

Oracle® Application Server

Quick Upgrade Guide

10g Release 2 (10.1.2) for UNIX

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This guide describes how to upgrade a basic Oracle Application Server 10g (9.0.4) environment to Oracle Application Server 10g Release 2 (10.1.2.0.2).

For more information, refer to the following sections:

- [Who Can Use the Quick Upgrade Guide?](#)
- [Overview of the Quick Upgrade Procedure](#)
- [Step 1: Back Up Your Oracle Application Server Environment](#)
- [Step 2: Upgrade the Middle Tiers](#)
- [Step 3: Upgrade the OracleAS Metadata Repository Database and OracleAS Identity Management](#)
- [Step 4: Upgrade the Component Schemas in the OracleAS Metadata Repository](#)
- [Step 5: Decommission the 10g \(9.0.4\) Oracle Homes](#)
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Who Can Use the Quick Upgrade Guide?

This guide provides instructions for upgrading a basic Oracle Application Server 10g (9.0.4) environment.

Specifically, you can use this guide if your Oracle Application Server environment meets the following requirements:

- You are upgrading from Oracle Application Server 10g (9.0.4) to Oracle Application Server 10g Release 2 (10.1.2.0.2).
- You are using a **colocated Infrastructure** where the OracleAS Identity Management and OracleAS Metadata Repository are installed in the same Oracle home.
- You installed your OracleAS Infrastructure using Oracle Universal Installer and the **Identity Management and Metadata Repository** installation type.

You can use this guide to upgrade one or more middle tiers—as long as they are 10g (9.0.4) middle tiers—and the middle tiers and OracleAS Infrastructure can reside on a single host computer or on separate hosts.

If your Oracle Application Server environment does not meet the requirements listed in this section, or if you are not sure if your Oracle Application Server environment meets these requirements, refer to the *Oracle Application Server*

Upgrade and Compatibility Guide for complete instructions on upgrading your Oracle Application Server installations.

Note that users with more complex Oracle Application Server environments might find this guide useful as an overview of the tools and procedures for upgrading Oracle Application Server.

Overview of the Quick Upgrade Procedure

[Table 1](#) provides a tabular overview of the Quick Upgrade Procedure.

Table 1 Overview of the Quick Upgrade Procedure

Step	Step Description	Upgrade Tool	More Information
1	Back up the middle tier Oracle homes and the colocated Infrastructure Oracle home.	N/A	"Step 1: Back Up Your Oracle Application Server Environment" .
2	Upgrade Middle Tiers	Oracle Universal Installer to install the new 10g Release 2 (10.1.2.0.2) Oracle home. Oracle Application Server Upgrade Assistant to upgrade your middle tier	"Step 2: Upgrade the Middle Tiers"
3	Upgrade the OracleAS Metadata Repository database and upgrade the OracleAS Identity Management schemas	Oracle Universal Installer	"Step 3: Upgrade the OracleAS Metadata Repository Database and OracleAS Identity Management"
4	Upgrade the OracleAS Metadata Repository Component Schemas	Metadata Repository Upgrade Assistant	"Step 4: Upgrade the Component Schemas in the OracleAS Metadata Repository"
5	Optionally, decommission and deinstall the source Oracle homes	Oracle Universal Installer	"Step 5: Decommission the 10g (9.0.4) Oracle Homes"

Step 1: Back Up Your Oracle Application Server Environment

Your first step in upgrading your Oracle Application Server 10g (9.0.4) environment is to back up your existing Oracle homes.

The following procedure describes how to perform a cold backup of your middle tier and OracleAS Infrastructure Oracle homes.

See Also: "Backup Strategies Before Upgrade" in the *Oracle Application Server Upgrade and Compatibility Guide* for complete information about backup requirements before upgrade

"Backup and Recovery" in the *10g (9.0.4) Oracle Application Server Administrator's Guide*

To back up your Oracle Application Server 10g (9.0.4) environment before upgrade:

1. Stop and then back up each middle tier Oracle home:

a. Stop all processes in the Oracle home:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
```

b. Stop the Application Server Control:

```
ORACLE_HOME/bin/emctl stop iasconsole
```

c. As the root user, copy the entire Oracle home directory to another disk on your network.

Oracle recommends that you perform the copy operation as the root user to ensure that all required files are copied and backed up.

2. Stop and then back up the OracleAS Infrastructure Oracle home:

a. Stop all processes in the Oracle home:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
```

b. Stop the Application Server Control:

```
ORACLE_HOME/bin/emctl stop iasconsole
```

c. Stop the OracleAS Metadata Repository database instance:

```
ORACLE_HOME/bin/sqlplus /nolog
SQL> connect SYS as SYSDBA
SQL> shutdown
SQL> quit
```

d. Stop the Net listener:

```
ORACLE_HOME/bin/lsnrctl stop
```

e. As the root user, copy the entire Oracle home directory to a backup disk.

Oracle recommends that you perform the copy operation as the root user to ensure that all required files are copied and backed up.

Note that this includes the database data files, which, by default, are installed in the Infrastructure Oracle home when you install a colocated Infrastructure.

