

Oracle® Fusion Middleware

Upgrade Planning Guide

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Oracle Fusion Middleware Upgrade Planning Guide, 11g Release 1 (11.1.1.7.0)

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Preface

This preface contains the following sections:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

This manual is intended for Oracle Fusion Middleware system administrators who are responsible for installing and upgrading Oracle Fusion Middleware. It is assumed that the readers of this manual have knowledge of the following:

- Oracle Application Server 10g system administration and configuration
- The configuration and expected behavior of the system being upgraded

Documentation Accessibility

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

Access to Oracle Support

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

Related Documents

For more information, see the following related documentation available in the Oracle Fusion Middleware 11g documentation library:

- Related Upgrade Documentation
 - *Oracle Fusion Middleware Upgrade Guide for Java EE*
 - *Oracle Fusion Middleware Upgrade Guide for Oracle SOA Suite, WebCenter Portal, and ADF*

- *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*
- *Oracle Fusion Middleware Upgrade Guide for Oracle Identity and Access Management*
- *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer*
- *Oracle Fusion Middleware Installation Planning Guide*
- *Oracle Fusion Middleware Administrator's Guide*

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.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Developing an Upgrade Strategy

Before you begin an upgrade from Oracle Application Server 10g to Oracle Fusion Middleware 11g, there are important tasks you should perform in preparation for the upgrade.

Use the following tasks to ensure that your upgrade has as little impact as possible on your day-to-day operations:

- [Task 1: Understand the Differences Between Oracle Application Server 10g and Oracle Fusion Middleware 11g](#)
- [Task 2: Understand the Upgrade Starting Points](#)
- [Task 3: Get Familiar With the Installation and Upgrade Tools](#)
- [Task 4: Develop a Backup Strategy for Upgrade](#)
- [Task 5: Understand Your Certification, Compatibility, and Interoperability Requirements](#)
- [Task 6: Review the System Requirements for Upgrade](#)
- [Task 7: Understand the Basic Rules and Restrictions of Upgrade](#)
- [Task 8: Locate the Required Upgrade Documentation](#)

1.1 Task 1: Understand the Differences Between Oracle Application Server 10g and Oracle Fusion Middleware 11g

Before you begin planning your upgrade to Oracle Fusion Middleware, you should be familiar with the differences between Oracle Application Server 10g and Oracle Fusion Middleware 11g.

Refer to [Chapter 2, "Introduction to Oracle Fusion Middleware for 10g Users"](#) for an introduction to architecture, directory structure, terminology, and installation and configuration tools of Oracle Fusion Middleware 11g.

1.2 Task 2: Understand the Upgrade Starting Points

Refer to the following sections for more information about what Oracle Application Server versions are supported for upgrading to Oracle Fusion Middleware 11g:

- [Upgrade Versus Patching](#)
- [What is an Upgrade Starting Point?](#)
- [Supported Upgrade Starting Points for Oracle Fusion Middleware 11g](#)

- [Obtaining the Latest Oracle WebLogic Server and Oracle Fusion Middleware 11g Software](#)
- [Using My Oracle Support to Obtain the Latest Oracle Application Server Patch Set](#)
- [What If I'm Not Running a Supported Upgrade Starting Point?](#)

1.2.1 Upgrade Versus Patching

In the Oracle Fusion Middleware documentation, upgrade refers to the process you use to upgrade from a previous major or minor release to another. Specifically, this guide is for upgrading from Oracle Application Server 10g to Oracle Fusion Middleware 11g.

If you are already running Oracle Fusion Middleware 11g and you want to update your system to the latest patch set (for example, Oracle Fusion Middleware 11g Release 1 (11.1.1.7.0)), then refer to the *Oracle Fusion Middleware Patching Guide* for complete instructions on applying the latest Oracle Fusion Middleware 11g patch set.

1.2.2 What is an Upgrade Starting Point?

An upgrade starting point is a specific version of Oracle Application Server that you must be running in order to upgrade to Oracle Fusion Middleware 11g. If you are not running a version of Oracle Application Server that is a supported upgrade starting point, then you must first upgrade to a supported starting point using documentation from a previous release.

Documentation for previous releases is available on the Oracle Technology Network (OTN):

<http://docs.oracle.com/>

1.2.3 Supported Upgrade Starting Points for Oracle Fusion Middleware 11g

The following sections provide information about the supported starting points for upgrading to Oracle Fusion Middleware 11g:

- [Oracle Application Server 10g Upgrade Starting Points](#)
- [Oracle Identity Management Upgrade Starting Points](#)
- [Oracle Data Integrator Upgrade Starting Points](#)
- [Oracle BI Enterprise Edition Upgrade Starting Points](#)
- [Standalone Oracle Web Cache and Oracle HTTP Server Starting Points](#)
- [About Upgrading Your Infrastructure Databases](#)

1.2.3.1 Oracle Application Server 10g Upgrade Starting Points

You can upgrade to Oracle Fusion Middleware 11g from the following previous versions of Oracle Application Server 10g:

- Oracle Application Server 10g Release 2 (10.1.2)
- Oracle Application Server 10g Release 3 (10.1.3)
- Oracle Content Management 10g Release 3 (10.1.3)

Note that not all the Content Management components can be upgraded directly to Oracle WebCenter Content 11g. For more information, see the *Oracle Fusion Middleware Upgrade Guide for Oracle WebCenter Content*.

- Oracle Application Server Portal Release 2 (10.1.4)

Note: Before starting an upgrade, Oracle recommends that you upgrade to the latest patch set for your release. For example, if you are upgrading from 10g Release 2 (10.1.2), you should apply the latest 10g Release 2 (10.1.2) patch set before you begin the upgrade process.

For more information, see [Section 1.2.5, "Using My Oracle Support to Obtain the Latest Oracle Application Server Patch Set"](#).

1.2.3.2 Oracle Identity Management Upgrade Starting Points

For information on the starting points for upgrading to Oracle Identity Management 11g, refer to the *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*.

For information on the starting points for upgrading to Oracle Identity and Access Management, refer to the *Oracle Fusion Middleware Upgrade Guide for Oracle Identity and Access Management*.

1.2.3.3 Oracle BI Enterprise Edition Upgrade Starting Points

For information about the starting points for upgrading to Oracle BI Enterprise Edition, Oracle Business Intelligence Publisher, and Oracle Real-Time Decisions, see "Supported Starting Points for Oracle Business Intelligence Upgrade" in the *Oracle Fusion Middleware Upgrade Guide for Oracle Business Intelligence*.

1.2.3.4 Oracle Data Integrator Upgrade Starting Points

For information about the starting points for upgrading to Oracle Data Integrator 11g, refer to "Task 1: Understand the Starting Points for Oracle Data Integrator" in the *Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator*.

1.2.3.5 Standalone Oracle Web Cache and Oracle HTTP Server Starting Points

You can also upgrade from standalone Oracle Web Cache 10g Release 2 (10.1.2) instances and from standalone Oracle HTTP Server 10g Release 2 (10.1.2) and 10g Release 3 (10.1.3) installations. For more information about upgrading Oracle HTTP Server to Oracle Fusion Middleware 11g, refer to the following:

- "Oracle HTTP Server Interoperability" in the *Oracle Fusion Middleware Interoperability and Compatibility Guide*
- "Upgrading a Java EE and Web Server Environment" in the *Oracle Fusion Middleware Upgrade Guide for Java EE*

1.2.3.6 About Upgrading Your Infrastructure Databases

For information about the latest database versions supported by Oracle Fusion Middleware 11g, see [Chapter 5, "Upgrading and Preparing Your Databases"](#).

1.2.4 Obtaining the Latest Oracle WebLogic Server and Oracle Fusion Middleware 11g Software

When preparing for your upgrade, you should be sure you are upgrading to the very latest Oracle Fusion Middleware 11g software.

Refer to the following for more information:

- You can download the latest Oracle Fusion Middleware 11g software from the Oracle Technology Network (OTN):
<http://www.oracle.com/technology/>
- This guide, as well as the other upgrade guides available in the Oracle Fusion Middleware 11g documentation library, provide instructions for upgrading from Oracle Application Server 10g to the latest Oracle Fusion Middleware release.
- In the majority of cases, you should use the latest version of Oracle WebLogic Server. However, be sure to check the product specific Installation Guide for the specific requirements.
- For complete information about patching your Oracle Fusion Middleware 11g to the latest release, refer to the *Oracle Fusion Middleware Patching Guide*.

1.2.5 Using My Oracle Support to Obtain the Latest Oracle Application Server Patch Set

For the most up-to-date information about available Oracle Application Server 10g patch set, including the database versions required for Oracle Fusion Middleware 11g Release 1 (11.1.1), refer to My Oracle Support (formerly OracleMetaLink):

<http://support.oracle.com>

After logging into My Oracle Support, click the **Patches and Updates** tab. From the resulting Web page, you can search for the latest patches by product, platform, and product availability.

For more information about the tools and processes you can use to patch your Oracle Fusion Middleware environment, refer to the *Oracle Fusion Middleware Patching Guide*.

1.2.6 What If I'm Not Running a Supported Upgrade Starting Point?

If you are running an Oracle Application Server release prior to the supported upgrade starting points, then you must first upgrade to a supported upgrade starting point. After you upgrade to a supported starting point, you can then use the Oracle Fusion Middleware 11g upgrade documentation to perform the upgrade.

Specifically, refer to [Table 1-1](#) for information on upgrading from earlier versions of Oracle Application Server to a supported starting point.

Table 1-1 Upgrade Paths to a Supported Oracle Fusion Middleware 11g Upgrade Starting Point

Version	Starting Point Upgrade Path	More Information
Oracle Application Server Release 2 (9.0.2)	Upgrade your middle tiers and Infrastructure to Oracle Application Server 10g Release 2 (10.1.2) OR Upgrade your middle tiers to 10g Release 2 (10.1.2) and upgrade your Infrastructure components to 10g (10.1.4).	<i>Oracle Application Server Upgrade and Compatibility Guide</i> for your platform, available in the Oracle Application Server 10g Release 2 (10.1.2) documentation library <i>Oracle Application Server Upgrade and Compatibility Guide</i> for your platform, available in the Oracle Identity Management 10g (10.1.4) documentation library

Table 1–1 (Cont.) Upgrade Paths to a Supported Oracle Fusion Middleware 11g Upgrade Starting Point

Version	Starting Point Upgrade Path	More Information
Oracle Application Server Release 2 (9.0.3)	Upgrade to Oracle Application Server 10g Release 3 (10.1.3)	<i>Oracle Application Server Upgrade and Compatibility Guide</i> for your platform, available in the Oracle Application Server 10g Release 3 (10.1.3) documentation library
Oracle Application Server 10g (9.0.4)	Upgrade your middle tiers and Infrastructure to Oracle Application Server 10g Release 2 (10.1.2) OR Upgrade your middle tiers to 10g Release 2 (10.1.2) and upgrade your Infrastructure components to 10g (10.1.4).	<i>Oracle Application Server Upgrade and Compatibility Guide</i> for your platform, available in the Oracle Application Server 10g Release 2 (10.1.2) documentation library <i>Oracle Application Server Upgrade and Compatibility Guide</i> for your platform, available in the Oracle Identity Management 10g (10.1.4) documentation library

1.3 Task 3: Get Familiar With the Installation and Upgrade Tools

The procedures and tools you use to install and configure the Oracle Fusion Middleware components are very different from the ones you used to install and configure Oracle Application Server 10g.

Refer to [Section 2.2, "Oracle Fusion Middleware Installation and Configuration Tools"](#) for an overview of the installation and configuration tools required to set up a complete Oracle Fusion Middleware 11g environment.

1.4 Task 4: Develop a Backup Strategy for Upgrade

Before you begin upgrading your Oracle Application Server 10g environment, be sure you have backed up system-critical files.

Refer to [Chapter 4, "Backup Strategies for Upgrade"](#) for specific information on making sure all the various components of your environment can be restored in the event of a failed upgrade.

1.5 Task 5: Understand Your Certification, Compatibility, and Interoperability Requirements

Before you begin upgrading your Oracle Application Server 10g environment, consider the following:

- For supported 32-bit and 64-bit operating systems, databases, web servers, LDAP servers, adapters, IPv6, JDKs, and third-party products, view *System Requirements and Supported Platforms for Oracle Fusion Middleware 11gR1* on the Oracle Fusion Middleware Supported System Configurations page.
- For cross-product interoperability and compatibility, view the *Oracle Fusion Middleware Interoperability and Compatibility Guide*.

Note that potential issues can be avoided by making sure you have applied the latest Oracle Application Server 10g patch sets, and that you have reviewed the list of

recommended patches that are designed to help you avoid any problems during upgrade.

For more information, see the Upgrade chapter of the Release Notes for your platform. For example, if you are using a Linux operating system, refer to "Patches Required to Address Specific Upgrade and Compatibility Requirements" in the *Oracle Fusion Middleware Release Notes for Linux x86*.

1.6 Task 6: Review the System Requirements for Upgrade

Before performing any installation you should read the system requirements and certification documentation to ensure that your environment meets the minimum installation requirements for the products you are installing.

Refer to the following sections for more information:

- [Locating System Requirements Information Before Upgrade](#)
- [A Note About User Accounts When Upgrading to Oracle Fusion Middleware 11g](#)

1.6.1 Locating System Requirements Information Before Upgrade

For a complete description of the system requirements for installing and upgrading to Oracle Fusion Middleware 11g, see "Review System Requirements and Specifications" in the *Oracle Fusion Middleware Installation Planning Guide*.

1.6.2 A Note About User Accounts When Upgrading to Oracle Fusion Middleware 11g

In most cases, when you are upgrading from a previous major release to Oracle Fusion Middleware 11g, you must first install and configure the Oracle Fusion Middleware 11g software before you perform the upgrade.

Note that when you install the Oracle Fusion Middleware 11g software in preparation for upgrade, you should use the same user account that you used to install and configure the Oracle Application Server 10g software. On UNIX operating systems, this will ensure that the proper owner and group is applied to new Oracle Fusion Middleware 11g files and directories.

1.7 Task 7: Understand the Basic Rules and Restrictions of Upgrade

Before you start the upgrade process you should understand some basic rules and restrictions.

Specifically, do not attempt to perform an Oracle Fusion Middleware 11g upgrade while also performing an unrelated migration of your software from one platform to another.

For example, do not perform an upgrade while simultaneously doing any of the following:

- Moving from one operating system (such as Windows) to another (such as Linux)
- Moving from one database type (such as Oracle) to another (such as Microsoft)
- Moving from one hardware platform (such as SPARC) to another (such as Intel)
- Moving from a 32-bit operating system to a 64-bit operating system

If you plan to perform any of these or similar actions, then you must do them separately and independently of the Oracle Fusion Middleware 11g upgrade process.

For a more specific example, if you plan to move from a 32-bit to a 64-bit operating system, then you must either:

- Upgrade your Oracle Application Server 10g software to Oracle Fusion Middleware 11g, validate the upgrade, ensure that the upgrade was successful, and only then migrate your software to a 64-bit operating system.

OR

- Migrate your 32-bit environment to a 64-bit software environment, validate the migration to ensure all your Oracle Application Server 10g software is working properly, and only then perform the upgrade to Oracle Fusion Middleware 11g.

1.8 Task 8: Locate the Required Upgrade Documentation

The Oracle Fusion Middleware documentation library provides upgrade documentation for each of the Oracle Fusion Middleware product suites.

Depending upon the 10g Release 2 (10.1.2) or 10g Release 3 (10.1.3) environment you are upgrading, use [Table 1–2](#) to determine which guide to use when upgrading your Oracle Application Server components to Oracle Fusion Middleware.

Table 1–2 Road Map to the Oracle Fusion Middleware Upgrade Documentation

To Upgrade...	Refer to this document...
10g Release 2 (10.1.2) Portal and Wireless	<i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i>
10g Release 2 (10.1.2) Business Intelligence and Forms	<i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i>
10g Business Intelligence Services	<i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i>
10g Release 2 (10.1.2) Forms and Reports Services	<ul style="list-style-type: none"> ■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i> for information about upgrading to Oracle Portal, Forms, Reports, and Discoverer 11g ■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Forms and Reports</i> for information about upgrading to Oracle Forms and Reports 11g Release 2 (11.1.2)
10g Release 2 (10.1.2) Identity Management	<ul style="list-style-type: none"> ■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management</i> ■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Identity and Access Management</i>
10g Release 3 (10.1.3) Middle Tier or Cluster Topology	<ul style="list-style-type: none"> ■ <i>Oracle Fusion Middleware Upgrade Guide for Java EE</i> for information about upgrading your Java EE applications from Oracle Containers for Java EE (OC4J) to Oracle WebLogic Server ■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle SOA Suite, WebCenter Portal, and ADF</i> for information about upgrading your Oracle SOA Suite, Oracle WebCenter Portal, and Oracle ADF applications.
10g Release 3 (10.1.3) Content Management	<i>Oracle Fusion Middleware Upgrade Guide for Oracle WebCenter Content</i>

Table 1–2 (Cont.) Road Map to the Oracle Fusion Middleware Upgrade Documentation

To Upgrade...	Refer to this document...
10g (10.1.4) Identity Management	<ul style="list-style-type: none"> <li data-bbox="683 260 1333 310">■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management</i> <li data-bbox="683 323 1333 380">■ <i>Oracle Fusion Middleware Upgrade Guide for Oracle Identity and Access Management</i>
Oracle Data Integrator 10g (10.1.3.)	<i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i>
<ul style="list-style-type: none"> <li data-bbox="363 470 659 527">■ AquaLogic Service Bus 2.6 	<i>Oracle Fusion Middleware Upgrade Guide for Oracle Service Bus</i>
<ul style="list-style-type: none"> <li data-bbox="363 537 659 594">■ AquaLogic Service Bus 2.6 RP1 	
<ul style="list-style-type: none"> <li data-bbox="363 604 659 661">■ AquaLogic Service Bus 3.0 	
<ul style="list-style-type: none"> <li data-bbox="363 672 659 728">■ Oracle Service Bus 10g Release 3 (10.3) 	
<ul style="list-style-type: none"> <li data-bbox="363 739 659 816">■ Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) 	

Introduction to Oracle Fusion Middleware for 10g Users

This chapter introduces Oracle Fusion Middleware 11g Release 1 (11.1.1) to Oracle Application Server 10g users.

