Multi-Node Upgrade

Ensure that Oracle Internet Directory (OID) is integrated with Oracle WebLogic Server in the existing 12c (12.2.1.4.0) deployment.

All of the nodes in a OID high availability setup must be registered with WebLogic server using `opmnctl registerinstance` command.

If WebLogic Server was not installed in 12c (12.2.1.4.0), then install Oracle WebLogic Server, create a domain by selecting the Enterprise Manager template, and then register all of the OID nodes using the `opmnctl registerinstance` command. The upgrade process should be carried out on the AdminServer machine.

Packing the domain on OIDHOST1

Pack the upgraded domain configurations on OIDHOST1. You would later unpack these domain configurations on OIDHOST2.

Complete the following steps:

1. On OIDHOST1, run the following command from the location `$MW_HOME/oracle_common/common/bin` to pack the upgraded domain:
 - On UNIX:

```
sh pack.sh -domain=<Location_of_OID_domain> -  
template=<Location_where_domain_configuration_jar_to_be_created> -  
template_name="OID Domain" -managed=true
```
 - On Windows:

```
pack.cmd -domain=<Location_of_OID_domain> -  
template=<Location_where_domain_configuration_jar_to_be_created> -  
template_name="OIDM Domain" -managed=true
```
2. Copy the domain configuration jar file created by the pack command on OIDHOST1 to any accessible location on OIDHOST2.

Replicating the Domain Configurations on OIDHOST2

Replicate the domain configurations on OIDHOST2. This unpacking the domain configurations on OIDHOST2, which was packed in OIDHOST1.

Complete the following steps:

1. In [Packing the domain on OIDHOST1](#) section you copied the domain configuration jar file created by the pack command on OIDHOST1 to any accessible location on OIDHOST2.

Go to this location on OIDHOST2.

2. On OIDHOST2, run the following command from the location `$MW_HOME/oracle_common/common/bin` to unpack the domain:
 - On UNIX:

```
sh unpack.sh -domain=<Location_of_OID_domain> -  
template=<Location_where_domain_configuration_jar_to_be_created> -  
overwrite_domain=true
```
 - On Windows:

```
unpack.cmd -domain=<Location_of_OID_domain> -  
template=<Location_where_domain_configuration_jar_to_be_created> -  
overwrite_domain=true
```

Part II

Out-of-Place Upgrade of Oracle Internet Directory

You can perform an out-of-place upgrade of Oracle Internet Directory from 12c (12.2.1.4.0) directly to 14c (14.1.2.1.0) using the procedure described in this part.

This part contains the following chapter:

- [Performing an Out-of-Place Upgrade of Oracle Internet Directory](#)
When upgrading Oracle Internet Directory, you migrate your existing directory data from an 12c (12.2.1.4.0) Oracle Internet Directory instance to a newly installed 14c (14.1.2.1.0) Oracle Internet Directory instance. This is a one time operation.

6

Performing an Out-of-Place Upgrade of Oracle Internet Directory

When upgrading Oracle Internet Directory, you migrate your existing directory data from an 12c (12.2.1.4.0) Oracle Internet Directory instance to a newly installed 14c (14.1.2.1.0) Oracle Internet Directory instance. This is a one time operation.

Note:

- It is not supported to have a replication agreement between different releases of Oracle Internet Directory. So, after the data is moved, it will be kept in sync between the primary and the standby systems.
- You can also use this procedure to migrate Oracle Internet Directory from one environment to another.

Complete the following steps to export the directory data from the 12c (12.2.1.4.0) Oracle Internet Directory applications in the source environment and import the data into the 14c (14.1.2.1.0) Oracle Internet Directory applications:

- [Pre-Upgrade Assessment](#)
- [Set the Source Directory to Read-Only Mode](#)
- [Exporting the Required Data from the Source Directory](#)
- [Loading the Data](#)

Pre-Upgrade Assessment

The pre-upgrade assessment prepares you to export the data from the 12c (12.2.1.4.0) OID application's source environment and import the data into the 14c (14.1.2.1.0) OID application's target environment.