3. Start the OracleAS Infrastructure Oracle home:

a. Start the Net listener:

```
ORACLE_HOME/bin/lsnrctl start
```

b. Start the OracleAS Metadata Repository database instance:

```
ORACLE_HOME/bin/sqlplus /nolog
SQL> connect SYS as SYSDBA
SQL> startup
SQL> quit
```

c. Start all processes in the OracleAS Infrastructure Oracle home:

```
ORACLE_HOME/opmn/bin/opmnctl startall
```

d. Start the Application Server Control:

```
ORACLE_HOME/bin/emctl start iasconsole
```

4. Start the middle tier Oracle homes:

a. Start the processes in each middle tier Oracle home:

```
ORACLE_HOME/opmn/bin/opmnctl startall
```

b. Start the Application Server Control in each Oracle home:

```
ORACLE_HOME/bin/emctl start iasconsole
```

Step 2: Upgrade the Middle Tiers

The following sections describe how to upgrade your 10g (9.0.4) middle tiers to 10g Release 2 (10.1.2.0.2):

- [Installing the Oracle Application Server 10g Release 2 \(10.1.2.0.2\) Middle Tier](#)
- [Performing the Middle Tier Upgrade](#)
- [Troubleshooting the Middle Tier Upgrade](#)

Installing the Oracle Application Server 10g Release 2 (10.1.2.0.2) Middle Tier

The first step in upgrading a middle tier is to install a new Oracle Application Server 10g Release 2 (10.1.2.0.2) middle tier. This new Oracle home is referred to as the **destination Oracle home**. Your original 10g (9.0.4) installation is referred to as the **source Oracle home**.

See Also: *Oracle Application Server Installation Guide*

When you install the 10g Release 2 (10.1.2.0.2) destination Oracle home, use the following checklist to be sure that you install the new Oracle Application Server:

- ☐ On the same computer as the Oracle Application Server 10g (9.0.4) middle tier
- ☐ Using the same operating system user that installed the 10g (9.0.4) middle tier
- ☐ In a separate Oracle home from the 10g (9.0.4) middle tier.
- ☐ Using an installation type that is compatible with 10g (9.0.4) middle tier.

[Table 2](#) shows the compatible 10g Release 2 (10.1.2.0.2) install types you can select for each of the 10g (9.0.4) install types.

- ☐ So that it uses the same OracleAS Metadata Repository and OracleAS Identity Management as the 10g (9.0.4) middle tier.

Table 2 *Compatible 10g Release 2 (10.1.2.0.2) Middle-Tier Installation Types for 10g (9.0.4) Upgrades*

10g (9.0.4) Installation Type	Compatible 10g Release 2 (10.1.2.0.2) Installation Types
J2EE and Web Cache	J2EE and Web Cache
Portal and Wireless	Portal and Wireless

Table 2 (Cont.) Compatible 10g Release 2 (10.1.2.0.2) Middle-Tier Installation Types for 10g (9.0.4) Upgrades

10g (9.0.4) Installation Type	Compatible 10g Release 2 (10.1.2.0.2) Installation Types
Business Intelligence and Forms	Business Intelligence and Forms Forms and Reports Services ¹
Forms and Reports Services ¹	Forms and Reports Services ¹

¹ Installed from a separate Oracle Forms and Reports Services CD-ROM. Note that the Forms and Reports Services installation will not be associated with the OracleAS Infrastructure; however, you can later configure the resulting installation to use the OracleAS Infrastructure.

Note: Only components that are configured during installation in the destination Oracle home will be functional after the middle tier upgrade has completed.

Performing the Middle Tier Upgrade

This section provides step-by-step instructions for using the OracleAS Upgrade Assistant to perform a middle-tier upgrade:

1. Log in to the user account that was used to install the source Oracle home.

Note: Do not run the `iasua.sh` script as the root user. Instead, run the script from the same user account that you used to install the source and destination Oracle homes.

2. Start the OracleAS Upgrade Assistant with the command:

```
DESTINATION_ORACLE_HOME/upgrade/iasua.sh
```

The Welcome screen appears.

3. Review the introductory information and then click **Next**.

The Oracle Homes screen appears. The **Source Oracle Home** drop-down menu contains the names of 10g (9.0.4) Oracle homes that are found in the inventory of Oracle products on the current computer and that were installed using an installation type that is compatible with the installation type of the destination Oracle home.

The destination Oracle home is the 10g Release 2 (10.1.2.0.2) Oracle home in which the OracleAS Upgrade Assistant is running.

4. Select the source Oracle home that you want to upgrade from the drop-down list; then, click **Next**.

The OracleAS Upgrade Assistant performs many of the required pre-upgrade tasks automatically before it begins the upgrade process.

If you are upgrading a middle-tier instance that requires an OracleAS Infrastructure component, a dialog box prompts you to be sure that the required Infrastructure components are up and running.

5. Ensure that all requirements are fulfilled, and click **Yes**.

The Examining Components dialog box appears. The OracleAS Upgrade Assistant examines each component in the source Oracle home to determine whether it needs to be upgraded. For each component, the dialog box indicate the status of the examination.

- If one or more components fails the pre-upgrade examination, the OracleAS Upgrade Assistant displays an Examination Failure Warning dialog box, which identifies the component that failed. Click **Help** for more information about what to do next.
- If all component examinations succeed, the Summary screen appears.

Note: The Summary screen is the last screen before upgrade processing begins. Before you click **Finish**, verify that the choices on previous screens are correct and the upgrade items listed are ready to upgrade.

6. Scroll to view the components on the Summary screen; click the plus symbol (+) to expand a component's upgrade items. Review the components; then, click **Finish**.

The Upgrading screen appears. For each component, the OracleAS Upgrade Assistant shows the status of the upgrade process.

- If the upgrade completes successfully, then the Upgrade Succeeded screen appears. Click **OK** and continue to the next step in the procedure.
- If the upgrade fails, the Upgrade Failed screen appears. See ["Troubleshooting the Middle Tier Upgrade"](#).

7. Start the destination middle tier, as follows:

- a. Start all processes in the Oracle home:

```
DESTINATION_ORACLE_HOME/opmn/bin/opmnctl startall
```

- b. Start the Application Server Control:

```
DESTINATION_ORACLE_HOME/bin/emctl start iasconsole
```

8. Verify that the middle tier has been upgraded successfully:

- a. Using your Web browser, navigate to the Application Server Control Console.