This chapter contains the following sections:

- [Terminology and Concepts for 10g Users](#)
- [Oracle Fusion Middleware Installation and Configuration Tools](#)
- [Oracle Fusion Middleware Administration Tools and Processes](#)
- [Oracle Fusion Middleware Upgrade Tools and Processes](#)

2.1 Terminology and Concepts for 10g Users

The following sections describe some of the new Oracle Fusion Middleware terminology and concepts for Oracle Application Server 10g users:

- [Terminology and Concepts for 10g Release 2 \(10.1.2\) Users](#)
- [Terminology and Concepts for 10g Release 3 \(10.1.3\) Users](#)
- [Oracle HTTP Server and Oracle Web Cache Concepts for 10g Users and 11g Users](#)

2.1.1 Terminology and Concepts for 10g Release 2 (10.1.2) Users

This section describes some key differences between Oracle Application Server 10g Release 2 (10.1.2) and the Oracle Fusion Middleware 11g:

- [Figure 2–1](#) shows an illustration of a typical 10g Release 2 (10.1.2) environment and compares it to a typical Oracle Fusion Middleware 11g environment.
- [Table 2–1](#) provides a list of Oracle Application Server 10g Release 2 (10.1.2) terms and concepts that you are likely familiar with. The table provides a summary of the equivalent terms and concepts in Oracle Fusion Middleware.

Note: The 10g Release 2 (10.1.2) environment shown in [Figure 2–1](#) is simplified to show only an Oracle Portal instance and an Oracle BI Discoverer instance. In fact, a 10g Release 2 (10.1.2) environment can also include Oracle Reports and Oracle Forms Services, as well as an associated Oracle Application Server Identity Management installation.

For more detailed information about the Oracle Portal, Forms, Reports, and Discoverer components, as well as the Oracle Identity Management components of Oracle Fusion Middleware 11g, see the following guides:

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

Figure 2–1 Comparison of Terminology Used in 10g Release 2 (10.1.2) and 11g

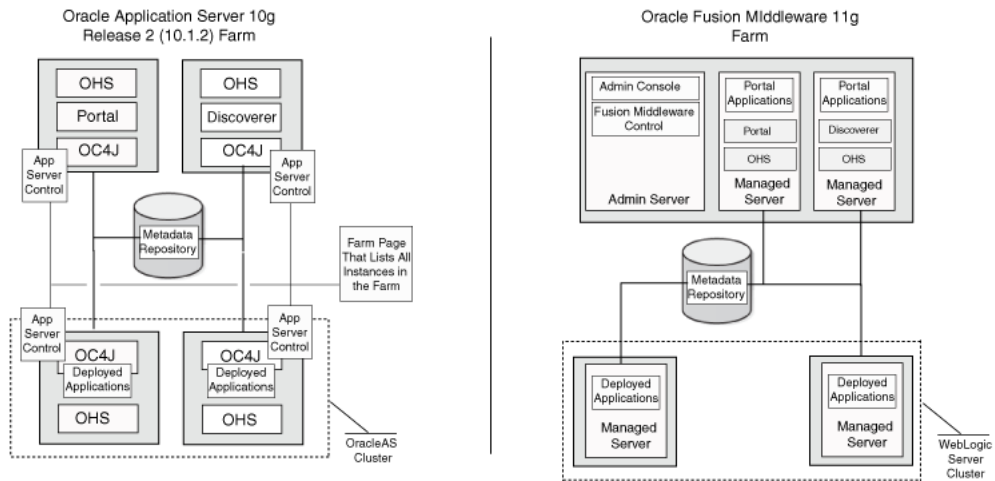


Table 2–1 Terminology and Concepts in 10g Release 2 (10.1.2) and Oracle Fusion Middleware 11g

10g Release 2 (10.1.2) Term	Equivalent Term in Oracle Fusion Middleware 11g	Differences
Oracle Application Server farm	Oracle Fusion Middleware farm	<p>In 10g Release 2 (10.1.2), a farm contained all the Oracle Application Server instances that shared the same Oracle Metadata Repository.</p> <p>In Oracle Fusion Middleware, a farm consists of a single Oracle WebLogic Server domain and the corresponding Oracle system components associated with the domain.</p> <p>A Oracle WebLogic Server domain consists of an administration server, which hosts the Web-based management consoles, and one or more managed servers.</p>

Table 2–1 (Cont.) Terminology and Concepts in 10g Release 2 (10.1.2) and Oracle Fusion Middleware 11g

10g Release 2 (10.1.2) Term	Equivalent Term in Oracle Fusion Middleware 11g	Differences
Oracle Enterprise Manager Application Server Control	Oracle WebLogic Server Administration Console Oracle Enterprise Manager Fusion Middleware Control	<p>In 10g Release 2 (10.1.2), you use Application Server Control to manage your entire application server environment. Application Server Control was deployed on every Oracle Application Server 10g Release 2 (10.1.2) instance.</p> <p>When multiple application server instances were associated with a common metadata repository, you could navigate to the Farm page, which listed all the application server instances in the farm.</p> <p>In Oracle Fusion Middleware, there are two Web-based management consoles:</p> <ul style="list-style-type: none"> ■ You manage the WebLogic servers with the Oracle WebLogic Server Administration Console. ■ You manage the Oracle Fusion Middleware system components with Fusion Middleware Control.
Oracle Application Server Cluster	Oracle WebLogic Server cluster	<p>In 10g Release 2 (10.1.2), an Oracle Application Server Cluster consisted of one or more application server instances with identical configuration and application deployments. Application server instances within the cluster appear and function as a single instance.</p> <p>Oracle WebLogic Server provides a similar clustering feature. You can cluster two or more managed servers.</p>

2.1.2 Terminology and Concepts for 10g Release 3 (10.1.3) Users

This section describes some key differences between Oracle Application Server 10g Release 3 (10.1.3) and the Oracle Fusion Middleware 11g:

- [Figure 2–2](#) shows an illustration of a typical Oracle Application Server 10g Release 3 (10.1.3) environment and compares it to a typical Oracle Fusion Middleware 11g environment.
- [Table 2–2](#) provides a list of Oracle Application Server 10g Release 3 (10.1.3) terms and concepts, as well as a summary of the equivalent terms and concepts in Oracle Fusion Middleware.

Figure 2–2 Comparison of 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g Terminology

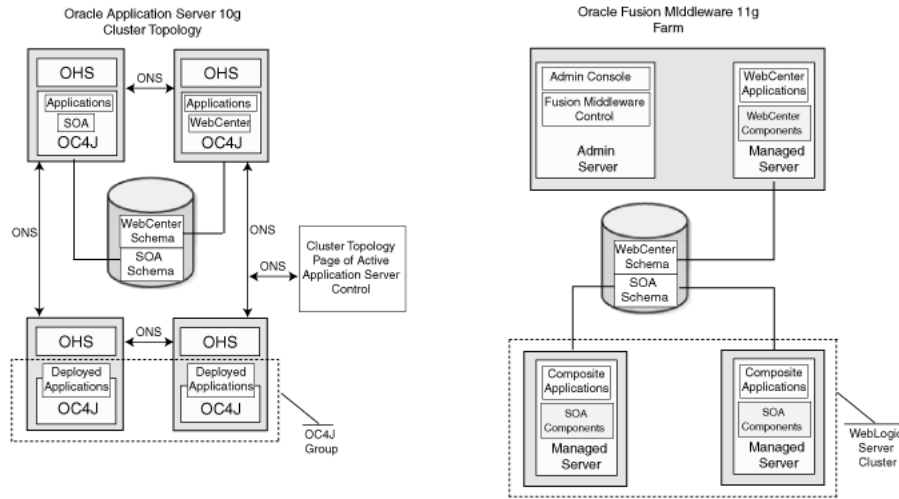


Table 2–2 Terminology and Concepts in 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g

10g Release 3 (10.1.3) Term	Equivalent Term in Oracle Fusion Middleware 11g	Differences
Oracle Application Server Cluster Topology	Oracle Fusion Middleware farm	<p>In 10g Release 3 (10.1.3), a cluster topology consists of two or more application server instances that share the same Oracle Notification Service (ONS) address.</p> <p>You can manage the cluster topology from the Cluster Topology page of the Application Server Control.</p> <p>In Oracle Fusion Middleware, a farm consists of a single Oracle WebLogic Server domain and the Oracle system components associated with the domain.</p> <p>An Oracle WebLogic Server domain consists of an administration server, which hosts the Web-based management consoles, and one or more managed servers.</p>
Oracle Application Server Control	Oracle WebLogic Server Administration Console Oracle Enterprise Manager Fusion Middleware Control	<p>In 10g Release 3 (10.1.3), you use Application Server Control to manage the application server environment. Application Server Control is deployed on every Oracle Application Server 10g Release 3 (10.1.3) instance, but only one is up and running and identified as the active Fusion Middleware Control.</p> <p>In Oracle Fusion Middleware, there are two Web-based management consoles, both running out of the Administration Server:</p> <ul style="list-style-type: none"> ■ You manage the WebLogic servers with the Oracle WebLogic Server Administration Console. ■ You manage the Oracle Fusion Middleware system components with Fusion Middleware Control.

Table 2–2 (Cont.) Terminology and Concepts in 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g

10g Release 3 (10.1.3) Term	Equivalent Term in Oracle Fusion Middleware 11g	Differences
OC4J Group	Oracle WebLogic Server cluster	<p>In 10g Release 3 (10.1.3), you can use OC4J groups to to group identically configured OC4J instances. You can then deploy applications to the group and perform certain management tasks on the group, rather than on individual OC4J instances.</p> <p>Oracle WebLogic Server provides a similar clustering feature. You can cluster two or more managed servers.</p>

2.1.3 Oracle HTTP Server and Oracle Web Cache Concepts for 10g Users and 11g Users

The following sections compare how Oracle HTTP Server and Oracle Web Cache are used in the Oracle Application Server 10g and Oracle Fusion Middleware 11g environments:

- [Configuring Oracle HTTP Server and Oracle Web Cache in Oracle Application Server 10g](#)
- [Configuring the Web Tier in Oracle Fusion Middleware 11g](#)

2.1.3.1 Configuring Oracle HTTP Server and Oracle Web Cache in Oracle Application Server 10g

In Oracle Application Server 10g, Oracle HTTP Server and Oracle Web Cache were integrated with the rest of the Oracle Application Server middle-tier components automatically during the installation.

For example:

- In Oracle Application Server 10g Release 2 (10.1.2), you could select the Oracle HTTP Server and Oracle Web Cache components as part of a standard Oracle Application Server installation. During the installation and configuration of your environment, the routing of requests would automatically be configured between Oracle HTTP Server and Oracle Web Cache.

Components such as Oracle Single Sign-On and Oracle Portal require an Oracle HTTP Server, so in 10g Release 2 (10.1.2) installations, Oracle HTTP Server was automatically configured to communicate with those components.

- In Oracle Application Server 10g Release 3 (10.1.3), several of the common installation types included an instance of Oracle HTTP Server that was automatically configured to route requests to the OC4J instance.

Users could then later reconfigure Oracle HTTP Server to route requests to an OC4J group or to specific OC4J instances in a 10g Release 3 (10.1.3) cluster topology.

2.1.3.2 Configuring the Web Tier in Oracle Fusion Middleware 11g

In Oracle Fusion Middleware 11g, Oracle HTTP Server is still automatically installed and configured for specific components that require a Web server. For example, Oracle HTTP Server is automatically installed and configured with the following Oracle Fusion Middleware components:

- Oracle Identity Federation in the Oracle Identity Management software suite

- Oracle Portal and Oracle Business Intelligence Discoverer in the Oracle Portal, Forms, Reports and Discoverer suite

However, for the other Oracle Fusion Middleware suites, Oracle HTTP Server and Oracle Web Cache are packaged as a separate installation called the Web tier.

The assumption is that in production environments, many Oracle Fusion Middleware customers will configure a separate set of computers to host the Oracle HTTP Server and Oracle Web Cache components. Packaging these components as a separate Web tier installation facilitates setting up this type of environment.

2.2 Oracle Fusion Middleware Installation and Configuration Tools

Unlike Oracle Application Server 10g, the installation and configuration of your Oracle Fusion Middleware components is separated. In other words, you first use an installation program to install the necessary files on disk, and then you use a configuration wizard to configure the environment.

Because the Oracle Fusion Middleware system components are designed to work with Oracle WebLogic Server, the first step in configuring any Oracle Fusion Middleware environment is usually to install Oracle WebLogic Server. Second, you install the Oracle Fusion Middleware component software, and third, you configure the software. Each installation and configuration step is performed with a specialized tool.

As an example of the tools required to install and configure Oracle Fusion Middleware, consider the steps required to install and configure a typical Oracle SOA Suite.

In particular, to install and configure a production-ready Oracle SOA Suite environment, you use the installation and configuration tools that are shown in [Figure 2-3](#). The call outs in the figure correspond to the order in which you typically perform each installation and configuration task. Each step is described in more detail in [Table 2-3](#).

For more information about the tools available for installing and configuring an Oracle Fusion Middleware environment, refer to the *Oracle Fusion Middleware Installation Planning Guide*.

For information on how to locate and download the required software, see the *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files*.

Figure 2-3 Installation and Configuration Tools Used to Install and Configure a Typical Oracle SOA Suite Environment

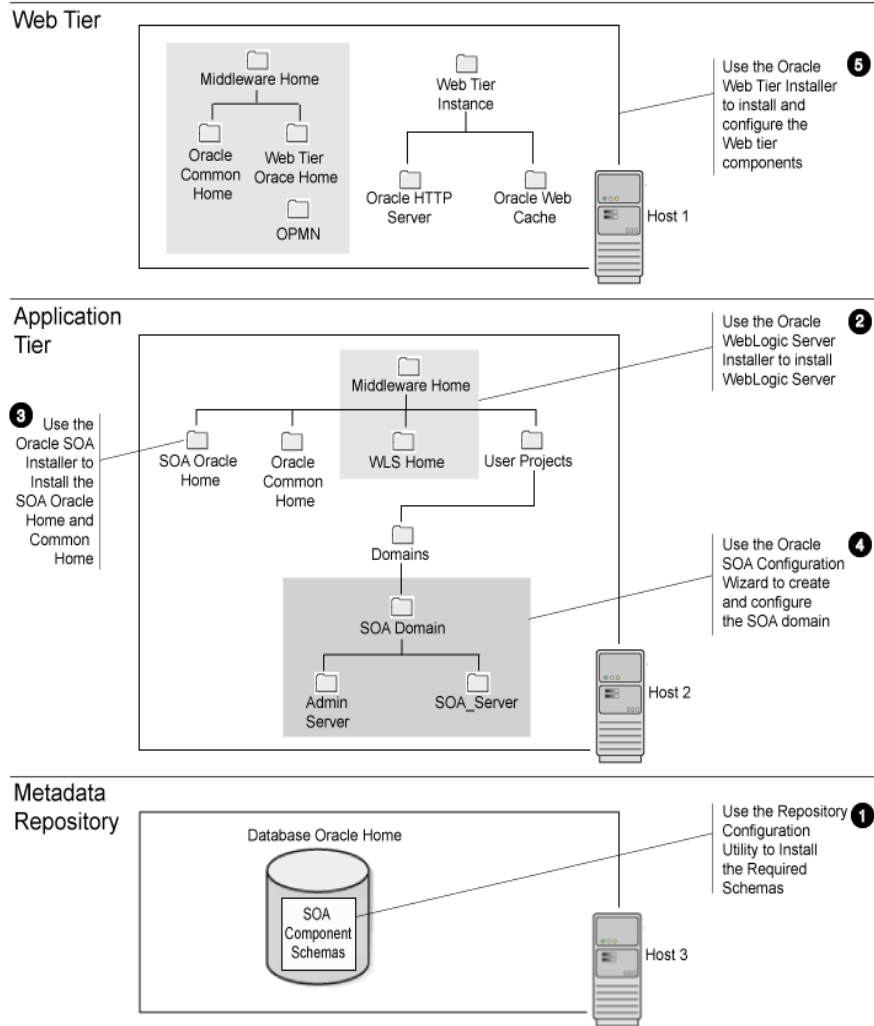


Table 2–3 Summary of the Oracle Fusion Middleware Installation and Configuration Tools for a Typical Oracle SOA Suite Installation

Step Number	Task	Performed with this Tool	Required Download or Location	More Information
1	Install the required schemas in a supported version of the Oracle database.	Repository Creation Utility (RCU)	Repository Creation Utility	<i>Oracle Fusion Middleware Repository Creation Utility User's Guide</i>
2	Install the Oracle WebLogic Server files on disk. This creates the Middleware home and the Weblogic Server home directory inside the Middleware home.	Oracle WebLogic Server Installer	Oracle WebLogic Server	<i>Oracle WebLogic Server Installation Guide</i>
3	Install the Oracle SOA Suite software on disk. This creates the SOA Oracle home and Oracle Common home.	Oracle SOA Suite Installer	Oracle SOA Suite	<i>Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite</i>
4	Configure the SOA domain. This creates the SOA domain directory structure. Note that the domain directories can be located anywhere on disk, but are often installed inside the <code>user_projects</code> directory of the Middleware home.	Oracle SOA Suite Configuration Wizard	Run <code>config.sh</code> or <code>config.bat</code> from the <code>common/bin</code> directory of the SOA Oracle home created in step 3.	<i>Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite</i>
5	Optionally, install and configure a Web tier. You will also need to configure Oracle HTTP Server to route requests to the appropriate Oracle WebLogic Server server.	Oracle Web Tier Installer	Oracle Web Tier and Utilities	<i>Oracle Fusion Middleware Installation Guide for Oracle Web Tier</i> "Configuring the <code>mod_wl_ohs</code> Module" in the <i>Oracle Fusion Middleware Administrator's Guide for Oracle HTTP Server</i>

2.3 Oracle Fusion Middleware Administration Tools and Processes

The following sections describe some key differences between Oracle Application Server 10g and Oracle Fusion Middleware 11g administration tools and processes:

- [Comparison of Key Management Tasks for 10g Release 2 \(10.1.2\) Users](#)
- [Comparison of Key Management Tasks for 10g Release 3 \(10.1.3\) Users](#)

2.3.1 Comparison of Key Management Tasks for 10g Release 2 (10.1.2) Users

[Table 2–4](#) shows some of the key differences between Oracle Application Server 10g Release 2 (10.1.2) and Oracle Fusion Middleware 11g.