You must ensure that the following assessment is complete before you perform the 12c (12.2.1.4.0) to 14c (14.1.2.1.0) Oracle Internet Directory data export and import configuration

- [Validating the OID1 Instances](#)
- [Environment Variables for Oracle Internet Directory Tools](#)

Validating the OID1 Instances

Before you start any replication activities, you must ensure that the OID1 instances in both the source 12c (12.2.1.4.0) environment and the target 14c (14.1.2.1.0) environment are running.

For information, see [Validating that the OID1 Instances are Running](#).

Environment Variables for Oracle Internet Directory Tools

Before executing any of the Oracle Internet Directory tools, you must set the environment variables.

The following variables can also be added to the software owner's environment file, so that the variables are set at user login. These variables should be set on both the source 12c (12.2.1.4.0) environment and the target 14c (14.1.2.1.0) environment OID instance hosts.

```
ORACLE_HOME
ORACLE_INSTANCE
TNS_ADMIN
DOMAIN_HOME (should be set to the value of MSERVER_HOME)
```

For more information, see [Setting Environment Variables for Oracle Internet Directory Tools](#).

Set the Source Directory to Read-Only Mode

Before the directory information is exported from the source 12c (12.2.1.4.0) environment, the instances there should be set as read-only, so that the new information is not written to the directory while the export is being created.

Perform the following steps to set the source 12c (12.2.1.4.0) environment nodes as read-only:

Note:

Perform these steps only on the first source host. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. See [Environment Variables for Oracle Internet Directory Tools](#).

1. Create an LDIF file with the following information:

For Example:

```
ro_change_mode.ldif:
dn: cn=OID_INSTANCE_NAME,cn=oslddapd,cn=subconfigsubentry
changetype: modify
replace: orclservermode
orclservermode: r
dn: cn=OID_INSTANCE_NAME,cn=oslddapd,cn=subconfigsubentry
changetype: modify
replace: orclservermode
orclservermode: r
```

Where, `OID_INSTANCE_NAME` is the name of each instance. An entry is required for each instance in the Oracle Internet Directory cluster on the target 14c (14.1.2.1.0) environment.

2. Run the following command:

```
ldapmodify -D "cn=orcladmin" -q -h ON_PREM_HOST -p ON_PREM_PORT -f
CHANGE_LDIF_FILE
```

For Example:

```
ldapmodify -D "cn=orcladmin" -q -h s_ldaphost1 -p 3060 -f ro_change_mode.ldif
```

Exporting the Required Data from the Source Directory

The only data which needs to be exported is the data that does not exist in the target system. Data seeded by product installations is not required.

When you run the RCU utility, the Oracle Internet Directory instances will have some of the same base objects created by default in their database. Hence, the only data that needs to be exported from the source 12c (12.2.1.4.0) directory is the data that does not exist in the target 14c (14.1.2.1.0) directory.

These are the baseDN that is created by the Oracle Access Manager application, named `cn=OAMConfigStore`, and the baseDN realm.

If Oracle Access Manager is not installed in the customer's environment, the OAM baseDN will not be available in the directory. The baseDN realm is a backward notated version of the customer's domain name.

For example:

For a customer whose domain name is `test.example.com`, the baseDN will be `dc=com`.

Perform the following steps to export the required data.



Note:

Perform these steps only on the first source host. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. See [Environment Variables for Oracle Internet Directory Tools](#).

1. Run the following command:

```
ldifwrite connect="TNS_ENTRY" basedn="YOUR_BASEDN" ldiffile="BASEDN_LDIF_FILE"
```

Where,

- `TNS_ENTRY` is the entry found in `ORACLE_INSTANCE/config/tnsnames.ora`.
- `YOUR_BASEDN` is the baseDN for the organization.
- `BASEDN_LDIF_FILE` is the file to which the data is exported.