The URL for the Application Server Control uses the following format:

```
http://hostname.domain:port/
```

For example:

```
http://host1.acme.com:18100/
```

Note that after the middle-tier upgrade, you can use the 10g (9.0.4) Application Server Control Console port to access the upgraded 10g Release 2 (10.1.2.0.2) Application Server Control Console.

- b. If the middle tier is part of an OracleAS Farm, on the Farm page, click the name of the middle tier that you just upgraded.

- c. On the Application Server Home page, verify that the components of the middle tier instance are up and running.
 - d. Verify the version of the middle tier instance in the General section of the Application Server Home page.
9. Depending up on which Oracle Application Server components you are using, there may be additional post-upgrade tasks you should consider.

Review the component-specific instructions that apply to your environment in the section "Task 5: Complete the Middle Tier Upgrade" in the *Oracle Application Server Upgrade and Compatibility Guide*.

In particular, refer to [Table 3](#) for a list of tasks you should consider after you have upgraded a middle tier Oracle home.

Table 3 Common Middle-Tier Post-UpgradeTasks

Task	More Information
Verify that the ports defined in the destination Oracle home match those defined in the source Oracle home.	"About Port Values and the portlist.ini File" in the <i>Oracle Application Server Upgrade and Compatibility Guide</i>
Verify the values of the ias_admin password and OracleAS Web Cache Manager passwords in the destination Oracle home.	"About Administration Passwords After Upgrade" in the <i>Oracle Application Server Upgrade and Compatibility Guide</i>
If you enabled SSL in the source Oracle home, verify that SSL is configured correctly in the destination Oracle home.	"Verifying the Secure Sockets Layer (SSL) Configuration After Upgrade" in the <i>Oracle Application Server Upgrade and Compatibility Guide</i>

Troubleshooting the Middle Tier Upgrade

If the upgrade fails while examining or upgrading your Oracle Application Server components, use the following procedure to troubleshoot the problem:

1. Review the list of common middle-tier troubleshooting items in [Table 4](#).
2. Review the list of "General and Middle Tier Upgrade Problems and Solutions" in the *Oracle Application Server Upgrade and Compatibility Guide*.
3. Note the name of the component or components that OracleAS Upgrade Assistant was unable to examine or upgrade successfully.
4. Locate and open the OracleAS Upgrade Assistant log file using a text editor:
`DESTINATION_ORACLE_HOME/upgrade/log/iasua.log`
5. Refer to "Upgrade and Compatibility Error Messages" in the *Oracle Application Server Upgrade and Compatibility Guide* for information about component-specific error messages in the log files.
6. If you are able to resolve the problem, start the OracleAS Upgrade Assistant again.

See Also: "Resolving OracleAS Upgrade Assistant Errors" and "Restarting the OracleAS Upgrade Assistant" in the *Oracle Application Server Upgrade and Compatibility Guide*

Table 4 Common Troubleshooting Items When Upgrading a Middle Tier

Problem	Solution
Source Oracle home does not appear in the list of available Oracle homes	<p>Consider the following:</p> <ul style="list-style-type: none"> ■ Be sure you selected a installed compatible 10g Release 2 (10.1.2.0.2) installation type as shown in Table 2. ■ Be sure the source and destination Oracle homes are on the same host.
Upgrade Fails During the Examination	This is often caused when the OracleAS Infrastructure required by the middle tier is unavailable. Make sure the OracleAS Infrastructure is up and running and accessible by the middle tier.
Upgrade Fails During OPMN, OC4J, or Oracle HTTP Server Upgrade	<p>This is often caused when OracleAS Upgrade Assistant was unable to stop a process running in the source or destination Oracle home. Check to be sure all processes are stopped in both Oracle homes using the following command:</p> <pre>ORACLE_HOME/opmn/bin/opmctl stopall</pre>
Upgrade Fails During OC4J Upgrade	<p>If the upgrade fails while attempting to upgrade many OC4J applications, or large OC4J applications, the problem could be caused by a memory shortage.</p> <p>For more information, see "Optionally Increasing JVM Memory for Large OC4J Upgrades" in the <i>Oracle Application Server Upgrade and Compatibility Guide</i></p>

Step 3: Upgrade the OracleAS Metadata Repository Database and OracleAS Identity Management

The following sections describe how to upgrade the OracleAS Identity Management in a colocated Infrastructure. When performed in this configuration, this procedure also automatically upgrades the database that hosts the OracleAS Metadata Repository.

For more information, refer to the following sections:

- [Performing the OracleAS Identity Management Upgrade](#)
- [Troubleshooting the OracleAS Identity Management Upgrade](#)
- [Configuring Oracle Enterprise Manager 10g Database Control](#)

Performing the OracleAS Identity Management Upgrade

To upgrade OracleAS Identity Management in a colocated Infrastructure Oracle home:

1. Stop all the middle tiers that are using the services of the OracleAS Identity Management installation.
2. Log in to the computer on which the 10g (9.0.4) OracleAS Infrastructure instance is installed as the same operating system user that performed the 10g (9.0.4) installation.

Note: You must be logged in as a member of the dba operating system group.

3. Make sure that the OracleAS Metadata Repository database and database listener are up and running.
4. Make sure the Oracle Internet Directory server is up and running.

To verify that Oracle Internet Directory is running, enter one of the following commands.

Note: You may have to temporarily set the ORACLE_HOME environment variable to the Oracle Internet Directory Oracle home before running the ldapbind command.

After you verify that the Oracle Internet Directory is running, you must then make sure the ORACLE_HOME environment variable is not defined before you start the 10g Release 2 (10.1.2.0.2) installer, as directed in Step 5.