Table 2–4 Summary of Differences Between Oracle Fusion Middleware 11g and Oracle Application Server 10g Release 2 (10.1.2)

Task or Feature	In 10g Release 2 (10.1.2)...	In Oracle Fusion Middleware 11g...	More Information
Installing and managing an Oracle Application Server farm	<p>Configure multiple Oracle Application Server instances so they use the same Oracle Metadata Repository.</p> <p>This creates an OracleAS Farm, which can be managed from the Oracle Enterprise Manager Application Server Control Farm page.</p>	<p>Use the installation and configuration tools to:</p> <ol style="list-style-type: none"> 1. Install the selected Oracle WebLogic Serversoftware on disk 2. Install and configure the Oracle instances using the Oracle Portal, Forms, Reports, and Discoverer installer in an Oracle WebLogic Serverdomain. <p>The resulting Oracle Fusion Middleware farm can be managed from the Fusion Middleware Control.</p>	<ul style="list-style-type: none"> ■ <i>Oracle Fusion Middleware Installation Planning Guide</i> ■ <i>Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server</i> ■ <i>Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discovererr</i>
Using OracleAS Clusters	<p>Add selected J2EE and Web Cache instances within an OracleAS Farm to an OracleAS Cluster. Perform this task from the Farm page in the Fusion Middleware Control Console.</p>	<p>Use the Oracle WebLogic Server configuration wizard, or the appropriate management tool, to configure selected managed servers into an Oracle WebLogic Server cluster.</p>	<p>"Overview of Oracle Fusion Middleware Administration Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i></p>
Replicating application state across a cluster	<p>From the Application Server Control Farm page, create an OracleAS Cluster. OC4J clusters are based on processes and islands within an OracleAS Cluster.</p>	<p>Use the Oracle WebLogic Server configuration wizard to configure selected managed servers into Oracle WebLogic Server clusters.</p>	<p><i>Oracle Fusion Middleware Upgrade Guide for Java EE</i></p>
Creating new OC4J instances	<p>Click Create Instance on the OC4J Home page in the Application Server Control console.</p>	<p>Use the Oracle WebLogic Server configuration wizard, or the appropriate management tool, to create new managed servers in each Oracle WebLogic Server domain.</p>	<p>"Overview of Oracle Fusion Middleware Administration Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i></p>

Table 2–4 (Cont.) Summary of Differences Between Oracle Fusion Middleware 11g and Oracle Application Server 10g Release 2 (10.1.2)

Task or Feature	In 10g Release 2 (10.1.2)...	In Oracle Fusion Middleware 11g...	More Information
Using command-line tools to manage servers, clusters, and system components	Use one of the following: <ul style="list-style-type: none"> ▪ Distributed Configuration Management (DCM) command line (dcmctl) ▪ Oracle Process Manager and Notification Server (OPMN) command line (opmnctl) 	Use one of the following, depending upon the components you are managing: <ul style="list-style-type: none"> ▪ The Oracle WebLogic Server scripting tool (WLST) for managing the Oracle WebLogic Server domain. ▪ OPMN and the <code>opmnctl</code> commands for the Oracle Identity Management components, Oracle Portal, Forms, Reports, and Discoverer components, and the Web tier components. 	"Getting Started Using Command-Line Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i>
Using OracleAS Identity Management	Configure OracleAS Identity Management using the Application Server Infrastructure page in Application Server Control.	Configure Oracle Internet Directory as your identity store during the Oracle Portal, Forms, Reports, and Discoverer installation.	<i>Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer</i>

2.3.2 Comparison of Key Management Tasks for 10g Release 3 (10.1.3) Users

Table 2–4 shows some of the key differences between Oracle Application Server 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g.

Table 2–5 Comparison of Key Management Tasks in 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g

Task or Feature	In 10g Release 3 (10.1.3)...	In Oracle Fusion Middleware 11g...	More Information
Creating and Managing the middle-tier environment	Use the Topology Network Configuration page to configure the cluster, or perform the equivalent task during the installation. This causes the selected Oracle Application Server instances to appear on the Cluster Topology page of the Fusion Middleware Control Console.	<ol style="list-style-type: none"> 1. Install the Oracle WebLogic Server software on disk. 2. Install the Oracle SOA Suite and WebCenter software on disk. 3. Use the configuration wizard in the SOA or WebCenter Oracle home to create the SOA or WebCenter domain and deploy the system components. 	<ul style="list-style-type: none"> ▪ <i>Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite</i> ▪ <i>Oracle Fusion Middleware Installation Guide for Oracle WebCenter Portal</i> ▪ Section 2.2, "Oracle Fusion Middleware Installation and Configuration Tools"

Table 2–5 (Cont.) Comparison of Key Management Tasks in 10g Release 3 (10.1.3) and Oracle Fusion Middleware 11g

Task or Feature	In 10g Release 3 (10.1.3)...	In Oracle Fusion Middleware 11g...	More Information
Using clusters	Create multiple OC4J instances and organize them into a group. Use the Group page in the Fusion Middleware Control Console to manage the group.	Use the appropriate management tool to create an Oracle WebLogic Server cluster.	"Overview of Oracle Fusion Middleware Administration Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i>
Replicating application state across a cluster	Application clustering, which can be configured from the Fusion Middleware Control Console during deployment or post-deployment.	Use the appropriate management tool to create an Oracle WebLogic Server cluster.	"Overview of Oracle Fusion Middleware Administration Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i>
Creating new OC4J instances	Click Create OC4J Instance on the Application Server page, or use the <code>createinstance</code> command in the <code>bin</code> directory of the Oracle Application Server Oracle home.	Use the appropriate management tool to create a new managed server and apply the required domain template.	"Scaling Your Environment" in the <i>Oracle Fusion Middleware Administrator's Guide</i>
Using command-line tools to manage instances and clusters	Use the <code>opmnctl</code> commands and the <code>admin_client.jar</code> utility provide additional management capabilities.	Use one of the following, depending upon the components you are managing: <ul style="list-style-type: none"> ■ The Oracle WebLogic Server scripting tool (WLST) for managing the Oracle WebLogic Server domain, as well as Oracle SOA Suite, and WebCenter components. ■ OPMN and the <code>opmnctl</code> commands for managing the Oracle Identity Management components, Oracle Portal, Forms, Reports, and Discoverer components, and the Web tier components. 	"Getting Started Using Command-Line Tools" in the <i>Oracle Fusion Middleware Administrator's Guide</i>
Using OracleAS Identity Management	Configure OracleAS Identity Management using the Identity Management task on the OC4J Administration page in the Fusion Middleware Control Console.	Configure Oracle Internet Directory as your identify store in the Fusion Middleware Control.	<i>Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer</i>

2.4 Oracle Fusion Middleware Upgrade Tools and Processes

Table 2–6 provides a summary of the tools you can use to help automate and validate your upgrade to Oracle Fusion Middleware 11g.

Refer to the rest of the Oracle Fusion Middleware upgrade documentation for specific information on how to use these tools as part of your overall upgrade experience.

Table 2–6 Summary of the Tools Required When Upgrading to Oracle Fusion Middleware 11g

Upgrade Tool	Description	Notes and Considerations
Repository Creation Utility (RCU)	<p>Use this tool to install the database schemas required for specific types of Oracle Fusion Middleware upgrades.</p> <p>In particular, you must run RCU and install the required schemas before upgrading to the following Oracle Fusion Middleware software suites:</p> <ul style="list-style-type: none"> ■ Oracle SOA Suite ■ Oracle WebCenter ■ Oracle Business Intelligence Discoverer 	<p>When upgrading from a previous release, do not install the 11g schemas for Oracle Internet Directory or Oracle Portal.</p> <p>Instead, you associate your new Oracle Fusion Middleware middle tier with the existing 10g ODS schema (for Oracle Internet Directory) and PORTAL schema (for Oracle Portal).</p> <p>Later you use the Upgrade Assistant to upgrade the Oracle Internet Directory and Oracle Portal schemas to 11g.</p>
Oracle WebLogic Server Installer	<p>Before you can upgrade to Oracle Fusion Middleware, you must install an equivalent Oracle Fusion Middleware 11g environment. Your first step in installing your new Oracle Fusion Middleware environment is to install the Oracle WebLogic Server software on disk.</p> <p>With the Oracle WebLogic Server installer, you create a new Middleware home. Later, you use the software in the Middleware home to configure a new, custom Oracle WebLogic Server domain for your new Oracle Fusion Middleware software.</p>	<p>You can optionally install the following components in "standalone mode" without an Oracle WebLogic Server Middleware home:</p> <ul style="list-style-type: none"> ■ Oracle Internet Directory ■ Oracle Virtual Directory ■ Oracle HTTP Server ■ Oracle Web Cache <p>For standalone components, there is no need to run the Oracle WebLogic Server installer.</p>
<p>Oracle software installers:</p> <ul style="list-style-type: none"> ■ Oracle SOA Suite Installer ■ Oracle WebCenter Installer ■ Application Developer Installer ■ Oracle WebCenter Content Installer 	<p>Use the Oracle software installers to install the Oracle SOA Suite software inside the Middleware home you created with the Oracle WebLogic Server installer.</p>	<p>The Oracle software installers for these components only install the software and are not used to configure a domain.</p>
Oracle Fusion Middleware Configuration Wizard	<p>Use the configuration wizard to configure a new Oracle WebLogic Server domain and to deploy the new software.</p>	<p>In certain scenarios, you can also extend an existing Oracle WebLogic Server domain to support additional Oracle Fusion Middleware software.</p> <p>For more information, see the installation guide for your Oracle Fusion Middleware software suite.</p>

Table 2–6 (Cont.) Summary of the Tools Required When Upgrading to Oracle Fusion Middleware 11g

Upgrade Tool	Description	Notes and Considerations
<p>Oracle Installation and Configuration Tools:</p> <ul style="list-style-type: none"> ■ Oracle Identity Management Installation and Configuration Tool ■ Oracle Portal, Forms, Reports, and Discoverer Installation and Configuration Tool ■ Oracle Web Tier Installation and Configuration Tool 	<p>Use these tools to install the following Oracle Fusion Middleware software suites:</p> <ul style="list-style-type: none"> ■ Oracle Identity Management ■ Oracle Portal, Forms, Reports, and Discoverer ■ Oracle Web Tier <p>These tools are different from the other installers in the fact that you can you can also use this tool to configure a Oracle WebLogic Server domain for the Oracle Fusion Middleware components.</p>	<p>To be sure you are running the latest Oracle Fusion Middleware software, Oracle recommends that you use these installers as follows:</p> <ol style="list-style-type: none"> 1. Install the software only and create the Oracle home in the existing Middleware home. 2. Download and install the latest Oracle Fusion Middleware patch set. 3. Run the installation and configuration tool from the <code>ORACLE_HOME/common/bin</code> directory and configure the domain. 4. Run the Upgrade Assistant to upgrade the configuration settings from your 10g environment to the newly configured 11g environment.
<p>Oracle Fusion Middleware Upgrade Assistant</p>	<p>After you install your new Oracle Fusion Middleware components, use this tool to automate many of the upgrade steps for the following component software:</p> <ul style="list-style-type: none"> ■ Oracle B2B and Oracle BAM schemas ■ Oracle Portal, Forms, Reports, and Discoverer middle tiers and the Oracle Portal and Oracle BI Discoverer schemas ■ Oracle Internet Directory middle tier and (ODS) schema. ■ Oracle HTTP Server and Oracle Web Cache middle-tier configurations ■ Oracle WebCenter Content and Oracle WebCenter Content: Records middle tiers and schemas ■ Oracle Single Sign-On 10g to Oracle Access Manager 11g 	<p>Refer to the appropriate upgrade documentation for specific information on how and when to use the Oracle Fusion Middleware Upgrade Assistant as part of your overall upgrade process.</p>
<p>Oracle JDeveloper</p>	<p>Use this tool to automate the upgrade of Oracle SOA Suite, Oracle WebCenter, and Oracle ADF applications.</p> <p>When you open an application in Oracle JDeveloper 11g, it automatically converts specific elements of the applications so they can be compiled and deployed on Oracle Fusion Middleware 11g.</p>	<p>For more information, refer to the <i>Oracle Fusion Middleware Upgrade Guide for Oracle SOA Suite, WebCenter Portal, and ADF</i>.</p>
<p>SmartUpgrade</p>	<p>Use this tool, which is available as a command-line tool and Oracle JDeveloper extension, to help you upgrade your Java EE applications so they can be deployed on Oracle WebLogic Server.</p>	<p><i>Oracle Fusion Middleware SmartUpgrade User's Guide</i></p>

Planning an Enterprise Deployment Upgrade

This chapter provides an overview of the steps required to upgrade an Oracle Application Server 10g enterprise deployment.

The information in this chapter should be considered after you review the general planning guidelines in [Chapter 1, "Developing an Upgrade Strategy"](#).

This chapter contains the following sections:

- [What Is an Enterprise Deployment?](#)
- [Upgrading the Databases Where Your Metadata Repositories Are Installed](#)
- [Upgrading Your Identity Management Components](#)
- [Upgrading Your Application Server Middle-Tier Installations](#)
- [System Availability During an Enterprise Deployment Upgrade](#)

3.1 What Is an Enterprise Deployment?

An enterprise deployment typically consists of more than just the application server middle tiers, which are used to deploy your applications.

Instead, an enterprise deployment typically consists of the following:

- The databases that support the application server and Identity Management components, as well as your deployed applications.
- One or more application server installations, which consists of the middle-tier system components and the applications you develop and deploy on the application server tier.
- Identity Management installations, which provides security and directory services for the Oracle Fusion Middleware components and the applications you deploy.

For more specific information about typical enterprise deployments supported by Oracle Fusion Middleware 11g, refer to the following documentation resources:

- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle SOA Suite*
- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle WebCenter Portal*
- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle Identity Management*
- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle WebCenter Content*

The goal of an Oracle Fusion Middleware upgrade is to upgrade your entire enterprise to Oracle Fusion Middleware 11g.

3.2 Upgrading the Databases Where Your Metadata Repositories Are Installed

Each release of Oracle Fusion Middleware has specific requirements for database features and capabilities. As a result, before you begin any upgrade, you should review the databases you are currently using and verify that they are supported by the Oracle Fusion Middleware software you are about to install.

For information on the supported database versions, as well as the guidelines and procedures for upgrading your databases, refer to [Chapter 5, "Upgrading and Preparing Your Databases"](#).

3.3 Upgrading Your Identity Management Components

Depending upon the Oracle Identity Management components you are using in your environment, the Oracle Identity Management upgrade involves upgrading one or more of these components:

- Oracle Internet Directory
- Oracle Single Sign-On
- Oracle Directory Integration Platform
- Oracle Identity Federation
- Oracle Virtual Directory
- Oracle Access Manager
- Oracle Adaptive Access Manager
- Oracle Identity Navigator
- Oracle Authorization Policy Manager

The Oracle Identity Management components can be upgraded independently of the application server installations. In many cases, a single Oracle Identity Management environment can support multiple application server installations. As a result, you might choose to upgrade all of your middle tiers first and then upgrade your Oracle Identity Management environment.