For example:

```
ldifwrite connect="OIDDB" basedn="dc=com" ldiffile="dc_com.ldif"
```

Output example:

```
This tool can only be executed if you know database user password for OID
Enter OID Password :: ON-PREMISES_ODS_SCHEMA_PASSORD
```

```
-----
Reading entries under BaseDN "dc=com"...
-----
```

```
-----
217 Entries are written to "/u01/backup/dc_com.ldif".
-----
```


2. Run the following command (can be skipped if your Oracle Internet Directory environment does not have OAM or OIG installed):

```
ldifwrite connect="TNS_ENTRY" basedn=" cn=OAMConfigStore"
ldiffile="OAMCS_LDIF_FILE"
```

Where,

- TNS_ENTRY is the entry found in ORACLE_INSTANCE/config/tnsnames.ora.
- YOUR_BASEDN is the baseDN for the OAM config store.
- OAMCS_LDIF_FILE is the file to which data is exported.

For example:

```
ldifwrite connect="OIDDB" basedn=" cn=OAMConfigStore" ldiffile="oamcs.ldif"
```

Output example:

```
This tool can only be executed if you know database user password for OID
Enter OID Password :: ON-PREMISES_ODS_SCHEMA_PASSWORD
-----
Reading entries under BaseDN "cn=oamconfigstore"...
-----
-----
1 Entries are written to "/u01/backup/oamcs.ldif"
-----
```

3. Combine the two LDIF files into one file (if applicable):

```
cat "/u01/backup/dc_com.ldif" > "/u01/backup/backup_data.ldif" && cat "/u01/
backup/oamcs.ldif" >> "/u01/backup/backup_data.ldif"
```

Loading the Data

Complete the following steps to load the exported source data into the destination directory:

- [Copying the Exported Data File to the Target Environment Directory Host](#)
- [Stopping all Oracle Internet Directory Instances in the Target 14c Environment](#)
- [Deleting the Current baseDN Data in Bulk](#)
- [Loading the Exported Data Into the Target Directory in Bulk](#)
- [Starting the Oracle Internet Directory Instances in the Target 14c Environment](#)

Copying the Exported Data File to the Target Environment Directory Host

Before performing the bulk load, you must copy the file containing the exported data to the first Oracle Internet Directory host in the target 14c (14.1.2.1.0) environment.

Make a note of the file location after it is copied to the host. As the exported file is a flat text file, larger directories may need to have file compresses prior to copying. If this is the case, ensure that the file is uncompressed on the host.

Stopping all Oracle Internet Directory Instances in the Target 14c Environment

Before executing the bulkdelete and bulkload, you should shutdown the Oracle Internet Directory instances in the target 14c (14.1.2.1.0) environment.

Do the following on all the Oracle Internet Directory hosts in the target environment. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. See [Environment Variables for Oracle Internet Directory Tools](#).

1. Run the following command from the `ORACLE_HOME/oracle_common/common/bin` location to launch the WLST tool:

```
./wlst.sh
```

2. Connect to the Administration Server using the following command:

```
connect (ADMIN_USERNAME', 'ADMIN_PASSWORD', 't3://ADMIN_HOST:ADMIN_PORT')
```

For example:

```
connect (weblogic', 'password', 't3://MYHOSTNAME:7001')
```

3. Run the following command to shutdown the Oracle Internet Directory instance:

```
/base_domain/serverConfig> shutdown('OID_NODE_NAME')
```

For example:

```
shutdown('oid1')
```

Deleting the Current baseDN Data in Bulk

Since the directory in the target 14c (14.1.2.1.0) environment is created with a baseDN that is most likely a duplicate name, you should remove the duplicate baseDN from the 14c (14.1.2.1.0) environment before you execute the bulkload. This deletion ensures that there are no conflicts with the bulkload.

Do the following on the first target 14c (14.1.2.1.0) directory host only. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. See [Environment Variables for Oracle Internet Directory Tools](#).