If you are running Oracle Internet Directory on a non-secure port:

```
SOURCE_ORACLE_HOME/bin/ldapbind -p Non-SSL_port
```

If you are running Oracle Internet Directory on a secure port:

```
SOURCE_ORACLE_HOME/bin/ldapbind -p SSL_port -U 1
```

These commands should return a "bind successful" message.

See Also: "Syntax for LDIF and Command-Line Tools" in the *Oracle Internet Directory Administrator's Guide* for more information about the ldapbind utility

Note: Oracle Internet Directory 10g (9.0.4) allows you to start and stop the directory service using OPMN or the oidctl utility.

Before upgrading an OracleAS Identity Management Oracle home that contains Oracle Internet Directory, start the Oracle Internet Directory instance using the opmnctl utility or the Application Server Control Console. Do not use the oidctl utility; otherwise, Oracle Universal Installer will not be able to start and stop Oracle Internet Directory automatically during the upgrade process.

The correct use of opmnctl and oidctl is described in the Chapter "Oracle Internet Directory Process Control–Best Practices" in the *Oracle Internet Directory Administrator's Guide*.

5. Set the required environment variables, as defined in the section "Environment Variables" in the "Requirements" chapter of the *Oracle Application Server Installation Guide*.

In particular, be sure to set following variables so they do not reference any Oracle home directories:

- PATH
- CLASSPATH
- LD_LIBRARY_PATH
- SHLIB_PATH

In addition, be sure the following environment variables are *not* set:

- TNS_ADMIN
- ORACLE_HOME
- ORACLE_SID

6. Mount the CD-ROM and start the installer.

See Also: *Oracle Application Server Installation Guide* for detailed instructions about starting Oracle Universal Installer on your platform

7. Refer to [Table 5](#) for information on the options you should select on each screen.
8. After the End of Installation screen appears, exit Oracle Universal Installer.
9. Verify that Oracle Internet Directory and OracleAS Single Sign-On are functioning and accessible in the new 10g Release 2 (10.1.2.0.2) Oracle home:
 - a. Use your Web browser to navigate to the administrative Home page for the OracleAS Single Sign-On server and verify that the server is running:

`http://host:port/pls/orasso`

In this example, *host* is the computer where the OracleAS Single Sign-On server is located, *port* is the port number of the server, and *orasso* is the database access descriptor for the single sign-on schema.

See Also: "Accessing the Single Sign-On Server" in the *Oracle Application Server Single Sign-On Administrator's Guide*

- b. Navigate to the Application Server Control Console URL for the OracleAS Infrastructure Oracle home:

`http://hostname.domain:port/`

For example:

`http://host1.acme.com:18100/`

Note that unlike the middle-tier upgrade, after you upgrade the OracleAS Infrastructure, you must use the 10g Release 2 (10.1.2.0.2) Application Server Control Console port to access the Application Server Control Console. That port can be found in the following file located in the 10g Release 2 (10.1.2.0.2) destination Oracle home:

`DESTINATION_ORACLE_HOME/install/setupinfo.txt`

- c. On the Farm page, click the name of the OracleAS Infrastructure instance that you just upgraded.
 - d. On the Application Server Home page, verify that the components of the OracleAS Infrastructure are up and running.

In particular, verify that the OID and Single Sign-On components in the System Components table are up and running.

- e. Verify the version of the instance in the General section of the Application Server Home page.
10. Depending up on which OracleAS Infrastructure components you are using, there may be additional post-upgrade tasks you should consider.

Review the component-specific instructions that apply to your environment in the section "Completing the OracleAS Infrastructure Upgrade" in the *Oracle Application Server Upgrade and Compatibility Guide*.

Table 5 Summary of the Oracle Universal Installer Screens During the OracleAS Identity Management Upgrade in a Colocated infrastructure

Screen	Description and Recommended Options to Select
Welcome	Welcomes you to Oracle Universal Installer and the Oracle Application Server 10g Release 2 (10.1.2.0.2) installation procedure.
Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Oracle Application Server 10g Release 2 (10.1.2.0.2) upgrade.
Select a Product to Install	Select OracleAS Infrastructure 10g . If multiple languages are used in the OracleAS Infrastructure you are upgrading, then click Product Languages .
Language Selection	The screen appears only if you clicked Product Languages on the Select a Product to Install screen. If multiple languages are used in the OracleAS Infrastructure you are upgrading, select those languages. If you are not sure which languages were installed, but want languages other than English, click the double arrow button (>>) to select all languages.
Select Installation Type	Select Identity Management and OracleAS Metadata Repository .
Upgrade Existing Infrastructure	This screen appears when Oracle Universal Installer detects an existing Oracle Application Server installation of the same type as the one you selected on the Select Installation Type screen. Select the option to upgrade an existing OracleAS Infrastructure, and then select the Oracle home you want to upgrade from the drop-down list. (If there is only one Infrastructure of the selected time on the computer, then the drop-down list is inactive.)
Specify OID Login	Enter the Oracle Internet Directory superuser distinguished name (DN) in the Username field. The superuser DN <code>cn=orcladmin</code> is the default for this field; change this value if the Oracle Internet Directory superuser DN is not <code>cn=orcladmin</code> . Enter the password for the superuser DN in the Password field.