For example, if you upgrade your Oracle SOA Suite 10g Release 3 (10.1.3) components to 11g, then you can continue to use your existing Oracle Identity Management 10g components until there is an opportunity to upgrade your centralized Oracle Identity Management environment.

For more information, refer to the following:

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

3.4 Upgrading Your Application Server Middle-Tier Installations

Upgrading the application server installations in your environment involves not only upgrading the application servers and the system components that comprise the middle tiers, but also upgrading:

- The Oracle Fusion Middleware database schemas that are required for your Oracle Fusion Middleware components
- The custom applications you have deployed on the application servers

- The Web tier components (Oracle HTTP Server and Oracle Web Cache) that route requests to the middle tiers

Depending upon the types of applications you have, the order that you upgrade these elements of the application server installation will vary. For example:

- In an Oracle SOA Suite environment, you should install and configure your 11g environment first, and then upgrade your applications in Oracle JDeveloper. This allows you to set up your 11g data source and application server connections in Oracle JDeveloper before you upgrade the applications.
- In a Java EE environment, where you are not using Oracle SOA Suite, WebCenter, or Oracle ADF, you can upgrade the applications first. Then you can configure an environment with the resources and services required by each application after the applications are modified.

Refer to the upgrade guide for your specific Oracle Fusion Middleware software environment for more information:

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

3.5 System Availability During an Enterprise Deployment Upgrade

In general, you can upgrade your Oracle Identity Management and application server environments independently. In other words, you can keep your Oracle Identity Management components up and running while you upgrade your application server installations.

However, when you start the process of upgrading your application server installations, there are specific requirements for each type of middle tier that will determine whether or not you will have any downtime during the upgrade process.

For example, when you upgrade your Oracle SOA Suite middle tiers, you must also upgrade the metadata repository that contains the Oracle SOA Suite schemas and the custom Oracle SOA Suite applications you have developed and deployed on the Oracle SOA Suite middle tier.

Backup Strategies for Upgrade

Before you start the upgrade process, you should have a clear understanding of the backup requirements. These requirements vary somewhat, depending upon whether you are upgrading a middle tier, an MDS Repository, or Oracle Identity Management Oracle home.

The following sections provide more information:

- [Backup Strategies for Middle Tier Upgrades](#)
- [Backup Strategies for Metadata Repository Upgrades](#)
- [Backup Strategies for Identity Management Upgrades](#)

4.1 Backup Strategies for Middle Tier Upgrades

When you upgrade a middle tier installation, you install the Oracle Fusion Middleware 11g Release 1 (11.1.1) Oracle Application Server Suite, Oracle SOA Suite, or Oracle WebCenter Suite into a new Oracle home directory and then use the Oracle Fusion Middleware Upgrade Assistant to copy your configuration data from the original Oracle Application Server 10g source Oracle home to the new Oracle Fusion Middleware 11g directories.

The upgrade process alters only the 11g Release 1 (11.1.1) destination directories; the source Oracle home is always left unchanged. As a result, there is no need to implement additional or new backup strategies for the source Oracle home, other than those you already use to protect your application server data.

On the other hand, you may want to create a backup of the new 11g Release 1 (11.1.1) destination middle-tier environment before you run the Upgrade Assistant. This backup will allow you to restore to a pre-upgrade (that is, newly installed) state. Restoring from backups is an efficient alternative to reinstalling the entire instance, in the event that upgrade results are unsatisfactory.

A useful 11g Release 1 (11.1.1) backup would include both the Oracle home and any Oracle instances created during or after the 11g Release 1 (11.1.1) installation. You can use the Oracle Fusion Middleware Backup and Recovery software to perform this backup.

For more information, see the *Oracle Fusion Middleware Administrator's Guide* for instructions on backing up and restoring your Oracle Fusion Middleware environment.

4.2 Backup Strategies for Metadata Repository Upgrades

In most cases, when you upgrade the metadata repository, you must first upgrade the database that hosts the repository to a database version supported by Oracle Fusion Middleware 11g Release 1 (11.1.1).

For more information, see [Chapter 5, "Upgrading and Preparing Your Databases"](#).

The following sections provide additional information:

- [Backing Up the Database Before Upgrading the Database Version](#)
- [Backing Up the Database Before Upgrading the Schemas in the OracleAS Metadata Repository](#)
- [Locating the Oracle Database Backup Documentation](#)

4.2.1 Backing Up the Database Before Upgrading the Database Version

As with any database upgrade, standard procedure dictates that you back up your database before you upgrade to a new database version.

Note that you should also consider backing up the database again, after you have successfully upgraded to a new database version. This way, your backup will reflect the newly upgraded state of the database.

For more information, see the Oracle Database documentation for your platform and database version.

4.2.2 Backing Up the Database Before Upgrading the Schemas in the OracleAS Metadata Repository

Depending upon the Oracle Application Server components you are upgrading, you should be sure to perform a backup of the database before upgrading the component schemas stored in the database.

For some components, the schema upgrade is performed "in-place," which means that the Upgrade Assistant alters the component schemas that exist in the database. It does not create a new copy of the schemas or the data they contain. In an "in-place" upgrade, the schema changes made by the Upgrade Assistant are irreversible.

For example, the Oracle Portal schema upgrade and the Oracle Internet Directory schema upgrade are in-place upgrades. The Oracle BI Discoverer, Oracle BAM, and Oracle B2B schemas are not.

Before you run the Upgrade Assistant to perform an "in-place" upgrade of the component schemas in the database, you should perform a backup of the database that contains the schemas. This backup will allow you to restore your database to its original state if necessary.

4.2.3 Locating the Oracle Database Backup Documentation

The Oracle database documentation library contains extensive information about database backup features, strategies, and procedures. Refer the documentation library for your database version for more information.

For example:

- If you are using Oracle Database 10g Release 2 (10.2), then see the *Oracle Database Backup and Recovery Quick Start Guide* in the Oracle Database 10g Release 2 (10.2) documentation library.

- If you are using Oracle Database 11g, then see the *Oracle Database Backup and Recovery User's Guide* in the Oracle Database 11g documentation library.

The Oracle Database documentation libraries are available on the Oracle Technology Network (OTN):

<http://www.oracle.com/technology/documentation/>

4.3 Backup Strategies for Identity Management Upgrades

When you upgrade an Oracle Identity Management installation, you install the Oracle Identity and Access Management Suite into new Oracle home and Oracle instance directories. You then use the Oracle Fusion Middleware Upgrade Assistant to perform two distinct tasks:

1. Copy your configuration data from the Oracle Identity Management source Oracle home to the new 11g Release 1 (11.1.1) Oracle Identity Management destination directories.
2. Upgrade the Oracle Identity Management schemas in the MDS Repository

Refer to the following backup and recovery recommendations when upgrading an Oracle Identity Management installation:

- [Backup Strategies for the Oracle Identity Management Middle Tier](#)
- [Backup Strategies for the Oracle Identity Management Schemas](#)
- [Additional Backup Strategies When Upgrading Oracle Identity Management](#)

4.3.1 Backup Strategies for the Oracle Identity Management Middle Tier

During the first part of the upgrade process, the Upgrade Assistant alters only the 11g Release 1 (11.1.1) directories; the source Oracle Identity Management Oracle home is left unchanged. As a result, there is no need to implement additional or new backup strategies for the source Oracle home, other than those you already use to protect your application server data.

4.3.2 Backup Strategies for the Oracle Identity Management Schemas

During the second part of the upgrade process, the Upgrade Assistant upgrades the Oracle Identity Management schemas to 11g Release 1 (11.1.1). This upgrade of the schemas is performed "in place," which means that the Upgrade Assistant alters the Oracle Identity Management schemas that exist in the database. It does not create a new copy of the schemas or the data they contain. The schema changes made by the Upgrade Assistant are irreversible.

As a result, before you run the Upgrade Assistant to upgrade the schemas in the OracleAS Metadata Repository, you should perform a backup of the database that contains the schemas. This backup will allow you to restore your database to its original state before you ran the Upgrade Assistant.

See Also: *Oracle Fusion Middleware Administrator's Guide* for information about procedures and tools for backing up and recovering your Oracle Fusion Middleware installations

Oracle Database Backup and Recovery Basics in the Oracle Database documentation library for information and guidelines for backing up your Oracle database

4.3.3 Additional Backup Strategies When Upgrading Oracle Identity Management

Immediately after you complete the installation of the Oracle Identity and Access Management Suite, and before you run the Oracle Fusion Middleware Upgrade Assistant, you may want to create a backup of the newly installed 11g Release 1 (11.1.1) destination middle-tier environment. This backup will allow you to restore to a pre-upgrade (that is, newly installed) state. Restoring from backups is an efficient alternative to reinstalling the entire instance, in the event that upgrade results are unsatisfactory.

A useful 11g Release 1 (11.1.1) backup would include both the Oracle home and any Oracle instances created during or after the 11g Release 1 (11.1.1) installation. You can use the Oracle Fusion Middleware Backup and Recovery software to perform this backup.

See Also: *Oracle Fusion Middleware Administrator's Guide* for instructions on backing up and restoring your Oracle Fusion Middleware environment

4.4 Backup Strategies After Upgrading Your Oracle Application Server Instances

After you have completed and verified the upgrade of your Oracle Fusion Middleware environment, consider backing up your Oracle Fusion Middleware 11g Release 1 (11.1.1) installations so you can easily restore your environment to the newly upgraded state.

In particular, consider backing up the database that hosts your upgraded Oracle Fusion Middleware schemas immediately after the upgrade process. After this initial post-upgrade backup, you can begin your regularly scheduled database backup routine. The initial backup after the upgrade will ensure that you can restore your environment to the newly upgraded 11g Release 1 (11.1.1) state without repeating the upgrade process.

In addition, after you have moved your development or deployment activities to the newly upgraded Oracle Fusion Middleware installations, be sure to modify your regular backup routine to include the new Oracle Fusion Middleware directories, including the Oracle Fusion Middleware Oracle home directories and Oracle instance directories.

Upgrading and Preparing Your Databases

This chapter contains the following sections:

- [Task 1: Review the Oracle Fusion Middleware Metadata Repository Database Requirements](#)
- [Task 2: Determine Your Current Database Version](#)
- [Task 3: Upgrade the Database to a Version Supported by Oracle Fusion Middleware 11g](#)
- [Task 4: Check for Invalid Objects in the Upgraded Database](#)
- [Task 5: Relocate the Database Datafiles, Control Files, and Log Files](#)
- [Task 6: Determine Whether Any Additional Database Patches Are Required for Upgrade to Oracle Fusion Middleware 11g](#)

5.1 Task 1: Review the Oracle Fusion Middleware Metadata Repository Database Requirements

The following sections contain information about supported database versions for Oracle Fusion Middleware Oracle Spatial GeoRaster component schemas:

- [Summary of the Database Requirements for Oracle Fusion Middleware 11g Release 1 \(11.1.1\)](#)
- [Obtaining the Latest Oracle Application Server Database Requirements](#)

5.1.1 Summary of the Database Requirements for Oracle Fusion Middleware 11g Release 1 (11.1.1)

It is important that you review the very latest information on database requirements for Oracle Fusion Middleware before proceeding with your database upgrade. For more information, see [Section 5.1.2, "Obtaining the Latest Oracle Application Server Database Requirements"](#).

At the time this guide was published, Oracle Fusion Middleware 11g supported the following minimum Oracle database versions. As a result, before you upgrade your Oracle Application Server 10g environment to Oracle Fusion Middleware 11g, you must first upgrade your Oracle database to one of these versions:

- Oracle Database 10g Release 2 (10.2.0.4) or later
- Oracle Database 11g Release 1 (11.1.0.7) or later
- Oracle Database 11g Release 2 (11.2.0.1.0) or later

Note that in addition to the Oracle database versions listed here, the Oracle WebCenter Content also supports the Microsoft SQL Server and IBM DB2 databases. For more information, see the *Oracle Fusion Middleware Upgrade Guide for Oracle WebCenter Content*.

5.1.2 Obtaining the Latest Oracle Application Server Database Requirements

The Oracle Fusion Middleware 11g software requirements included in this guide were accurate at the time this manual was published.

For the most up-to-date information about the specific database versions supported for Oracle Fusion Middleware 11g, as well as other important system requirements, see the *Oracle Fusion Middleware System Requirements and Specifications* on the Oracle Technology Network (OTN).

5.2 Task 2: Determine Your Current Database Version

Before you review the procedures in this chapter, you must first be sure you have identified the version of the database that currently hosts your schemas.

To determine the version of your Oracle database, query the `PRODUCT_COMPONENT_VERSION` view, as follows:

```
prompt> sqlplus "sys/password as sysdba"  
SQL> SELECT version FROM v$instance;
```

In this example, replace *password* with the password for the SYS database user.

To determine the version of your third-party database, refer to your third-party database documentation.

5.3 Task 3: Upgrade the Database to a Version Supported by Oracle Fusion Middleware 11g

If you determine that the database version you are currently using is not supported by Oracle Fusion Middleware, then you must upgrade your database to a supported version.

If you are using a supported third-party database, such as IBM DB2, then refer to your third-party database documentation for information on upgrading your database.

The following sections summarize how to upgrade your Oracle database to a version supported by Oracle Fusion Middleware 11g:

- [Installing the Oracle Text Database Option \(Required for Oracle Portal\)](#)
- [Determining Whether Your Database is a Seed Database or OracleAS RepCA Database](#)
- [Upgrading to Oracle Database 10g Release 2 \(10.2.0.4\)](#)
- [Upgrading to Oracle Database 11g](#)
- [Upgrading an Oracle Application Server 10g Seed Database](#)

5.3.1 Installing the Oracle Text Database Option (Required for Oracle Portal)

When you upgrade your Oracle database to a supported version for Oracle Fusion Middleware 11g, note that if you are using Oracle Portal, then you must be sure that

the Oracle Text database option is installed and configured as part of the database upgrade process.

Specifically:

- If you are upgrading to Oracle Database 10g Release 2 (10.2.0.4), then you must install the Oracle Text option from the Oracle Database Companion CD-ROM after you install 10g Release 2 (10.2.0.1) and before you apply the Oracle Database 10g Release 2 (10.2.0.4) patch set.

For more information, refer to the Oracle Database 10g installation documentation.

- If you are upgrading to Oracle Database 11g (11.1.0.7), then you must install Oracle Text from the Oracle Database Example CD-ROM after you install Oracle Database 11g (11.1.0.1) and before you apply the Oracle Database 11g (11.1.0.7) patch set.

For more information, refer to the Oracle Database 11g installation documentation.

5.3.2 Determining Whether Your Database is a Seed Database or OracleAS RepCA Database

As you begin the upgrade process, it is important to know how your OracleAS Metadata Repository was installed into your database. Specifically, consider the following to determine the type of OracleAS Metadata Repository database you are upgrading. Each type of OracleAS Metadata Repository database is upgraded differently:

- If you used the Oracle Application Server installation procedure to create a new database for the OracleAS Metadata Repository, refer to the information in this section for information about upgrading the seed database to one supported by Oracle Fusion Middleware 11g.

This type of database is referred to as a seed database, because the database was created automatically by the Oracle Application Server installation procedure specifically for hosting the OracleAS Metadata Repository.

If you created the seed database with 10g Release 2 (10.1.2), then the database is initially Oracle Database 10g (10.1.0.4). If you then apply the 10g Release 2 (10.1.2.3) patch set, then the database is upgraded to Oracle Database 10g (10.1.0.5).

If you created the Metadata Repository using Oracle Identity Management 10g (10.1.4), then the database version will be Oracle Database 10g (10.1.0.5).

- If you used OracleAS Metadata Repository Creation Utility to install the OracleAS Metadata Repository in an existing database, you must upgrade the database using the standard database upgrade instructions. For more information, see [Section 5.3.3, "Upgrading to Oracle Database 10g Release 2 \(10.2.0.4\)"](#) or [Section 5.3.4, "Upgrading to Oracle Database 11g"](#).

This type of OracleAS Metadata Repository database is referred to as an OracleAS RepCA database, because you used OracleAS RepCA (the Metadata Repository Creation Assistant) to install the repository in an existing database that you installed and configured yourself.