Run the following command:

```
bulkdelete connect=TNS_ENTRY basedn="YOUR_BASEDN" cleandb="TRUE"  
verbose="TRUE"
```

Where,

- `TNS_ENTRY` is the entry found in `ORACLE_INSTANCE/config/tnsnames.ora`.
- `YOUR_BASEDN` is the baseDN for the OAM config store.

For example:

```
bulkdelete connect=OIDDB basedn="dc=com" cleandb="TRUE" verbose="TRUE"
```

Output example:

```
This tool can only be executed if you know database user password for OID
Enter OID Password :: xxxx
-----
Reading entries under BaseDN "dc=com"...
-----
bulkdelete(1): 192 entries deleted...
-----
192 Entries have been deleted.
-----
```

Loading the Exported Data Into the Target Directory in Bulk

Now that the duplicate baseDN has been removed from the target 14c (14.1.2.1.0) directory, you can export the 12c (12.2.1.4.0) source environment data into the target 14c (14.1.2.1.0) directory by using the bulkload process.

Do the following on the first target 14c (14.1.2.1.0) directory host only. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. [Environment Variables for Oracle Internet Directory Tools](#).

1. Run the following command to check and generate the bulk load:

```
bulkload connect="TNS_ENTRY" append="TRUE" check="TRUE" generate="TRUE"
restore="TRUE" file="LDIF_FILE"
```

Where,

- TNS_ENTRY is the entry found in ORACLE_INSTANCE/config/tnsnames.ora.
- LDIF_FILE is the location of the file copied to the first Oracle Internet Directory host in the target 14c (14.1.2.1.0) environment.

For example:

```
bulkload connect="OIDDB" append="TRUE" check="TRUE" generate="TRUE"
restore="TRUE" file="/u01/backup/backup_data.ldif"
```

Output example:

```
-----
"oiddb"...
-----
This tool can only be executed if you know database user password for OID
Enter OID Password :: xxxx
...Setting OID server mode to read-modify on "oiddb" node...
-----
Checking and Generating Internet Directory data for bulk loading
-----
```

Data generated successfully

 **Note:**

If the above command results in conflicts or errors, you must resolve them before you execute the bulkload loading process. Conflict and error resolution is not in the scope of this document. For more information, see Troubleshooting bulkload Errors in *Administering Oracle Internet Directory*.

2. Run the following command to start the bulk loading process:

```
bulkload connect="[TNS_ENTRY]" load="TRUE"
```

Where `TNS_ENTRY` is the entry found in `ORACLE_INSTANCE/config/tnsnames.ora`.

For example:

```
bulkload connect="OIDDB" load="TRUE"
```

Output example:

```
-----  
"oiddb"..  
-----  
This tool can only be executed if you know database user password for OID  
Enter OID Password :: xxxx  
-----  
Loading data on "oiddb"  
-----  
attr_store001...  
battr_store001...  
objectclass001...  
attr_store002...  
battr_store002...  
objectclass002...  
battr_store003...  
objectclass003...  
dn...  
...  
-----  
Data loaded successfully  
-----  
Verifying indexes ...  
-----  
Generating Database Statistics ...  
-----  
...Setting OID server mode to read-write on "oiddb" node...
```

Starting the Oracle Internet Directory Instances in the Target 14c Environment

You can restart the Oracle Internet Directory instances after completing the bulkload successfully.

Do the following on all Oracle Internet Directory hosts only in the target 14c (14.1.2.1.0) environment. All tool execution requires that you set the environment variables for Oracle Internet Directory tools. [Environment Variables for Oracle Internet Directory Tools](#).