Table 5 (Cont.) Summary of the Oracle Universal Installer Screens During the OracleAS Identity Management Upgrade in a Colocated Infrastructure

Screen	Description and Recommended Options to Select
Specify Infrastructure Database Connection Information	Enter SYS in the Username field and the SYS user's password in the Password field.
Warning dialog box	<p>This dialog box warns you that all the clients of the OracleAS Metadata Repository database must now be stopped. Oracle Universal Installer will automatically stop any clients within the source Oracle home.¹</p> <p>However, you must manually stop any database clients and OracleAS Metadata Repository clients that reside in another Oracle home.</p> <p>Clients of the OracleAS Metadata Repository include:</p> <ul style="list-style-type: none"> ■ OracleAS Identity Management components that use this OracleAS Metadata Repository. ■ Middle tier instances that use this OracleAS Metadata Repository <p>Within each middle tier that uses this OracleAS Metadata Repository, you must be sure to stop all components, including Oracle HTTP Server and OracleAS Web Cache.</p> <p>For more information, see the chapter "Starting and Stopping" in the <i>Oracle Application Server Administrator's Guide</i>.</p>
Database Listener Warning Dialog Box	If a database listener is running on the host, a warning dialog box displays. Review the dialog box determine whether or not you need to stop the listener manually.
Specify Instance Name and ias_admin Password	<p>Enter a name for the new Oracle Application Server 10g Release 2 (10.1.2.0.2) instance and a password for the ias_admin Administrator account.</p> <p>You use the ias_admin password to log on to Application Server Control Console to manage Oracle Application Server.</p> <p>In general, the minimum length of the ias_admin password is five alphanumeric characters. At least one of the characters must be a number and the password cannot start with a number.</p> <p>For more information, see the section "The ias_admin User and Restrictions on its Password" in the <i>Oracle Application Server Installation Guide</i>.</p>
Summary	<p>Use this screen to confirm the choices you've made. Click Install to begin upgrading to the new 10g Release 2 (10.1.2.0.2) Oracle home.</p> <p>A dialog box appears when the copying is complete. This dialog box prompts you to run a configuration script as the root user. Follow the instructions in the dialog box and click OK when the script is finished.</p>

Table 5 (Cont.) Summary of the Oracle Universal Installer Screens During the OracleAS Identity Management Upgrade in a Colocated Infrastructure

Screen	Description and Recommended Options to Select
The Configuration Assistants	<p>After the initial software is installed, a set of configuration assistants automatically set up the components in the new 10g Release 2 (10.1.2.0.2) Oracle home. Use this screen to follow the progress of each assistant and to identify any problems during this phase of the installation.</p> <p>Notes:</p> <ul style="list-style-type: none"> ■ The Database Upgrade Assistant (DBUA) can take a significant amount of time to upgrade the database. For more information how long it takes to upgrade your database, see "Planning for System Downtime" in the <i>Oracle Application Server Upgrade and Compatibility Guide</i>. ■ While Database Upgrade Assistant is running, do not use the Stop button to interrupt the execution of Database Upgrade Assistant. If you press Stop, the underlying processes for Database Upgrade Assistant will continue to run. Also, Oracle Universal Installer will wait until those processes complete before returning control to the user.
End of Installation	<p>When the installation and upgrade is complete, this screen provides important details about the 10g Release 2 (10.1.2.0.2) Oracle home, such as the URL for the Application Server Control Console and the location of the <code>setupinfo.txt</code> file.</p> <p>After you review the information on this screen, you can exit Oracle Universal Installer and proceed to the post-upgrade tasks.</p>

¹ You can access a log of the automated shutdown procedure executed by Oracle Universal Installer in the `shutdownprocesses.log` file, which is located in the `cfgtoollogs` directory in the destination Oracle home.

Troubleshooting the OracleAS Identity Management Upgrade

If you encounter an error during the OracleAS Identity Management upgrade, consider the following troubleshooting steps:

- Refer to the "OracleAS Identity Management Upgrade Problems and Solutions" in the *Oracle Application Server Upgrade and Compatibility Guide* for common troubleshooting tips.
- If you entered incorrect information on one of the installation screens, return to that screen by clicking **Back** until you see the screen.
- If an error occurs while the installer is copying or linking files:
 - a. Note the error and review the installation log files.
 - b. Remove the failed installation by following the steps in Appendix E, "Deinstallation and Reinstallation" of the *Oracle Application Server Installation Guide*.
 - c. Correct the issue that caused the error.
 - d. Restart the upgrade procedure.
- If a configuration assistant fails, check the log file for that configuration assistant. For a list of the configuration assistants and the location of their log

files, see the section "Description of Oracle Application Server Configuration Assistants" in the *Oracle Application Server Installation Guide*. If you do not see log files from some configuration assistants in the following directory, then exit the installer:

`DESTINATION_ORACLE_HOME/cfgtoollogs`

When you exit the installer, Oracle Universal Installer copies the log files to `cfgtoollogs` directory.

- For all other issues, refer to Oracle Universal Installer log files:

```
oraInventory_location/logs/installActiontimestamp.log
oraInventory_location/logs/oraInstalltimestamp.err
oraInventory_location/logs/oraInstalltimestamp.out
DESTINATION_ORACLE_HOME/install/make.log
```

You can find `oraInventory_location` by viewing the contents of the following configuration file:

On Solaris systems: `/var/opt/oracle/oraInst.loc`
On Linux systems: `/etc/oraInst.loc`

Configuring Oracle Enterprise Manager 10g Database Control

The Oracle Enterprise Manager 10g Database Control provides a Web-based console you can use to manage Oracle Database 10g. When your OracleAS Metadata Repository is installed in an Oracle Database 10g instance, you can use the Database Control to manage your OracleAS Metadata Repository database.

See Also: "Managing the OracleAS Metadata Repository Database with Database Control" in the *Oracle Application Server Administrator's Guide*

However, after you use Oracle Universal Installer to upgrade your OracleAS Metadata Repository database to Oracle Database 10g, the Database Control is not configured automatically. Instead, if you want to use the Database Control to manage your upgraded OracleAS Metadata Repository database, you must configure the Database Control manually using the Enterprise Manager Configuration Assistant (EMCA).

See Also: "Configuring the Database Control with EMCA" in *Oracle Enterprise Manager Advanced Configuration*

Step 4: Upgrade the Component Schemas in the OracleAS Metadata Repository

After you have upgraded the middle tiers that depend upon this OracleAS Metadata Repository and after you have upgraded OracleAS Identity Management, you can then use MRUA to upgrade the application server component schemas in the OracleAS Metadata Repository.