5.3.3 Upgrading to Oracle Database 10g Release 2 (10.2.0.4)

For information about upgrading your Oracle Application Server to Oracle Database 10g Release 2 (10.2.0.4), refer to the following sections:

- [Documentation Resources When Upgrading to Oracle Database 10g Release 2 \(10.2.0.4\)](#)
- [Typical Upgrade Path to Oracle Database 10g Release 2 \(10.2.0.4\)](#)

5.3.3.1 Documentation Resources When Upgrading to Oracle Database 10g Release 2 (10.2.0.4)

For complete instructions for upgrading to the latest version of Oracle Database 10g Release 2 (10.2), refer to the following:

- *Oracle Database Upgrade Guide* in the Oracle Database 10g Release 2 (10.2) documentation library on the Oracle Technology Network (OTN):

<http://www.oracle.com/pls/db102/homepage>

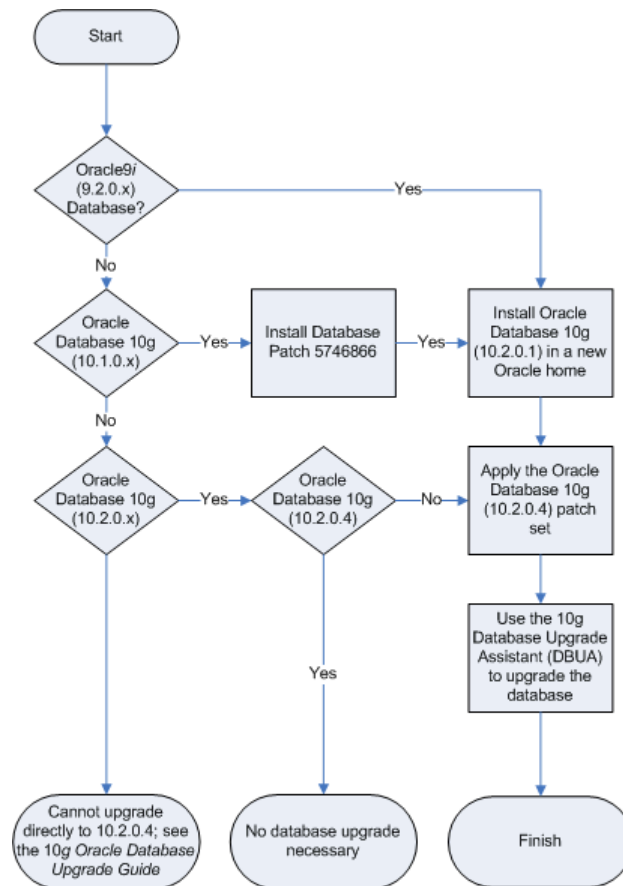
In particular, refer to the section, "Determine the Upgrade Path to the New Oracle Database 10g Release" in the Oracle Database 10g Release 2 (10.2.0.4) *Oracle Database Upgrade Guide* for specific information about upgrading from any supported Oracle Database version.

- [Section 5.3.5.1, "About Upgrading a 10g Seed Database to Oracle Database 10g Release 2 \(10.2.0.4\)"](#)

5.3.3.2 Typical Upgrade Path to Oracle Database 10g Release 2 (10.2.0.4)

For the purposes of this guide, [Figure 5–1](#) provides a summary of the steps you will likely have to take to upgrade to Oracle Database 10g Release 2 (10.2.0.4).

This example is designed to serve as an example only. Refer to the database documentation for specific instructions.

Figure 5–1 Typical Upgrade Path to Oracle Database 10g Release 2 (10.2.0.4)

5.3.4 Upgrading to Oracle Database 11g

The following sections provide information about upgrading your Oracle Application Server 10g database to Oracle Database 11g:

- [Documentation Resources When Upgrading to Oracle Database 11g](#)
- [Typical Upgrade Path to the Latest Oracle Database 11g \(11.1\)](#)

5.3.4.1 Documentation Resources When Upgrading to Oracle Database 11g

To upgrade your 10g Release 2 (10.1.2) or 10g (10.1.4) database to Oracle Database 11g, refer to the

- The Oracle Database installation guide for your platform and the *Oracle Database Upgrade Guide*, which are available in the Oracle Database 11g documentation library on the Oracle Technology Network (OTN):

<http://www.oracle.com/technology/documentation>

In particular, refer to the section, "Determine the Upgrade Path" in the Oracle Database 11g (11.1) *Oracle Database Upgrade Guide* for specific information about upgrading from any supported Oracle Database version.

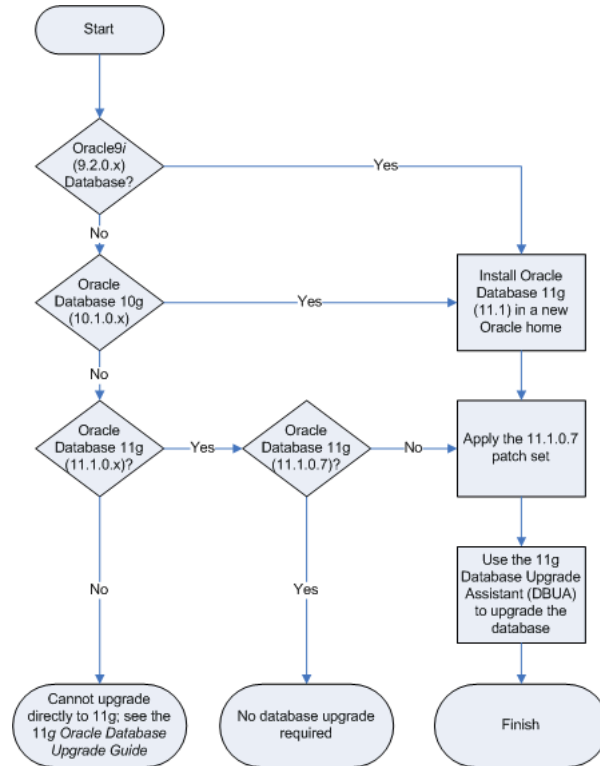
- If your database is a seed database, then refer to [Section 5.3.5.2, "About Upgrading a 10g Seed Database to Oracle Database 11g"](#)

5.3.4.2 Typical Upgrade Path to the Latest Oracle Database 11g (11.1)

Figure 5–1 provides a summary of the steps you will likely have to take to upgrade to Oracle Database 11g Release 1 (11.1.0.7).

Note that this illustration is a summary of the steps that are likely required to upgrade to Oracle Database 11g. This is provided as an example only. For more specific information, refer to the resources listed in Section 5.3.4.1, "Documentation Resources When Upgrading to Oracle Database 11g".

Figure 5–2 Typical Upgrade Path to Oracle Database 11g Release 1 (11.1.0.7)



5.3.5 Upgrading an Oracle Application Server 10g Seed Database

Refer to the following sections for information specific to upgrading the seed database to a version supported by Oracle Fusion Middleware 11g.

- [About Upgrading a 10g Seed Database to Oracle Database 10g Release 2 \(10.2.0.4\)](#)
- [About Upgrading a 10g Seed Database to Oracle Database 11g](#)
- [Modifying the ias.properties File After Upgrading a Seed Database](#)

Note: The instructions in this section apply only to seed databases and not to OracleAS RepCA databases. For more information, see Section 5.3.2, "Determining Whether Your Database is a Seed Database or OracleAS RepCA Database".

5.3.5.1 About Upgrading a 10g Seed Database to Oracle Database 10g Release 2 (10.2.0.4)

When you upgrade your Oracle Application Server 10g seed database to Oracle Database 10g Release 2 (10.2.0.4), refer to the following documentation resources for more information:

- The Oracle Database installation guide for your platform and the *Oracle Database Upgrade Guide*, which are available in the Oracle Database 10g documentation library on the Oracle Technology Network (OTN):
<http://www.oracle.com/technology/documentation/>
- [Section 5.3.3, "Upgrading to Oracle Database 10g Release 2 \(10.2.0.4\)".](#)
- [Note.376689.1 - Upgrading the Application Server 10g \(10.1.2 | 10.1.4\) Seeded Database from 10.1 to 10.2](#), which is available on My Oracle Support.

5.3.5.2 About Upgrading a 10g Seed Database to Oracle Database 11g

Refer to the following information before upgrading your Oracle Application Server 10g seed database to Oracle Database 11g:

- [Oracle Database 11g Considerations for Oracle Application Server 10g Release 2 \(10.1.2\) Users](#)
- [Oracle Database 11g Considerations for Oracle Application Server 10g \(10.1.4\) Identity Management instance Users](#)

5.3.5.2.1 Oracle Database 11g Considerations for Oracle Application Server 10g Release 2 (10.1.2) Users Before you upgrade your Oracle Application Server 10g Release 2 (10.1.2) seed database to Oracle Database 11g:

1. If you are using Oracle Portal, then upgrade to Oracle Portal 10g (10.1.4).
For more information, see the information available on the Oracle Portal Upgrade page on the Oracle Technology Network (OTN):
<http://www.oracle.com/technology/products/ias/portal/upgrade.html>
2. Apply the Oracle Application Server 10g Release 2 (10.1.2.3) patch set to your Oracle Application Server environment.
This patch set is especially important if you are using Oracle Portal or Oracle Internet Directory as part of your 10g Release 2 (10.1.2) environment.
You can download the patch set (patch set number 5983622) from My Oracle Support.

5.3.5.2.2 Oracle Database 11g Considerations for Oracle Application Server 10g (10.1.4) Identity Management instance Users Before you upgrade your 10g (10.1.4) seed database to Oracle Database 11g, be sure to apply the Oracle Application Server 10g (10.1.4.3) patch set.

You can download the patch set (patch set number 7215628) from My Oracle Support.

5.3.5.3 Modifying the `ias.properties` File After Upgrading a Seed Database

After you upgrade a seed database to a supported version, perform the following steps:

1. Locate the following file in the Oracle Application Server Oracle home:
`ORACLE_HOME/config/ias.properties`

2. Open the `ias.properties` file in a text editor and locate the following entry:
`InstallType = Infrastructure`
3. Change the value of the `InstallType` property to `Infrastructure_ID`:
`InstallType = Infrastructure_ID`

5.4 Task 4: Check for Invalid Objects in the Upgraded Database

Before you upgrade the schemas in your database, it is good practice to check to make sure that none of the database objects required by Oracle Fusion Middleware are invalid:

1. Connect to the OracleAS Metadata Repository database.

For example:

```
ORACLE_HOME/bin/sqlplus "connect / as sysdba"
```

2. When prompted, enter the SYS password.
3. Issue the following SQL command:

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

The query should not return any database objects that have an Oracle Application Server component schema (such as PORTAL, WIRELESS, and so on) in the 'owner' column.

If you find any invalid objects, run the `utlrp.sql` script from the SQL*Plus command line to recompile the invalid objects:

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

For more information about invalid objects, see "About Dependencies Among Schema Objects" in the *Oracle Database Administrator's Guide*.

5.5 Task 5: Relocate the Database Datafiles, Control Files, and Log Files

By default, after you upgrade your database, the datafiles, control files, and log files associated with the database remain in their original location. For example, if you previously used Oracle Application Server 10g installer to upgrade a Metadata Repository seed database, the datafiles for the Metadata Repository database remain in the source Oracle home.

As a result, Oracle recommends that if you have not done so already, you relocate these files as a safeguard against inadvertently deleting them (for example, by deleting or decommissioning the entire source Oracle home directory tree). In addition, there may be performance benefits to moving the database files outside of the source Oracle home.

For more information, refer to "Renaming and Relocating Datafiles" in the *Oracle Database Administrator's Guide*. The documentation library for your version of the Oracle Database can be found on the Oracle Technology Network (OTN):

<http://www.oracle.com/technology/documentation/>

5.6 Task 6: Determine Whether Any Additional Database Patches Are Required for Upgrade to Oracle Fusion Middleware 11g

Potential interoperability and upgrade issues can be avoided by making sure you have applied the latest Oracle Application Server 10g patch sets, and that you have reviewed the list of recommended patches that are designed to help you avoid any problems during upgrade.

For more information, see the Upgrade chapter of the Release Notes for your platform. For example, if you are using a Linux operating system, refer to "Patches Required to Address Specific Upgrade and Compatibility Requirements" in the *Oracle Fusion Middleware Release Notes for Linux x86*.

For additional information about database patching requirements, see "Review System Requirements and Specifications" in the *Oracle Fusion Middleware Installation Planning Guide*.

A

Using the Upgrade Assistant Command-Line Interface

This chapter describes how to run the Oracle Fusion Middleware Upgrade Assistant from the command-line interface.

By default, the upgrade documentation describes how to use the graphical user interface to upgrade your Oracle Application Server 10g components to Oracle Fusion Middleware 11g. However, you can use the command-line interface, documented in this appendix, to automate the upgrade process with operating system scripts or to run the Upgrade Assistant remotely in a terminal window.

This chapter contains the following sections:

- [Invoking the Graphical User Interface](#)
- [Getting Help on the Upgrade Assistant Command-Line Options](#)
- [Using the Upgrade Assistant Command Line to Upgrade a Middle Tier](#)
- [Using the Upgrade Assistant Command Line to Upgrade the Oracle SOA Suite Schemas](#)
- [Using the Upgrade Assistant Command Line to Upgrade the Oracle Portal and Oracle BI Discoverer Schemas](#)
- [Using the Upgrade Assistant Command Line to Upgrade Oracle Identity Management](#)
- [Using the Upgrade Assistant Command Line to Upgrade Oracle WebCenter Content](#)
- [Using the Upgrade Assistant Command Line to Upgrade Oracle Data Integrator](#)
- [Using the Upgrade Assistant Command Line to Upgrade Oracle Business Intelligence](#)
- [Using the Upgrade Assistant Command Line to Verify an Upgraded Environment](#)

A.1 Invoking the Graphical User Interface

The following arguments can be used when you launch the Upgrade Assistant graphical user interface:

On Windows systems:

```
ORACLE_HOME\bin\ua.bat  
[-logLevel log_level]
```

On UNIX systems:

```
ORACLE_HOME/bin/ua
  [-logLevel log_level]
  [-invPtrLoc inventory_location]
```

Refer to [Table A-1](#) for a description of the command line arguments available when you are invoking the Upgrade Assistant graphical user interface (GUI).

Table A-1 Summary of the Upgrade Assistant Command-Line Arguments When Launching the Graphical User Interface

Argument	Description
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ▪ NOTIFICATION ▪ WARNING ▪ ERROR ▪ INCIDENT_ERROR ▪ TRACE The default setting if you do not provide this argument is NOTIFICATION.
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.2 Getting Help on the Upgrade Assistant Command-Line Options

At any time, you can use the following command to display a list of the options available from the Upgrade Assistant command line:

- On Windows systems:


```
ORACLE_HOME\bin\ua.bat -help
```
- On UNIX systems:


```
ORACLE_HOME/bin/ua -help
```

A.3 Using the Upgrade Assistant Command Line to Upgrade a Middle Tier

To use the Upgrade Assistant command line to upgrade a middle tier, enter the following command at the operating system prompt.

For example, you can use the arguments described here to upgrade an Oracle Portal, Forms, Reports, and Discoverer middle tier or a Web tier middle tier:

- On Windows systems:


```
ORACLE_HOME\bin\ua.bat MT
  -sourceHome SOURCE_ORACLE_HOME
  -destInstanceHome ORACLE_INSTANCE
  [-logLevel log_level]
  [-[no]verbose]
  [-[no]silent]
  [-[no]retainPorts]
```

```

[-[no]stopComponents]
[-[no]startComponents]
[-wlsHost wls_host]
[-wlsPort wls_port]
[-wlsUserName wls_user]

```

- On UNIX systems:

```

ORACLE_HOME/bin/ua MT
-sourceHome SOURCE_ORACLE_HOME
-destInstanceHome ORACLE_INSTANCE
[-logLevel log_level]
[-[no]verbose]
[-[no]silent]
[-[no]retainPorts]
[-[no]stopComponents]
[-[no]startComponents]
[-wlsHost wls_host]
[-wlsPort wls_port]
[-wlsUserName wls_user]
[-invPtrLoc inventory_location]

```

Note: The wls (Oracle WebLogic Server) options are not supported when you are running the Upgrade Assistant from a Web Tier Oracle home.

Refer to [Table A-2](#) for a description of the command line arguments available when you are upgrading a middle tier.

Table A-2 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Middle Tier

Argument	Description
-sourcehome <i>SOURCE_ORACLE_HOME</i>	Replace <i>SOURCE_ORACLE_HOME</i> with the full path to the Oracle Application Server 10g Oracle home that you want to upgrade. This is a required argument for middle-tier upgrades.
-destInstanceHome <i>ORACLE_INSTANCE</i>	Replace <i>ORACLE_INSTANCE</i> with the full path to the newly installed Oracle Fusion Middleware 11g Oracle instance. This is a required argument for middle-tier upgrades.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.