1. Run the following command from the `ORACLE_HOME/oracle_common/common/bin` location to launch the WLST tool:

```
./wlst.sh
```

2. Connect to the Administration Server using the following command:

```
connect (ADMIN_USERNAME', 'ADMIN_PASSWORD', 't3://ADMIN_HOST:ADMIN_PORT')
```

For example:

```
connect (weblogic', 'password', 't3://MYHOSTNAME:7001')
```

3. Run the following command to start the Oracle Internet Directory instance:

```
/base_domain/serverConfig> start('OID_NODE_NAME')
```

For example:

```
start('oid1')
```

A

Validating OID Instances and Setting Environment Variables

As part of the pre-upgrade assessment process, you have to ensure that the OID instances are running and set the necessary environment variables.

This part contains the following topics:

- [Validating that the OID1 Instances are Running](#)
- [Setting Environment Variables for Oracle Internet Directory Tools](#)

Validating that the OID1 Instances are Running

You can validate the running OID1 instance on the first Oracle Internet Directory server in each environment by running the following command:

```
ps -ef | grep oidldapd | grep -v grep | wc -l
```

If the command results in **0** (zero), it means that the instance is not running.

Setting Environment Variables for Oracle Internet Directory Tools

This section describes the additional variables that need to be set on both the source and target Oracle Internet Directory instance hosts in the target environment:

```
PATH= $PATH:$ORACLE_HOME/bin:$ORACLE_HOME/ldap/bin:$ORACLE_INSTANCE/bin  
INSTANCE_NAME=oid1  
COMPONENT_NAME=oid1
```

Examples of Locations

ORACLE_HOME: The location of the base of the Oracle Internet Directory installation.

For example:

```
/u01/oracle/products/dir
```

ORACLE_INSTANCE: The location of the base of each Oracle Internet Directory instance configuration.

For example:

```
/u02/private/oracle/config/domains/IAMDirectoryDomain/config/  
fmwconfig/components/OID
```

TNS_ADMIN: The location within the ORACLE_INSTANCE where the database connection file, tnsnames.ora, is located.

For example:

```
ORACLE_INSTANCE/config
```

JAVA_HOME: The location of the base Java installation.

For example:

```
/u01/oracle/products/jdk
```

ASERVER_HOME: The base location of the Administration FMW domain.

For example:

```
/u01/oracle/config/domains/IAMDirectoryDomain
```

MSERVER_HOME: The location of the Oracle Internet Directory instance domain.

For example:

```
/u02/private/oracle/config/domains/IAMDirectoryDomain
```

APPLICATION_HOME: The location of the domain's application files.

For example:

```
/u01/oracle/config/applications/IAMDirectoryDomain
```

B

Updating the JDK After Installing and Configuring an Oracle Fusion Middleware Product

Consider that you have an unsupported JDK version 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. The supported JDK version for this release is `jdk17.0.12` and it carries security enhancements and bug fixes. You can upgrade the existing JDK to a newer version, and can 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 an Oracle Fusion Middleware Product](#)
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 the `.globalEnv.properties` file inside the `ORACLE_HOME/oui` directory.

About Updating the JDK Location After Installing an Oracle Fusion Middleware Product

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 the `.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 the `.globalEnv.properties` file. To point these scripts and utilities to a newer version of the JDK, you must update the value of the `JAVA_HOME` variable in the `.globalEnv.properties` file by following the directions in [Updating the JDK Location in an Existing Oracle Home](#).

To make the scripts and files in your Domain home directory point to a 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`. While configuring the WebLogic domain with the Configuration Assistant, select the path to the newer JDK on the Domain Mode and JDK screen of the Configuration Wizard. Example: `/scratch/jdk/jdk17.0.12`.
- Manually locate the files that have references to the JDK using the `grep` (Linux) or `findstr` (WINDOWS) commands and update each reference.

See [Updating the JDK Location in an Existing Domain 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.

- [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.
- [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.

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 `jdk17.0.12`.

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 jdk17.0.12.

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) Start `bash` and then run `DOMAIN_HOME/bin>source setDomainEnv.sh`

(Windows) `DOMAIN_HOME\bin\setDomainEnv.cmd`