The following sections describe how to use MRUA to upgrade your component schemas:

- [Stopping All Middle Tier Instances That Use the OracleAS Metadata Repository](#)

- [Verifying That the Oracle Internet Directory and Database Processes Are Running](#)
- [Checking for Invalid Database Objects](#)
- [Running the Metadata Repository Upgrade Assistant \(MRUA\)](#)
- [Using a SQL Query to Verify the Success of the OracleAS Metadata Repository Upgrade](#)

Stopping All Middle Tier Instances That Use the OracleAS Metadata Repository

Before you use MRUA, you must stop all processes associated with each middle tier that uses the OracleAS Metadata Repository.

Note that at this point in the upgrade process, as a prerequisite for running MRUA, all the middle tier instances should have been upgraded to 10g Release 2 (10.1.2.0.2).

To stop all the Oracle Application Server instances that use the OracleAS Metadata Repository:

1. Display the Farm page in the Application Server Control Console; the Farm page lists all the Oracle Application Server instances that are currently using the services of the OracleAS Infrastructure.

See Also: "Introduction to Administration Tools" in the *Oracle Application Server Administrator's Guide* for more information about the Application Server Control Console Farm page

2. Click the name of each instance listed on the Farm page, and click **Stop All** on the Application Server Control Console Home page for each instance.

Verifying That the Oracle Internet Directory and Database Processes Are Running

Before you use MRUA, you must be sure that the following processes are up and running:

- The database that hosts the OracleAS Metadata Repository
- The database listener for the OracleAS Metadata Repository database
- The Oracle Internet Directory instance where the OracleAS Metadata Repository database is registered

Log in to the Application Server Control Console to verify that the necessary processes are running and that the required components are configured properly. For example, you can use the Application Server Control Console to verify that the Farm page displays correctly; if the Farm page displays correctly, then the Oracle Internet Directory is up and running.

See Also: "Introduction to Administration Tools" in the *Oracle Application Server Administrator's Guide* for more information about using the Application Server Control Console

Checking for Invalid Database Objects

Before you run MRUA, use the following procedure to make sure that none of the database objects that are required by Oracle Application Server are invalid:

1. Connect to the OracleAS Metadata Repository database.

For example:

```
1012_INFRASTRUCTURE_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 `utlrbp.sql` script from the SQL*Plus command line to recompile the invalid objects:

```
@?/rdbs/admin/utlrbp.sql
```

Running the Metadata Repository Upgrade Assistant (MRUA)

After you have stopped the middle tiers and verified that the Oracle Internet Directory and database processes are running, you can use MRUA to upgrade the component schemas in the OracleAS Metadata Repository.

Note: Be sure to log in to the computer where the OracleAS Metadata Repository is running as the same user who installed the 10g (9.0.4) OracleAS Metadata Repository. MRUA must be run on the computer that hosts the OracleAS Metadata Repository that you are about to upgrade.

To run MRUA:

1. Mount the Metadata Repository Upgrade Assistant and Utilities CD-ROM.

The MRUA and Utilities CD-ROM is part of the Oracle Application Server CD-ROM Pack that you receive when you order the Oracle Application Server software.

2. Start MRUA by entering the following command, with the following required arguments, which are described in [Table 6](#):

```
MRUA_CD_ROOT_DIRECTORY/mrua/mrua.sh
-oracle_home 1012_infrastructure_oracle_home
-oid_host Oracle_Internet_Directory_host
-oid_ssl_port Oracle_Internet_Directory_SSL_port
```


Table 6 Summary of the Required MRUA Command Line Arguments

Argument	Description
-oracle_home	The destination 10g Release 2 (10.1.2.0.2) OracleAS Metadata Repository home directory.
-oid_host	The name of the computer that hosts the Oracle Internet Directory where the OracleAS Metadata Repository is registered.
-oid_ssl_port	The secure port for the Oracle Internet Directory. For the purposes of upgrading the OracleAS Metadata Repository, you must use a secure connection to the Oracle Internet Directory.

Note: The value of the `-oid_host` argument and `-oid_ssl_port` arguments must match the value of the corresponding properties defined in following configuration file in the Identity Management Oracle home:

`1012_INFRASTRUCTURE_ORACLE_HOME/config/ias.properties`

For example:

```
OIDhost=sys42.acme.com
OIDsslport=636
```

3. When you are prompted, enter the password for the database SYS user account.

MRUA needs the SYS password so it can access and modify the component schemas in the database.

4. When you are prompted, enter the Oracle Internet Directory `cn=orcladmin` administrator password.

MRUA needs the Oracle Internet Directory password to connect to the Oracle Internet Directory in which the OracleAS Metadata Repository is registered.

After you provide the required passwords, MRUA checks to be sure the Oracle Internet Directory is running and does one of the following:

- If Oracle Internet Directory is down or unavailable, MRUA displays an error message and exits.
- If Oracle Internet Directory is up and running, MRUA connects to the directory service and obtains additional information required to upgrade the component schemas.
- MRUA starts the upgrade process. As each step in the upgrade is executed, information messages appear on the screen to show the progress of the upgrade.

[Example 1](#) shows an example of a typical MRUA upgrade session.

5. Review the output of the MRUA command; if MRUA reports any errors, see [Section B.10, "Error Messages Generated By the Metadata Repository Upgrade Assistant"](#).

Example 1 Sample Output from an MRUA Session