Table A–2 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Middle Tier

Argument	Description
-[no]verbose	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <code>-noverbose</code> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <code>-noverbose</code> .
-[no]silent	Use this argument to turn off prompts and user confirmations during the upgrade. The default setting if you do not specify this argument is <code>-nosilent</code> . The Upgrade Assistant will prompt only for passwords.
-[no]retainPorts	Select this option to retain the port numbers used by the source middle tiers. The default setting is <code>-retainPorts</code> . Note: Be sure to refer to "Important Notes When Using the Source Oracle Home Ports in the Destination Oracle Instance" in <i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i> .
-[no]stopComponents	Use this argument to stop all the components in the Source Oracle home before the upgrade process begins. The default setting is <code>-stopComponents</code> . Stopping the source components is necessary to avoid any port conflicts when you select the Use source Oracle home ports in destination option in the GUI or the <code>-retainPorts</code> command-line argument.
-[no]startComponents	If you select this option, then Upgrade Assistant will attempt to start the 11g Oracle instance immediately after the upgrade. To start the components manually after the upgrade, use the <code>-nostartComponents</code> argument. The default setting is <code>-startComponents</code> .
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and <code>weblogic</code> , respectively. These settings default to the values associated with the specified Oracle Fusion Middleware 11g Oracle instance. Note that these arguments are not required or supported when you are upgrading a Web tier Oracle home.
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.4 Using the Upgrade Assistant Command Line to Upgrade the Oracle SOA Suite Schemas

The following sections describe how to use the Upgrade Assistant command line to upgrade the Oracle SOA Suite schemas:

- [Using the Command Line to Upgrade the Oracle B2B Schema](#)
- [Using the Command Line to Upgrade the Oracle Business Activity Monitoring Schema](#)

A.4.1 Using the Command Line to Upgrade the Oracle B2B Schema

To use the Upgrade Assistant command line to upgrade the Oracle B2B schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat B2B
  -targetURL target_database_connect_string
  -targetUserName target_database_user
  -[no]ErrorMode
  -[no]CheckMode
  -[no]UpgradeMode
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua B2B
  -targetURL target_database_connect_string
  -targetUserName target_database_user
  -[no]ErrorMode
  -[no]CheckMode
  -[no]UpgradeMode
```

[Table A-3](#) provides information about the Oracle B2B schema upgrade command-line upgrade options. [Table A-4](#) provides a description of the command-line arguments common to all Oracle SOA Suite and Oracle Portal, Forms, Reports, and Discoverer schema upgrades.

Table A-3 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle B2B Schema

Argument	Description
-targetURL <i>target_database_connect_string</i>	<p>Enter the database connection string for the target database:</p> <ul style="list-style-type: none"> ■ The target database is the database base where the Oracle B2B 11g schema resides. ■ The connection string identifies the host, port, and system identifier (SID) of the target database: <pre>host:port:SID</pre> <p>For example:</p> <pre>dbhost2:1521:schemaDB2</pre> <p>This is a required argument.</p>
-targetUserName <i>target_database_user</i>	<p>Enter the database user name that will be used to connect to the target database. For example, SYS.</p> <p>This is a required argument.</p>

Table A–4 Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades

Argument	Description
-[no]ErrorMode	Use this argument to control whether or not the schema upgrade process stops on the first occurrence of any type of error condition. The default is noErrorMode.
-[no]CheckMode	Use this argument to control whether or not the Upgrade Assistant performs the examination phase of the upgrade. The default is CheckMode.
-[no]UpgradeMode	Use this argument to control whether or not the Upgrade Assistant actually performs the upgrade after performing the examination phase. The default is UpgradeMode.

A.4.2 Using the Command Line to Upgrade the Oracle Business Activity Monitoring Schema

To use the Upgrade Assistant command line to upgrade the Oracle BAM schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat BAM
-targetURL target_db_connection_string
-targetUserName target_db_user_name
-dbHost source_db_host
-dbPort source_db_port
-dbServiceName source_db_service_name
-bamUserName source_bam_schema_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua BAM
-targetURL target_db_connection_string
-targetUserName target_db_user_name
-dbHost source_db_host
-dbPort source_db_port
-dbServiceName source_db_service_name
-bamUserName source_bam_schema_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode
```

Table A–5 describes the command-line arguments required when you are upgrading the Oracle BAM schema.

Table A-5 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle BAM Schema

Argument	Description
-targetURL <i>target_db_connection_string</i>	Enter the database connection string for the target database: <ul style="list-style-type: none"> The target database is the database base where the Oracle B2B 11g schema resides. The connection string identifies the host, port, and system identifier (SID) of the target database: host:port:SID For example: dbhost2:1521:schemaDB2 This is a required argument.
-targetUserName <i>target_db_user_name</i>	Enter the database user name that will be used to connect to the target database. For example, SYS. This is a required argument.
-dbHost <i>source_db_host</i>	Enter the name of the host where the source database resides. This is the database that contains the Oracle BAM 10g schema. This is a required argument.
-dbPort <i>source_db_port</i>	Enter the listening port of the source database (for example, 1521). This is the database that contains the Oracle BAM 10g schema. This is a required argument.
-dbServiceName <i>source_db_service_name</i>	Enter the service name of the source database. For example: schemadb2.example.com This is the database that contains the Oracle BAM 10g schema. This is a required argument.
-bamUserName <i>source_bam_schema_name</i>	Enter the database user associated with the Oracle BAM schema in the source database. This is a required argument.
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A-4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades" .

A.5 Using the Upgrade Assistant Command Line to Upgrade the Oracle Portal and Oracle BI Discoverer Schemas

To use the Upgrade Assistant command line to upgrade the Oracle Portal and Oracle Business Intelligence Discoverer schemas in a Oracle Portal, Forms, Reports, and Discoverer installation, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MR
  -portal
  -discoverer
  -oidHost oid_host
```

```

-oidSslPort oid_ssl_port
-schemaName disco_schema_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode

```

- On UNIX systems:

```

ORACLE_HOME/bin/ua MR
-portal
-discoverer
-oidHost oid_host
-oidSslPort oid_ssl_port
-schemaName disco_schema_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode

```

Table A-6 describes the command-line arguments required when you are upgrading the Oracle Portal and Oracle Business Intelligence Discoverer schemas.

Table A-6 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle BAM Schema

Argument	Description
-portal	Use this argument when you are upgrading the Oracle Portal schema. You can use it alone, or with the <code>-discoverer</code> argument if you are upgrading both the Oracle Portal and Oracle Business Intelligence Discoverer schema at the same time.
-discoverer	Use this argument when you are upgrading the Oracle Business Intelligence Discoverer schema. You can use it alone, or with the <code>-portal</code> argument, if you are upgrading both the Oracle Portal and Oracle Business Intelligence Discoverer schema at the same time.
-oidHost <i>oid_host</i>	Enter the name of the host where the Oracle Internet Directory instance resides. This argument is required.
-oidSslPort <i>oid_ssl_port</i>	Enter the secure (SSL) listening port of the Oracle Internet Directory instance. This argument is required.
-schemaName <i>disco_schema_name</i>	Enter the name of the target Oracle Business Intelligence Discoverer 11g schema. This is the name of the schema that you entered when you created the Discoverer schema with the Repository Creation Utility. The 11g schema name usually includes a unique prefix that is used to identify the schema in the database.
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A-4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades".

A.6 Using the Upgrade Assistant Command Line to Upgrade Oracle Identity Management

The following sections describe how to use the Upgrade Assistant command-line interface to upgrade your Oracle Identity Management components:

- [Oracle Internet Directory and Oracle Directory Integration Platform Upgrade Assistant Command-Line Arguments](#)
- [Oracle Access Manager Upgrade Assistant Command-Line Arguments](#)
- [Oracle Adaptive Access Manager Middle-Tier Upgrade Assistant Command-Line Arguments](#)
- [Oracle Adaptive Access Manager Schema Upgrade Assistant Command-Line Arguments](#)

A.6.1 Oracle Internet Directory and Oracle Directory Integration Platform Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade Oracle Internet Directory and Oracle Directory Integration Platform, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat IM
  -sourceHome SOURCE_ORACLE_HOME
  -destInstanceHome ORACLE_INSTANCE
  [-logLevel log_level]
  [-[no]verbose]
  [-[no]silent]
  [-[no]retainPorts]
  [-[no]startComponents]
  [-wlsHost wls_host]
  [-wlsPort wls_port]
  [-wlsUserName wls_user]
  [-dbHost db_host]
  [-dbPort db_port]
  [-dbServiceName db_service]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua IM
  -sourceHome SOURCE_ORACLE_HOME
  -destInstanceHome ORACLE_INSTANCE
  [-logLevel log_level]
  [-[no]verbose]
  [-[no]silent]
  [-[no]retainPorts]
  [-[no]startComponents]
  [-wlsHost wls_host]
  [-wlsPort wls_port]
  [-wlsUserName wls_user]
  [-dbHost oid_db_host]
  [-dbPort oid_db_port]
  [-dbServiceName oid_db_service]
  [-rac db_racspec]
  [-invPtrLoc inventory_location]
```

Refer to [Table A-7](#) for a description of the command line arguments available when you are upgrading Oracle Internet Directory and Oracle Directory Integration Platform.

Table A-7 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading Oracle Internet Directory and Oracle Directory Integration Platform

Argument	Description
-sourcehome <i>SOURCE_ORACLE_HOME</i>	Replace <i>SOURCE_ORACLE_HOME</i> with the full path to the Oracle Application Server 10g Oracle home that you want to upgrade. This is a required argument.
-destInstanceHome <i>ORACLE_INSTANCE</i>	Replace <i>ORACLE_INSTANCE</i> with the full path to the newly installed Oracle Fusion Middleware 11g Oracle instance. This is a required argument.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.
-[no]verbose	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <i>-noverbose</i> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <i>-noverbose</i> .
-[no]silent	Use this argument to turn off prompts and user confirmations during the upgrade. The default setting if you do not specify this argument is <i>-nosilent</i> .
-[no]retainPorts	Select this option to retain the port numbers used by the 10g source Oracle home. The default setting is <i>-retainPorts</i> . Note: Be sure to refer to "Important Notes When Using the Source Oracle Home Ports in the Destination Oracle Instance" in <i>Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer</i> .
-[no]startComponents	If you select this option, then Upgrade Assistant will attempt to start the 11g Oracle instance immediately after the upgrade. To start the components manually after the upgrade, use the <i>-nostartComponents</i> argument. The default setting is <i>-startComponents</i> .
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and <i>weblogic</i> , respectively.

Table A-7 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading Oracle Internet Directory and Oracle Directory Integration Platform

Argument	Description
-dbHost <i>oid_db_host</i> -dbPort <i>oid_db_port</i> -dbServiceName <i>oid_db_service</i>	Use these arguments to enter the host, port, and service name of the database where the Oracle Internet Directory instance resides. For example: schemadb2.example.com These arguments are required for an Oracle Internet Directory or Oracle Identity Federation upgrade only.
-rac <i>db_racspec</i>	On UNIX systems, use this argument to enter the connection details to the nodes in a Real Application Clusters environment. Note this argument is necessary only if you are upgrading Oracle Directory Integration Platform in a Real Application Clusters environment. You must enter a list of the instances in the cluster, in the following format: host:port:instance^host:port:instance^...@service For more information, see "About Specifying Real Application Clusters (RAC) Database Details on the Specify Database Details Screen" in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management</i> .
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.6.2 Oracle Access Manager Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade Oracle Access Manager, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MT -OAM
-propertyFile property_file_path
-dbHost db_host
-dbPort db_port
-dbServiceName db_service
-oidHost oid_host_name
-oidSslPort oid_ssl_port
-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
[-[no]silent]
[-[no]startComponents]
[-[no]oamAllowExternal]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua MT -OAM
-propertyFile property_file_path
-dbHost db_host
```

```

-dbPort db_port
-dbServiceName db_service
-oidHost oid_host_name
-oidSslPort oid_ssl_port
-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
[-[no]silent]
[-[no]startComponents]
[-[no]oamAllowExternal]
[-invPtrLoc inventory_location]

```

Refer to [Table A-8](#) for a description of the command line arguments available when you are upgrading Oracle Access Manager.

Table A-8 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading Oracle Access Manager

Argument	Description
-propertyFile <i>property_file_path</i>	<p>Replace <i>property_file_path</i> with the full path to the Oracle Single Sign-On 10g <i>policy.properties</i> file.</p> <p>If your Oracle Access Manager 11g installation is on a separate host from the Oracle Single Sign-On 10g installation, then you must copy the 10g <i>policy.properties</i> file to a temporary directory on the Oracle Access Manager 11g host. Then specify the path of the <i>policy.properties</i> file located in your temporary folder.</p> <p>This is a required argument.</p>
-dbHost <i>db_host</i>	<p>Replace <i>db_host</i> with the full path to the host of the database where the Oracle Single Sign-On 10g schema is installed.</p> <p>This is a required argument.</p>
-dbPort <i>db_port</i>	<p>Replace <i>db_port</i> with port number of the database where the Oracle Single Sign-On 10g schema is installed.</p> <p>This is a required argument.</p>
-dbServiceName <i>db_service</i>	<p>Replace <i>db_service</i> with the service name of the database where the Oracle Single Sign-On 10g schema is installed.</p> <p>This is a required argument.</p>
-oidHost <i>oid_host_name</i>	<p>Replace <i>oid_host_name</i> with the name of the host where the Oracle Internet Directory server is running.</p> <p>This is a required argument.</p>
-oidSslPort <i>oid_ssl_port</i>	<p>Replace <i>oid_ssl_port</i> with the SSL port of the Oracle Internet Directory instance.</p> <p>This is a required argument.</p>
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	<p>Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain.</p> <p>For example, the port and user name are usually 7001 and <i>weblogic</i>, respectively.</p>

Table A–8 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading Oracle Access Manager

Argument	Description
[-logLevel <i>log_level</i>] [-[no]verbose] [-[no]silent] [-[no]startComponent]	For descriptions of these elements, see Table A–2, "Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Middle Tier" .
[-[no]oamAllowExternal]	Upgrade Oracle Access Manager even if there are external Portal applications. The default is <code>-noOamAllowExternal</code> .
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.6.3 Oracle Adaptive Access Manager Middle-Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade an Oracle Adaptive Access Manager middle tier, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MT -OAAM
  -asaDir asa_directory
  -armDir arm_directory
  -dbType db_type
  -dbConnectString db_connect_string
  -oamUserName oam_user_name
  -wlsHost wls_host
  -wlsPort wls_port
  -wlsUserName wls_user
  [-logLevel log_level]
  [-[no]verbose]
  [-[no]silent]
  [-[no]startComponents]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua MT -OAAM
  -asaDir asa_directory
  -armDir arm_directory
  -dbType db_type
  -dbConnectString db_connect_string
  -oamUserName oam_user_name
  -wlsHost wls_host
  -wlsPort wls_port
  -wlsUserName wls_user
  [-logLevel log_level]
  [-[no]verbose]
  [-[no]silent]
  [-[no]startComponents]
  [[-invPtrLoc <inventory_loc>] ...]
```

Refer to [Table A–9](#) for a description of the command line arguments available when you are upgrading Oracle Adaptive Access Manager.

Table A-9 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an Oracle Adaptive Access Manager Middle Tier

Argument	Description
-asaDir <i>asa_directory</i>	Replace <i>asa_directory</i> with the directory location for Oracle Adaptive Access Manager Adaptive Strong Authenticator Web Application 10g (ASA) application. This is a required argument.
-armDir <i>arm_directory</i>	Replace <i>arm_directory</i> with the directory location for Oracle Adaptive Access Manager Adaptive Risk Manager Web Application 10g (ARM) application. This is a required argument.
-dbType <i>db_type</i>	Replace <i>db_type</i> with the type of database that contains the Oracle Adaptive Access Manager schema. Possible values are: <ul style="list-style-type: none"> ■ Microsoft ■ Oracle This is a required argument.
-dbConnectString <i>db_connect_string</i>	Replace <i>db_connect_string</i> with the database connect string. <ul style="list-style-type: none"> ■ For an Oracle database, use the <i>host:port:SID</i> connection string format. ■ For a Microsoft database, use the following: <i>//host:port:DatabaseName=database_name</i> This is a required argument.
-oaam_UserName <i>oaam_schema_user_name</i>	Replace <i>oaam_schema_name</i> with the name of the database user associated with the OAAM schema.
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and weblogic, respectively.
[-logLevel <i>log_level</i>] [-[no]verbose] [-[no]silent] [-[no]startComponent]	For descriptions of these elements, see Table A-2, "Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Middle Tier" .
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.6.4 Oracle Adaptive Access Manager Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the Oracle Adaptive Access Manager schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat OAAM
  -dbtype db_type
  -dbConnectString db_connect_string
```

```
-dbaUserName dba_user_name
-oaamUserName oaam_user_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua OAAM
-dbtype db_type
-dbConnectionString db_connect_string
-dbaUserName dba_user_name
-oaamUserName oaam_user_name
-[no]ErrorMode
-[no]CheckMode
-[no]UpgradeMode
[[-invPtrLoc <inventory_loc>] ...]
```

Refer to [Table A-10](#) for a description of the command line arguments available when you are upgrading the Oracle Adaptive Access Manager schema.

Table A-10 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle Adaptive Access Manager Schema

Argument	Description
-dbType <i>db_type</i>	Replace <i>db_type</i> with the type of database that contains the Oracle Adaptive Access Manager schema. Possible values are: <ul style="list-style-type: none"> ■ Microsoft ■ Oracle This is a required argument.
-dbConnectionString <i>database_connect_string</i>	Replace <i>database_connect_string</i> with the database connect string. <ul style="list-style-type: none"> ■ For an Oracle database, use the <i>host:port:SID</i> connection string format. ■ For a Microsoft database, use the following: <i>//host:port:DatabaseName=database_name</i> This is a required argument.
-oaam_UserName <i>oaam_schema_user_name</i>	Replace <i>oaam_schema_name</i> with the name of the database user associated with the OAAM schema.
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A-4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades" .
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.7 Using the Upgrade Assistant Command Line to Upgrade Oracle WebCenter Content

The following sections describe how to upgrade the Oracle WebCenter Content components using the Upgrade Assistant command-line interface:

- [Oracle WebCenter Content Middle-Tier Upgrade Assistant Command-Line Arguments](#)
- [Oracle WebCenter Content: Records Middle-Tier Upgrade Assistant Command-Line Arguments](#)
- [WebCenter Content Schema Upgrade Assistant Command-Line Arguments](#)
- [Records Schema Upgrade Assistant Command-Line Arguments](#)

A.7.1 Oracle WebCenter Content Middle-Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade an Oracle WebCenter Content (WebCenter Content) middle tier, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MT -UCM
  -binDir 10g_bindir_directory
  -intradocDir 11g_intradocDir_directory
  -wlsHost wls_host
  -wlsPort wls_port
  -wlsUserName wls_user
  [-logLevel log_level]
  [-[no]verbose]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua MT -UCM
  -binDir 10g_bindir_directory
  -intradocDir 11g_intradocDir_directory
  -wlsHost wls_host
  -wlsPort wls_port
  -wlsUserName wls_user
  [-logLevel log_level]
  [-[no]verbose]
  [-invPtrLoc inventory_location]
```

Refer to [Table A-11](#) for a description of the command line arguments available when you are upgrading WebCenter Content.

Table A-11 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an WebCenter Content Middle Tier

Argument	Description
-binDir 10g_bindir_directory	Replace <i>10g_bindir_directory</i> with the full path to the WebCenter Content 10g binDir directory. This is a required argument.

Table A–11 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an WebCenter Content Middle Tier

Argument	Description
-intradocDir <i>11g_intradocDir_directory</i>	<p>Replace <i>11g_intradocDir_directory</i> with the full path to the Oracle instance directory of the newly installed Oracle WebCenter Content 11g Oracle instance.</p> <p>The path to the Oracle instance directory is saved in the <code>IntradocDir</code> variable in the Oracle Content Server instance.</p> <p>This variable refers to the root directory for configuration and data files specific to a Content Server instance deployed on an Oracle UCM domain.</p> <p>This directory can be located elsewhere, but the default location is <code>DomainHome/ucm/short-product-id</code>.</p> <p>This is a required argument.</p>
-logLevel <i>log_level</i>	<p>Replace <i>log_level</i> with one of the following values:</p> <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE <p>The default setting if you do not provide this argument is NOTIFICATION.</p>
-[no]verbose	<p>Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <code>-noverbose</code> to limit the amount of detail displayed on the screen.</p> <p>The default setting if you do not include this argument is <code>-noverbose</code>.</p>
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	<p>Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain.</p> <p>For example, the port and user name are usually 7001 and <code>weblogic</code>, respectively.</p> <p>These are required arguments.</p>
-invPtrLoc <i>inventory_location</i>	<p>On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host.</p> <p>For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations".</p>

A.7.2 Oracle WebCenter Content: Records Middle-Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade an Oracle WebCenter Content: Records (Records) middle tier, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MT -URM
  -binDir 10g_bindir_directory
  -intradocDir 11g_intradocDir_directory
```

```

-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]

```

- On UNIX systems:

```

ORACLE_HOME/bin/ua MT -URM
-binDir 10g_bindir_directory
-intradocDir 11g_intradocDir_directory
-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
[-invPtrLoc inventory_location]

```

Refer to [Table A-12](#) for a description of the command line arguments available when you are upgrading Records.

Table A-12 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an Records Middle Tier

Argument	Description
-binDir 10g_bindir_directory	Replace <i>10g_bindir_directory</i> with the full path to the Records 10g binDir directory. This is a required argument.
-intradocDir 11g_intradocDir_directory	Replace <i>11g_intradocDir_directory</i> with the full path to the Oracle instance directory of the newly installed Records 11g Oracle instance. The path to the Oracle instance directory is saved in the <code>IntradocDir</code> variable in the Oracle Content Server instance. This variable refers to the root directory for configuration and data files specific to a Content Server instance deployed on an Oracle UCM domain. This directory can be located elsewhere, but the default location is <code>DomainHome/ucm/short-product-id</code> . This is a required argument.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> NOTIFICATION WARNING ERROR INCIDENT_ERROR TRACE The default setting if you do not provide this argument is NOTIFICATION.
-[no]verbose	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <code>-noverbose</code> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <code>-noverbose</code> .

Table A–12 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an Records Middle Tier

Argument	Description
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and <code>weblogic</code> , respectively.
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.7.3 WebCenter Content Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the WebCenter Content schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat UCM
[-dbtype database_type]
-dbConnectionString database_connect_string
-dbaUserName database_admin_user
-ucmUserName Oracle_UCM_user
-sourceHome 10g_oracle_home
[-[no]ErrorMode]
[-[no]CheckMode]
[-[no]UpgradeMode]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua UCM
[-dbtype database_type]
-dbConnectionString database_connect_string
-dbaUserName database_admin_user
-ucmUserName Oracle_UCM_user
-sourceHome 10g_oracle_home
[-[no]ErrorMode]
[-[no]CheckMode]
[-[no]UpgradeMode]
```

Refer to [Table A–13](#) for a description of the command line arguments available when you are upgrading Records.

Table A–13 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the WebCenter Content Schema

Argument	Description
-dbType <i>database_type</i>	Replace <i>database_type</i> with one of the following: <ul style="list-style-type: none"> Oracle Microsoft IBM The default (if you do not enter a value) is Oracle.

Table A–13 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the WebCenter Content Schema

Argument	Description
-dbConnectString <i>database_connect_string</i>	Replace <i>database_connect_string</i> with the URL connect string for the database that contains the 10g schema. For example, the connect string for an Oracle database must be provided in one of the following formats: <i>host:port:sid</i> OR <i>//host:port/service_name</i> The connect string for a Microsoft SQL Server database or an IBM DB2 database must be in the following format: <i>//host:port:DatabaseName=database_name</i> This is a required argument.
-dbaUserName <i>database_admin_user</i>	Replace <i>database_admin_user</i> with the database administrator user name of the 10g database: <ul style="list-style-type: none"> ■ For Oracle databases, use the SYS user or a user with the DBA role. ■ For Microsoft SQL Server, enter sa or a user with db_owner role. ■ For IBM DB2, enter db2admin. This is a required argument.
-ucmUserName <i>Oracle_UCM_user</i>	Replace <i>Oracle_UCM_user</i> with the the name of the WebCenter Content database user. This is a required argument.
-sourceHome <i>10g_oracle_home</i>	Replace <i>10g_oracle_home</i> with the full path to the WebCenter Content 10g Oracle home. This is a required argument.
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A–4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades" .

A.7.4 Records Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the Records schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat URM
[-dbtype database_type]
-dbConnectionString database_connect_string
-dbaUserName database_admin_user
-urmUserName Oracle_URM_user
-sourceHome 10g_oracle_home
[-[no]ErrorMode]
[-[no]CheckMode]
[-[no]UpgradeMode]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua URM
[-dbtype database_type]
```

```

-dbConnectionString <db_connect_string>
-dbaUserName database_admin_user
-ucmUserName Oracle_URM_user
-sourceHome 10g_oracle_home
[-[no]ErrorMode]
[-[no]CheckMode]
[-[no]UpgradeMode]

```

Refer to [Table A-14](#) for a description of the command line arguments available when you are upgrading Records.

Table A-14 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Records Schema

Argument	Description
-dbType <i>database_type</i>	<p>Replace <i>database_type</i> with one of the following:</p> <ul style="list-style-type: none"> ■ Oracle ■ Microsoft ■ IBM <p>The default (if you do not enter a value) is Oracle.</p>
-dbConnectionString <i>database_connect_string</i>	<p>Replace <i>database_connect_string</i> with the URL connect string for the database that contains the 10g schema.</p> <p>For example, the connect string for an Oracle database must be provided in one of the following formats:</p> <p style="text-align: center;"><i>host:port:sid</i></p> <p style="text-align: center;">OR</p> <p style="text-align: center;"><i>//host:port/service_name</i></p> <p>The connect string for a Microsoft SQL Server database or an IBM DB2 database must be in the following format:</p> <p style="text-align: center;"><i>//host:port:DatabaseName=database_name</i></p> <p>This is a required argument.</p>
-dbaUserName <i>database_admin_user</i>	<p>Replace <i>database_admin_user</i> with the database administrator user name of the 10g database.</p> <ul style="list-style-type: none"> ■ For Oracle databases, use the <i>SYS</i> user or a user with the DBA role. ■ For Microsoft SQL Server, enter <i>sa</i> or a user with <i>db_owner</i> role. ■ For IBM DB2, enter <i>db2admin</i>. <p>This is a required argument.</p>
-urmUserName <i>Oracle_URM_user</i>	<p>Replace <i>Oracle_URM_user</i> with the the name of the Records database user.</p> <p>This is a required argument.</p>
-sourceHome <i>10g_oracle_home</i>	<p>Replace <i>10g_oracle_home</i> with the full path to the Records 10g Oracle home.</p> <p>This is a required argument.</p>
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	<p>See Table A-4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades".</p>

A.8 Using the Upgrade Assistant Command Line to Upgrade Oracle Data Integrator

The following sections describe how to upgrade the Oracle Data Integrator components using the Upgrade Assistant command-line interface:

- [Oracle Data Integrator Middle-Tier Upgrade Assistant Command-Line Arguments](#)
- [Oracle Data Integrator Schema Upgrade Assistant Command-Line Arguments](#)

A.8.1 Oracle Data Integrator Middle-Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade an Oracle Data Integrator middle tier, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat MT
  -sourceHome 10g_ODI_Oracle_home
  [-logLevel log_level]
  [-[no]verbose]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua MT
  -sourceHome 10g_ODI_Oracle_home
  [-logLevel log_level]
  [-[no]verbose]
  [-invPtrLoc inventory_location]
```

Refer to [Table A-15](#) for a description of the command line arguments available when you are upgrading an Oracle Data Integrator middle tier.

Table A-15 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an Oracle Data Integrator Middle Tier

Argument	Description
-sourceHome <i>10g_ODI_Oracle_home</i>	Replace <i>10g_ODI_Oracle_home</i> with the full path to Oracle Data Integrator 10g Oracle home. This is a required argument.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.
-[no]verbose	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <i>-noverbose</i> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <i>-noverbose</i> .

Table A–15 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading an Oracle Data Integrator Middle Tier

Argument	Description
<code>-invPtrLoc inventory_location</code>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.8.2 Oracle Data Integrator Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the Oracle Data Integrator schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat ODI
[-dbtype database_type]
-dbConnectionString database_connect_string
-dbaUserName <dba_user_name>
-odiMasterUserName ODI_master_user_name
-odiSupervisorName ODI_supervisor_name
-odiWorkrep ODI_work_repository_list
-odiWorkrepUserName ODI_work_repository_user_name_list
[-cloneOption]
[-noCloneOption]
[-kmOption]
[-noKmOption]
[-topologyOption]
[-noTopologyOption]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua ODI
[-dbtype database_type]
-dbConnectionString database_connect_string
-dbaUserName <dba_user_name>
-odiMasterUserName ODI_master_user_name
-odiSupervisorName ODI_supervisor_name
-odiWorkrep ODI_work_repository_list
-odiWorkrepUserName ODI_work_repository_user_name_list
[-cloneOption]
[-noCloneOption]
[-kmOption]
[-noKmOption]
[-topologyOption]
[-noTopologyOption]
```

Refer to [Table A–16](#) for a description of the command line arguments available when you are upgrading the Oracle Data Integrator schema.

Table A-16 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle Data Integrator Schema

Argument	Description
-dbType <i>database_type</i>	<p>Replace <i>database_type</i> with one of the following:</p> <ul style="list-style-type: none"> ■ Oracle ■ Microsoft ■ IBM ■ Postgres ■ Sybase ■ Hypersonic <p>The default (if you do not enter a value) is Oracle.</p>
-dbConnectString <i>database_connect_string</i>	<p>Replace <i>database_connect_string</i> with the URL connect string for the database that contains the 10g schema.</p> <p>For a complete description of the connect string required for each database types, see the description of the Connect String field in the section, "Target Database," in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i>.</p> <p>This is a required argument.</p>
-dbaUserName <i>database_admin_user</i>	<p>Replace <i>database_admin_user</i> with the database administrator user name that will be used to connect to the database:</p> <ul style="list-style-type: none"> ■ For Oracle databases, use the SYS user or a user with the DBA role. ■ For Microsoft SQL Server, enter sa or a user with db_owner role. ■ For IBM DB2, enter db2admin. <p>This is a required argument.</p>
-odiMasterUserName <i>ODI_master_user_name</i>	<p>Replace <i>ODI_master_user_name</i> with the user name of the Oracle Data Integrator master repository owner.</p> <p>For example:</p> <p>DEV_ODI_REPO</p> <p>This is a required argument.</p>
-odiSupervisorName <i>ODI_supervisor_name</i>	<p>Replace <i>ODI_supervisor_name</i> with the user name of the Oracle Data Integrator User with Supervisor privileges.</p> <p>For example:</p> <p>SUPERVISOR</p> <p>This is a required argument.</p>
-odiWorkrep <i>ODI_work_repository_list</i>	<p>Replace <i>ODI_work_repository_list</i> with a comma-separated list of one or more ODI work repository names.</p>
-odiWorkrepUserName <i>ODI_work_repository_user_name_list</i>	<p>Replace <i>ODI_work_repository_user_name_list</i> with a comma-separated list of the user names associated with each work repository listed in the -odiWorkrep argument.</p>

Table A–16 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle Data Integrator Schema

Argument	Description
[-cloneOption -noCloneOption]	Corresponds to the Check That Upgrade Occurs Only on Cloned Repositories option on the Specify Operation screen in the Upgrade Assistant graphical user interface. For more information, see "Specify Operation" in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i> . The default setting is <code>-cloneOption</code> .
[-kmOption -noKmOption]	Corresponds to the Replace KMs with Mandatory Updates option on the Specify Operation screen in the Upgrade Assistant graphical user interface. For more information, see "Specify Operation" in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i> . The default setting is <code>-kmOption</code> .
[-topologyOption -noTopologyOption]	Corresponds to the Update Topology and Security Metadata option on the Specify Operation screen in the Upgrade Assistant graphical user interface. For more information, see "Specify Operation" in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i> . The default setting is <code>-topologyOption</code> .
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A–4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades" .

A.9 Using the Upgrade Assistant Command Line to Upgrade Oracle Business Intelligence

The following sections describe how to use the Upgrade Assistant command-line interface to upgrade Oracle BI Enterprise Edition and Oracle Business Intelligence Publisher:

- [Oracle BI Enterprise Edition Middle Tier Upgrade Assistant Command-Line Arguments](#)
- [Oracle Business Intelligence Publisher Middle Tier Upgrade Assistant Command-Line Arguments](#)
- [Oracle Business Intelligence Scheduler Schema Upgrade Assistant Command-Line Arguments](#)

A.9.1 Oracle BI Enterprise Edition Middle Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade a Oracle BI Enterprise Edition middle tier, enter the following command at the operating system prompt:

- On Windows systems:


```
ORACLE_HOME\bin\ua.bat -BIEE
      -rpdFile rpd_file
```

```

-rpdAdminUser rpd_admin_user
-webCatDir webcat_directory
-webCatDeliveriesDir webcatdeliveries_directory
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]

```

- On UNIX systems:

```

ORACLE_HOME/bin/ua MT -BIEE
-rpdFile rpd_file
-rpdAdminUser rpd_admin_user
-webCatDir webcat_directory
-webCatDeliveriesDir webcatdeliveries_directory
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
[[-invPtrLoc inventory_loc]

```

Refer to [Table A-17](#) for a description of the command line arguments available when you are upgrading a middle tier.

Many of the command-line options represent the options available in the Upgrade Assistant graphical user interface. For more information, see "Oracle Business Intelligence Upgrade Assistant Screens" in the *Oracle Fusion Middleware Upgrade Guide for Oracle Business Intelligence*.

Table A-17 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Oracle BI Enterprise Edition Middle Tier

Argument	Description
-rpdfile <i>rpd_file</i> -rpdAdminUser <i>rpd_admin_user</i>	Replace <i>rpd_file</i> with the name of the Oracle Business Intelligence 10g repository file. Replace <i>rpd_admin_user</i> with the name of the Administrator user, which is usually "Administrator." These arguments are required for middle-tier upgrades if you are upgrading the Oracle Business Intelligence 10g repository file to 11g.
-webCatDir <i>webcat_directory</i> -webCatDeliveriesDir <i>webcatdeliveries_directory</i>	Replace <i>webcat_directory</i> with the full path to the Oracle Business Intelligence 10g Web catalog directory. Replace <i>webcatdeliveries_directory</i> with the path to the Web catalog <i>deliveries</i> directory. These arguments are required for middle-tier upgrades if you are upgrading the Oracle Business Intelligence 10g Web catalog to 11g.

Table A-17 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Oracle BI Enterprise Edition Middle Tier

Argument	Description
wls_port <i>wls_port</i> wls_userName <i>wls_user</i>	Use these arguments to provide the Oracle WebLogic Server port and the user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and <code>wellogic</code> , respectively. These settings default to the values associated with the specified Oracle Fusion Middleware 11g Oracle instance. Note that you cannot specify the Oracle WebLogic Server host. That value defaults to the localhost and cannot be modified.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.
-[no]verbose	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <code>-noverbose</code> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <code>-noverbose</code> .
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.9.2 Oracle Business Intelligence Publisher Middle Tier Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade a Oracle Business Intelligence Publisher middle tier, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat -BIP
[-sourceReposDir source_repos | -sourceTemplateDir source_template]
-destReposDir dest_repos
-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
```

- On UNIX systems:

```

ORACLE_HOME/bin/ua MT -BIP
[-sourceReposDir source_repos | -sourceTemplateDir source_template]
-destReposDir dest_repos
-wlsHost wls_host
-wlsPort wls_port
-wlsUserName wls_user
[-logLevel log_level]
[-[no]verbose]
[[-invPtrLoc inventory_loc] ...]