```
mrua.sh -oracle_home /dual/oracle10g -oid_host dserv1.acme.com -oid_ssl_port
```

3130

Executing mrua.pl
Running on UNIX

OracleAS Metadata Repository Upgrade Assistant 10.1.2.0.2

Enter the password for SYS:
Enter the password for cn=orcladmin:

Upgrading the OracleAS Metadata Repository to release 10.1.2.0.2

Calling upgrade plugin for MRUA
Component upgraded successfully MRUA

Calling upgrade plugin for UDDI
Component upgraded successfully UDDI

Calling upgrade plugin for WCS
Component upgraded successfully WCS

Calling upgrade plugin for ULTRASEARCH
Component upgraded successfully ULTRASEARCH

Calling upgrade plugin for WIRELESS
Component upgraded successfully WIRELESS

Calling upgrade plugin for WORKFLOW
Component upgraded successfully WORKFLOW

Calling upgrade plugin for PORTAL
Component upgraded successfully PORTAL

Calling upgrade plugin for DISCOVERER
Component upgraded successfully DISCOVERER

Calling upgrade plugin for B2B
Component upgraded successfully B2B

Calling upgrade plugin for MRC
Component upgraded successfully MRC

Calling upgrade plugin for ORABPEL
Component upgraded successfully ORABPEL

Calling upgrade plugin for BAM
Component upgraded successfully BAM

SUCCESS: All OracleAS plug-ins report successful upgrade

Finished mrua.pl

Example Execution Times for the Metadata Repository Upgrade Assistant

The time required to run MRUA will vary, depending upon your hardware and the amount of data in your OracleAS Metadata Repository. However, testing of

MRUA has shown the following typical execution times on the following hardware and software platforms:

- 1 hour, 40 minutes on a Sun UltraSPARC 60, dual CPU, running Solaris 2.9
- 45 minutes on a 2.4GHz Pentium 4, running Windows 2000 Service Pack 4

Using a SQL Query to Verify the Success of the OracleAS Metadata Repository Upgrade

Besides the MRUA log files, you can optionally query the database to verify the success of the OracleAS Metadata Repository upgrade. Specifically, you can use a SQL command to view the status of each component schema that MRUA upgrades.

Note: The OracleAS Metadata Repository contains schemas for all the Oracle Application Server components. However, only a subset of those component schemas must be updated by MRUA. Other schemas, such as the OracleAS Identity Management schemas, are upgraded during the Oracle Application Server installation. Still others, do not require any upgrade from previous versions.

To see the current status of each component schema in the repository that is upgraded by MRUA:

1. Connect to the OracleAS Metadata Repository database.

For example:

```
1012_INFRASTRUCTURE_ORACLE_HOME/bin/sqlplus "connect / as sysdba"
```

2. When prompted, enter the SYS password.
3. Enter the following SQL command to verify the status of the component schemas:

```
SELECT comp_id,version,status FROM APP_REGISTRY;
```

[Example 2](#) shows an example of the output displayed from the component schema SQL query.

Example 2 Sample Output of the Component Schema SQL Query

```
prompt> SELECT comp_id,version,status FROM APP_REGISTRY;
```

COMP_ID	VERSION	STATUS
WORKFLOW	10.1.2.0.2	VALID
SYNDICATION	10.1.2.0.2	VALID
PORTAL	10.1.2.0.2	VALID
SSO	10.1.2.0.2	VALID
B2B	10.1.2.0.2	VALID
MRC	10.1.2.0.2	VALID
OCA	10.1.2.0.2	VALID
OID	10.1.2.0.2	VALID
DCM	10.1.2.0.2	VALID
DISCOVERER	10.1.2.0.2	VALID
WCS	10.1.2.0.2	VALID

UDDI	10.1.2.0.2	VALID
WIRELESS	10.1.2.0.2	VALID

13 rows selected.

Troubleshooting the OracleAS Metadata Repository Upgrade

Use the following information to troubleshoot any errors that occur while running MRUA:

- [Reviewing the MRUA Log Files](#)
- [Reviewing the OracleAS Portal Repository Upgrade Log Files](#)

Reviewing the MRUA Log Files

When you run MRUA, the utility generates a set of log files that you can use to troubleshoot, verify, or analyze the OracleAS Metadata Repository upgrade process. For more information, see the following sections:

- [Guidelines for Using the MRUA Log Files](#)
- [Locating the MRUA Log Files](#)

Guidelines for Using the MRUA Log Files If the MRUA output indicates that one or more of the component upgrades failed, review the MRUA log files, or any component log files referenced from the MRUA log files.

If the OracleAS Portal upgrade fails, then see "[Reviewing the OracleAS Portal Repository Upgrade Log Files](#)" in the for information on how to proceed.

Otherwise, refer to "Upgrade and Compatibility Error Messages" in the *Oracle Application Server Upgrade and Compatibility Guide* for information about specific component error messages you might find in the log files.

If, by reviewing the log files and the error message descriptions in the *Oracle Application Server Upgrade and Compatibility Guide*, you are able to identify a solution to the upgrade failure, you can implement your solution and then re-run MRUA. When you re-run MRUA, any components that were upgraded successfully during the previous run will not be affected. However, MRUA 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.

Locating the MRUA Log Files The log files are located in the following directory in the Oracle home of the OracleAS Metadata Repository you are upgrading:

`1012_INFRASTRUCTURE_ORACLE_HOME/upgrade/logs`

MRUA generates three log files that are of particular interest when you are troubleshooting upgrade issues. The name of the log file includes the exact time the MRUA session was run. This makes it easy to identify a log file for a particular MRUA session.

For example, the three log files generated when you run MRUA at 12:36 PM on September 16, 2004 would appear as follows in the logs directory:

mrua2004-09-16_12-36-36PM.log
mrua2004-09-16_12-36-36PM.err
mrua2004-09-16_12-36-36PM.out

Table 7 shows the three log file types and the content you can expect to find in each one.

Table 7 Summary of the Log Files Generated by MRUA

MRUA Log File	Description
mrua<timestamp>.log	The log file is a good place to start if you are troubleshooting a particular problem with the OracleAS Metadata Repository upgrade. This file contains a high-level summary of all the actions performed by MRUA; as a result, it can help you isolate a specific component that was not upgraded successfully.
mrua<timestamp>.err	The error file contains any errors or stack traces generated during the upgrade process. These errors should contain information that help you diagnose and address specific upgrade errors.
mrua<timestamp>.out	The output file is the largest of the three MRUA log files and it contains the most comprehensive data about the MRUA session. Use this log file to determine exactly when a particular problem occurred and to see the output generated by the MRUA subcomponents.

Reviewing the OracleAS Portal Repository Upgrade Log Files

This section provides information about the OracleAS Portal upgrade log files. If the OracleAS Portal upgrade fails, carefully review this section in its entirety before attempting to troubleshoot the upgrade failure.

Note that if the OracleAS Portal components were upgraded to 10g (10.1.2) successfully, then there is no need to examine the log files.

When upgrading OracleAS Portal by running MRUA, the log files are generated into a single directory:

`ORACLE_HOME/upgrade/temp/portal`

Table 8 Summary of the Repository Upgrade Log Files Generated by OracleAS Portal

Log File	Description
upgrade.log	The log file generated by the 9.0.4 to 10.1.2 OracleAS Portal upgrade. This file will always be generated if the starting version is 10g (9.0.4), as long as the checks performed at the beginning of the upgrade succeed.
precheck.log	The log file generated for the checks performed before the 9.0.4 to 10.1.2 upgrade. This file is generated before the script begins making modifications to the repository, or when a manual upgrade from 10g (9.0.4) is run in -precheck mode.

At the end of each one of these log files, there is either a success message or a summary of all the errors that occur earlier in the file. These summary messages include references to line numbers. You can go to those lines earlier in the log file to see the errors in their context.

Caution: Be sure to resolve any errors in the log file before attempting to use OracleAS Portal. Any portals running after an upgrade that was not clean and error-free are not supported by Oracle.

Look up any errors found in the precheck or upgrade log files in "Upgrade and Compatibility Error Messages" the *Oracle Application Server Upgrade and Compatibility Guide* as a reference. Resolve any errors and warnings that have documented actions. Any errors that occur after the precheck phase require the repository to be restored from backup, the problem resolved and another upgrade run. Contact Oracle Support for any errors that are not documented or that cannot be resolved by following documented actions. When undocumented errors are found, do not attempt to run the upgrade again, run any further steps, alter any files, modify the OracleAS Portal schema, or access the OracleAS Portal instance in your browser.

In addition, refer to the *Oracle Support Master Note - Portal Upgrades (262623.1)* available on [OracleMetaLink](http://metalink.oracle.com/):

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

The following is an example of the end of the log file after a successful upgrade (note the "Upgrade completed successfully" message and the lack of error messages):

```
>>> Running upg/common/popinv.pl
### Upgrade completed successfully
>>> Running tmp/popinv.sql
Portal SQL script started at Thu Apr 22 20:56:23 2004
Connected.
Updating patch inventory.
Upgrade Ended at Thu Apr 22 20:56:24 2004
```

Step 5: Decommission the 10g (9.0.4) Oracle Homes

The following sections describe the tasks you must follow in order to decommission and remove the 10g (9.0.4) Oracle homes. Be sure to review these sections carefully before deinstalling the 10g (9.0.4) software:

- [Removing the 10g \(9.0.4\) Instances from the OracleAS Farm](#)
- [Preserving Application Files and Log Files](#)
- [Relocating the Database Datafiles, Control Files, and Log Files](#)
- [Deinstalling a 10g \(9.0.4\) Oracle Home](#)

Removing the 10g (9.0.4) Instances from the OracleAS Farm

If the middle tier instance you have upgraded is a member of an OracleAS Farm, be sure to remove the source instance from the farm before you deinstall the source Oracle home.

For example, after you upgrade an instance that was using an OracleAS Infrastructure, the source instance remains in the list of instances on the Application Server Control Console Farm page.

To remove the source instance from the farm and from the Farm page, use the following command in the source Oracle home:

```
SOURCE_ORACLE_HOME/dcm/bin/dcmctl leavefarm
```

See Also: *Distributed Configuration Management Administrator's Guide* for more information about the `dcmctl leavefarm` command

"Introduction to Administration Tools" in the *Oracle Application Server Administrator's Guide* for more information about the Farm page in the Application Server Control Console

Preserving Application Files and Log Files

If there are application files or log files in the source Oracle home that are being referenced or used by the destination Oracle home, you should move them to another location before you decommission the source Oracle home, and, in the destination Oracle home, change any references to the files to the new location.

Relocating the Database Datafiles, Control Files, and Log Files

After you used Oracle Universal Installer to upgrade a OracleAS Metadata Repository seed database, the datafiles for the OracleAS Metadata Repository database remain in the source Oracle home.

As a result, Oracle recommends that you relocate these files as a safeguard against inadvertently deleting them (for example, by deleting or deinstalling 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.

See Also: "Renaming and Relocating Datafiles", "Creating Additional Copies, Renaming, and Relocating Control Files", and "Relocating and Renaming Redo Log Members" in the *Oracle Database Administrator's Guide*

Deinstalling a 10g (9.0.4) Oracle Home

When you are certain that the upgrade was successful, you have all of the necessary backups, you have moved the database data files, control files, log files to a new location, and you have no plans to revert to the source Oracle home, you may elect to remove the files from the source Oracle home. Use the Oracle Universal Installer to deinstall the instance.

See Also: *Oracle Application Server Installation Guide* in the 10g (9.0.4) documentation library for instructions on deinstalling the instance.

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