```

Refer to [Table A-18](#) for a description of the command line arguments available when you are upgrading a middle tier.

Many of the command-line options represent the options available in the Upgrade Assistant graphical user interface. For more information, see "Oracle Business Intelligence Upgrade Assistant Screens" in the *Oracle Fusion Middleware Upgrade Guide for Oracle Business Intelligence*.

Table A-18 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Oracle Business Intelligence Publisher Middle Tier

Argument	Description
-sourceReposDir <i>source_repos</i>	Replace <i>source_repos</i> with the Oracle BI Publisher 10g repository directory path. You must use this argument or the -sourceTemplateDir argument, but you cannot provide both.
-sourceTemplateDir <i>source_template</i>	Replace <i>source_template</i> with the Oracle E-Business Suite data template directory path. You must use this argument or the -sourceReposDir argument, but you cannot provide both.
-destReposDir <i>dest_repos</i>	Replace <i>dest_repos</i> with one of the following: <ul style="list-style-type: none"> ▪ If you are upgrading the templates in an Oracle BI Publisher repository directory, then enter the full path to the Oracle BI Publisher 11g repository directory. ▪ If you are upgrading the templates in an Oracle E-Business Suite data template directory, then enter the path to the Oracle BI Publisher 11g data model directory. This is a required argument for middle-tier upgrades.
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_userName <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and weblogic, respectively. These settings default to the values associated with the specified Oracle Fusion Middleware 11g Oracle instance. Note that these arguments are not required or supported when you are upgrading a Web tier Oracle home.

Table A–18 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading a Oracle Business Intelligence Publisher Middle Tier

Argument	Description
<code>-logLevel log_level</code>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.
<code>-[no]verbose</code>	Use this argument to output detailed information to the screen when you are running the Upgrade Assistant in command-line mode. Use <code>-noverbose</code> to limit the amount of detail displayed on the screen. The default setting if you do not include this argument is <code>-noverbose</code> .
<code>-invPtrLoc inventory_location</code>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

A.9.3 Oracle Business Intelligence Scheduler Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the Oracle BI Enterprise Edition Scheduler, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat BISCHEDULER
  -targetURL target_url
  -targetUserName target_user_name
  -dbtype db_type
  -dbConnectionString db_connect_string
  -biUserName bi_user_name
  -dbaUserName dba_user_name
  -sourceUserName source_user_name
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua BISCHEDULER
  -targetURL target_url
  -targetUserName target_user_name
  -dbtype db_type
  -dbConnectionString db_connect_string
  -biUserName bi_user_name
  -dbaUserName dba_user_name
  -sourceUserName source_user_name
```

Refer to [Table A–19](#) for a description of the command line arguments available when you are upgrading the Oracle BI Enterprise Edition BISCHEDULER schema.

Table A–19 Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle BI EE and Oracle BI Publisher Schema

Argument	Description
-targetURL <i>target_url</i>	<p>Replace <i>target_url</i> with the URL connect string for the target database that contains the 11g schema.</p> <p>For a complete description of the connect string required for each database types, see the description of the Connect String field in the section, "Target Database," in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i>.</p> <p>This is a required argument.</p>
-targetUserName <i>target_user_name</i>	<p>Replace <i>target_user_name</i> with the name of the Oracle Business Intelligence 11g schema in the target database. This schema name will be in the following form:</p> <p><i>RCUPREFIX_BIPLATFORM</i></p> <p>For example:</p> <p><i>DEV_BIPLATFORM</i></p> <p>This is a required argument.</p>
-dbType <i>database_type</i>	<p>Replace <i>database_type</i> with the database type of the source database that contains the 10g schemas. The type must one of the following:</p> <ul style="list-style-type: none"> ■ Oracle ■ Microsoft ■ IBM <p>The default (if you do not enter a value) is Oracle.</p> <p>Note: The database type for the source database must be the same as the database type for the target database. As a result, you need to specify the database type for the source database only.</p>
-dbConnectString <i>database_connect_string</i>	<p>Replace <i>database_connect_string</i> with the URL connect string for the source database that contains the 10g schema.</p> <p>For a complete description of the connect string required for each database types, see the description of the Connect String field in the section, "Target Database," in the <i>Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator</i>.</p> <p>This is a required argument.</p>
-biUserName <i>bi_user_name</i>	<p>Replace <i>bi_user_name</i> with the name of the Oracle Business Intelligence 10g schema in the source database.</p> <p>This is a required argument.</p>
-dbaUserName <i>dba_user_name</i>	<p>Replace <i>dba_user_name</i> with the database administrator user name that will be used to connect to the target database where the 11g schema resides:</p> <ul style="list-style-type: none"> ■ For Oracle databases, use the <i>SYS</i> user or a user with the <i>DBA</i> role. ■ For Microsoft SQL Server, enter <i>sa</i> or a user with <i>db_owner</i> role. ■ For IBM DB2, enter <i>db2admin</i>. <p>This is a required argument.</p>

Table A–19 (Cont.) Summary of the Upgrade Assistant Command-Line Arguments When Upgrading the Oracle BI EE and Oracle BI Publisher Schema

Argument	Description
-sourceUserName <i>source_user_name</i>	<p>Replace <i>source_user_name</i> with the database administrator user name that will be used to connect to the source database where the 10g schema resides:</p> <ul style="list-style-type: none"> ■ For Oracle databases, use the SYS user or a user with the DBA role. ■ For Microsoft SQL Server, enter sa or a user with db_owner role. ■ For IBM DB2, enter db2admin. <p>This is a required argument.</p>
-[no]ErrorMode -[no]CheckMode -[no]UpgradeMode	See Table A–4, "Upgrade Assistant Command-Line Arguments Common to All Schema Upgrades" .

A.9.4 Oracle BI Publisher Scheduler Schema Upgrade Assistant Command-Line Arguments

To use the Upgrade Assistant command line to upgrade the Oracle BI Publisher Scheduler schema, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat BIPUBLISHER
  -targetURL target_url
  -targetUserName target_user_name
  -dbtype db_type
  -dbConnectString db_connect_string
  -biUserName bi_user_name
  -dbaUserName dba_user_name
  -sourceUserName source_user_name
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua BIPUBLISHER
  -targetURL target_url
  -targetUserName target_user_name
  -dbtype db_type
  -dbConnectString db_connect_string
  -biUserName bi_user_name
  -dbaUserName dba_user_name
  -sourceUserName source_user_name
```

Refer to [Table A–19](#) for a description of the command line arguments available when you are upgrading the Oracle Business Intelligence Publisher Scheduler schema.

A.10 Using the Upgrade Assistant Command Line to Verify an Upgraded Environment

To use the Upgrade Assistant command line to verify an Oracle Fusion Middleware environment, enter the following command at the operating system prompt:

- On Windows systems:

```
ORACLE_HOME\bin\ua.bat VERIFY
```

```
-destInstanceHome ORACLE_INSTANCE
[-logLevel log_level]
[-wlsHost wls_host]
[-wlsPort wls_port]
[-wlsUserName wls_user]
```

- On UNIX systems:

```
ORACLE_HOME/bin/ua VERIFY
-destInstanceHome ORACLE_INSTANCE
[-logLevel log_level]
[-wlsHost wls_host]
[-wlsPort wls_port]
[-wlsUserName wls_user]
[-invPtrLoc inventory_location]
```

Refer to [Table A-20](#) for a description of the command line arguments available when you are verifying an upgrade.

Table A-20 Summary of the Upgrade Assistant Command-Line Arguments When Verifying an Upgrade

Argument	Description
-destInstanceHome ORACLE_INSTANCE	Replace <i>ORACLE_INSTANCE</i> with the full path to the newly installed Oracle Fusion Middleware 11g Oracle instance.
-logLevel <i>log_level</i>	Replace <i>log_level</i> with one of the following values: <ul style="list-style-type: none"> ■ NOTIFICATION ■ WARNING ■ ERROR ■ INCIDENT_ERROR ■ TRACE The default setting if you do not provide this argument is NOTIFICATION.
wls_host <i>wls_host</i> wls_port <i>wls_port</i> wls_user <i>wls_user</i>	Use these arguments to provide the host, port, and user name of the Administration Server in the destination Oracle WebLogic Server domain. For example, the port and user name are usually 7001 and weblogic, respectively.
-invPtrLoc <i>inventory_location</i>	On UNIX systems, you can use this argument if you have multiple Oracle inventory files on the host. For more information, see Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations" .

Troubleshooting Your Upgrade

This chapter contains the following sections, which describe how to resolve problems and issues that occur while you are using the Upgrade Assistant to upgrade to Oracle Fusion Middleware 11g:

- [General Troubleshooting Guidelines](#)
- [Resolving Common Upgrade Assistant Errors](#)
- [Examining the Log File](#)
- [Investigating Examination Failures](#)
- [Investigating Upgrade Failures](#)
- [Restarting the Upgrade Assistant](#)
- [Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations](#)

B.1 General Troubleshooting Guidelines

If errors occur while you are running the Upgrade Assistant, use the following steps to troubleshoot the problem:

1. Locate and open the Upgrade Assistant log file with a text editor:
For the location of the log file, see [Section B.3, "Examining the Log File"](#).
2. Locate any error messages that are identified by number; for example, UPGAST-00091.
3. Look up the error in the *Oracle Fusion Middleware Error Messages Reference*.
The description of the error in the *Oracle Fusion Middleware Error Messages Reference* should include a description of the cause of the error, as well as the action you should take to resolve the error.
4. Based on whether or not you can locate an error message and the error message description, do the following:
 - If, by reviewing the log files and the *Oracle Fusion Middleware Error Messages Reference*, you are able to identify a solution to the upgrade failure, you can implement your solution and then re-start the Upgrade Assistant and perform the upgrade again.

When you re-run the Upgrade Assistant, any components that were upgraded successfully during the previous run will not be affected. However, the Upgrade Assistant will attempt to upgrade any components that were not upgraded successfully during a previous run of the utility.

- Contact Oracle Support for any errors that are not documented or that cannot be resolved by following documented actions. Note that some errors that occur will require the repository to be restored from backup, the problem to be resolved, and another upgrade to be run.

B.2 Resolving Common Upgrade Assistant Errors

If errors occur while you are running the Upgrade Assistant, you must correct the conditions that caused them before you try the upgrade again. The following sections provide some guidance in resolving Upgrade Assistant errors:

- [Source Oracle Home Not Listed by Upgrade Assistant](#)
- [Error Message States that No Components Can Be Upgraded](#)
- [Troubleshooting Database Connection Problems When Upgrading Schemas](#)

B.2.1 Source Oracle Home Not Listed by Upgrade Assistant

If the source Oracle home does not appear as expected in the drop-down list on the Oracle Homes, or if you receive an error ("No matching Oracle homes found") when starting the Upgrade Assistant, then consider the following issues and solutions.

Wrong Installation Type The source Oracle home will not appear if the installation type of the source middle tier is not compatible with the installation type of the destination middle tier instance.

Oracle Homes on Different Computers Another case in which the source middle tier will not appear as a selection is that the source middle tier instance is installed on a different computer from the destination middle tier instance. If this is the case, you must install the destination middle tier instance on the same computer as the source instance to be upgraded.

Oracle Home Not in the Oracle Inventory The Upgrade Assistant locates Oracle Application Server Oracle homes on your system by analyzing the contents of the Oracle inventory.

Every time you install an Oracle software product on a host computer, Oracle Universal Installer saves information about the software installation on your hard disk. The directories and files that contain this software configuration information are referred to as the Oracle Universal Installer inventory.

In some cases, a particular installation may not appear in the inventory. It could be that the inventory directory was deleted or damaged, or it could be that multiple inventories are installed on the computer. On UNIX systems, you can resolve this issue by referring to [Section B.7, "Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations"](#).

Products in the Inventory Installed by Different Operating System Users

The Upgrade Assistant uses the Oracle Universal Installer inventory APIs to get a list of components in an Oracle home. If the user running the Upgrade Assistant does not have read access to an Oracle home, then the OUI API returns an empty list of components.

This can occur if you are running Upgrade Assistant from an operating system user account other than the account used to install the source or destination Oracle home. When running the Upgrade Assistant, be sure to use the same operating system user that was used to install the Oracle Application Server 10g environment.

Alternatively, you can set the permissions of the source and target Oracle homes so your current user account has write access to the directories and their contents while running the Upgrade Assistant.

B.2.2 Error Message States that No Components Can Be Upgraded

This error can appear when you are attempting to upgrade an Oracle Application Server 10g Release 3 (10.1.3.1.0) Basic Installation, which does not include an instance of Oracle HTTP Server. In this situation, there are no components that can be upgraded automatically by the Oracle Fusion Middleware Upgrade Assistant.

B.2.3 Troubleshooting Database Connection Problems When Upgrading Schemas

If you have trouble connecting to a database when using the Upgrade Assistant to upgrade a component schema, try connecting to the database using another tool, such as SQL*Plus. This will help you troubleshoot the problem by verifying that the database is up and running and available on the network.

B.3 Examining the Log File

The Upgrade Assistant generates a set of log files that you can use to troubleshoot, verify, or analyze the upgrade process.

The Upgrade Assistant log file is located in the following directory; its name contains the date and time of the Upgrade Assistant session:

- On Windows systems:

```
DESTINATION_ORACLE_HOME\upgrade\logs\
```

- On UNIX systems:

```
DESTINATION_ORACLE_HOME/upgrade/logs/
```

For database schema upgrades of certain components, there can also be an output (.out) file that will contain the screen output of commands that were run in a shell process or as PL/SQL scripts.

You can locate these output files at the following location:

- On UNIX systems:

```
DESTINATION_ORACLE_HOME/upgrade/logs/uatimestamp.log
```

- On Windows systems:

```
DESTINATION_ORACLE_HOME\upgrade\logs\uatimestamp.log
```

B.4 Investigating Examination Failures

To determine the cause of an examination failure:

1. Note the name of the failed component in the OracleAS Upgrade Assistant dialog or command-line output.

2. Open the following Upgrade Assistant log file.

For the location of the log file, see [Section B.3, "Examining the Log File"](#).

3. In the log file, search for the message `Starting to examine component_name`.

4. Refer to the *Oracle Fusion Middleware Error Messages Reference* for information about specific error messages in the Upgrade log files.

B.5 Investigating Upgrade Failures

To determine the cause of an upgrade failure:

1. Note the name of the failed component in the OracleAS Upgrade Assistant dialog or command-line output.
2. Open the Upgrade log file:
For the location of the log file, see [Section B.3, "Examining the Log File"](#).
3. Search for the message `Starting to upgrade component_name`.
4. Refer to the *Oracle Fusion Middleware Error Messages Reference* for information about specific error messages in the Upgrade log files.

B.6 Restarting the Upgrade Assistant

When you are upgrading a middle tier, you can restart the Upgrade Assistant after it has partially or completely processed an Oracle home. Follow these steps:

1. Start the Upgrade Assistant in GUI or command-line mode.
The OracleAS Upgrade Assistant displays a message, which explains whether or not the previous upgrade was successful.
2. If the previous upgrade was not completed, close the dialog (GUI version) or enter Yes (command-line version) and continue with the upgrade.

B.7 Starting the Upgrade Assistant on UNIX Systems When Using Multiple Oracle Universal Installer Inventory Locations

On UNIX systems, the Oracle Universal Installer creates an inventory location file, `/etc/oraInst.loc`, when it installs Oracle products. This file contains the location (full path) of the Oracle Universal Installer directory, and the group name of the user who installed it.

The Upgrade Assistant locates valid source Oracle home locations with the information from this directory, the default inventory. Additional inventories files are sometimes created after installation so you can manage Oracle homes independently (thereby circumventing the Oracle Universal Installer features that track all Oracle homes in a single inventory).

If there are multiple inventory location files on the computer on which you are performing an upgrade, and you want to be able to select a non-default inventory location, you must start the Upgrade Assistant with the `-invPtrLoc` argument, specifying the inventory location file(s) for the Oracle homes involved in the upgrade.

For example, if the Oracle Application Server 10g Oracle home and the Oracle Fusion Middleware 11g Oracle home are installed in different inventories, then you must specify both inventories on the Upgrade Assistant command line.

For complete information about the Oracle inventory, see "Oracle Universal Installer Inventory" in the *Oracle Universal Installer and OPatch User's Guide*.

The syntax for starting the Upgrade Assistant for multiple inventory locations is provided below.

Graphical User Interface (GUI) Version:

```
ua [[-invPtrLoc inventory_location_file]...]
```

For example:

```
ua -invPtrLoc /du03/oracle_inventory1/orainst.loc -invPtrLoc /etc/orainst.loc
```

Command-line Version:

```
ua -sourcehome SOURCE_ORACLE_HOME [[-invPtrLoc inventory_location_file]...]  
[-verbose] [-noprompt]
```

For example:

```
ua -sourcehome /du03/oracle/appserver1/ -invPtrLoc /du03/oracle_  
inventory1/orainst.loc -invptrLoc /etc/orainst.loc -verbose -noprompt
```

